"The time is arrived to enter upon a more advanced path, and surgery ought to surround itself with all the advantages which the physical and chemical sciences can bestow."

Sedillot.
On
The Pathology of Tumours
with
A description of fifty examples examined by the author.
illustrated
by
one coloured and ninety-two pencil drawings
By
Charles Murchison L.R.C.S.E.
and one of the Presidents of the Royal Medical Society
Being
A Thesis
presented to the Medical Faculty of the University of Edinburgh
on becoming a Candidate for the degree of M.D. March 31st 1851.
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Introduction.

The great aim of every student of medicine should be to acquire a habit of observation and a habit of reflection. For medicine, as a science, is founded on a vast accumulation of facts, and an individual's knowledge of medicine, and his ability to practice it aright, must always be in proportion to the amount of facts which that individual has accumulated in his mind, and to the power which he possesses for drawing correct conclusions from these facts.

Entertaining such views, I thought I could not choose a better subject for a graduation thesis than the detail of observations and numerous morbidity, which I have had an opportunity of examining. Few of these observations are interesting from their novelty, but still they seem to confirm observations already made by others, and it is only a vast accumulation of such observations that will ever settle a question so much disputed as the use of the aperient to practitioners of medicine and surgery. As in most disputed questions in science, the great obstacle which prevents opposing parties coming to terms is that each one carries his
What is the party that maintains this? Alps.
own opinion a great deal too far, to in the
question before us while one party maintains
that microscopic examination is almost the only
thing requisite for the diagnosis of the malignant
or slow malignant nature of a growth, the
other asserts that the microscope is of no use
whatever, may, worse than useless, and that
all that is requisite for a surgeon is a "Tactus
firmus". Coupled with a knowledge of general
symptoms and experience. Such contrary
statements as these, emanating from among
great distinction, cannot but tend to create
confusion, and it therefore becomes a very
interesting but difficult question, to determine
what amount of confidence is to be placed upon
each. Now, I quite willingly acknowledge,
that a skilful and experienced surgeon, may,
indeed, independently of the microscope, arrive at a
Correct Conclusion as to the nature of the major-
itly of tumours, yet even the most skilful and
experienced must confess, that they are occa-
sionally in error, and the less skilful and
experienced still oftener, and if it can be
shown, as has been done, that a mor
may by microscopic examination alone, determine
the nature of some diseases. Surely it is the duty of even
the most skilful and experienced to make themselves
acquainted with a means of diagnosis, which may
prove serviceable when their ordinary resources
fail. But the microscope has been said by some
to mislead, in place of assisting those who employ
it. Those who have had little experience in
its use, and no correct knowledge of the micro-
structure of the human body, both in health
and in disease, and who are consequently un-
qualified to draw correct conclusions from what
it discloses to them, it will unquestionably mis-
lead; but the same remark will not apply
to those who are experienced microscopists.
At the same time it must be allowed
that examination with high microscopic
powers is in itself of little value. It is only
when taken in connection with the general
history, situation, and physical appearances of the
structure in question, that it becomes so useful
in the determination of the nature of that struc-
ture. But when I speak of the microscope
as a means of diagnosis of the nature of
I do not mean this remark to apply to the use of the exploring needle in ascertaining whether a fluid is present in any tumour, or the nature of the fluid, but only to ascertaining the malignant, or non-malignant nature of a tumour. For this purpose too it may in some cases be useful, but the advantages to be derived are not such as to justify the general practice of employing it.

tumour. I would not have it understood that I consider it of very great service in determining the nature of a tumour before its removal, or whether or not it should be removed at all. Of course this could not be done without resorting to the use of the exploring needle; and I believe that the advantages to be derived from microscopic examinations are not such as to justify a general practice of plunging an exploring needle into the substance of occult tumours, and thereby incuring the dangers which often result from such a practice. 21. Even Müller, one of the first and greatest authors on the minute anatomy of morbid growths, thus writes: "Microscopical and chemical analysis can never become a means of surgical diagnosis; it were ridiculous to desire it or to suppose it practicable." But though no higher value than this be placed on the microscope, still I think it is incumbent upon every surgeon and physician to employ it in the study of morbid structure, for I believe with Müller that "it is not possible to determine the fundamental points of difference between various morbid structures,"
I cannot agree with Dr. Bennett, who considers these two statements of Elliott's as contradicting one another. The former obviously refers to diagnosis before removal, the latter to ascertaining the precise nature of a tumour after its removal. Observe, an Cancerous Haemorrhoid Granule by J. G. Bennett, p. 222. Note.

In deciding this point, it is necessary to determine the nature of the Cancer described in Dr. Bennett's paper. It is impossible to determine if the tumour cannot be arrived at with certainty without the microscope.
except by means of chemical and microscopical examination. As Dr. O'Reilly, the pathologist, has remarked, "a knowledge of normal structure does not lead with certainty to the knowledge of morbid actions, although the one is the effect of the other; yet surely it lays the most solid foundation for prosecuting such inquiries with success.

In the following observations, my great object has in every instance been to arrive at the truth without reference to any preconceived opinion. The tumours were examined as soon as possible after their removal from the body, their principal characters noted down, and drawings made of their microscopical structure. As regards the latter, no attempt has been made to make them resemble nature as closely as possible.

Before proceeding to the observations, which constitute the principal portion of this thesis, I shall make a few general remarks on the subject of Tumours, which these observations are intended to illustrate. A Tumour may be defined to be the pathological
Observations on Scarcous by J. Abernethy 1841.
formation in some part of the body of a structure similar to some of the natural tissues of the body, or totally different from any of these. The causes of the origin of tumours are as yet but little known. They are doubt dependent at their commencement upon an eruption of Liquor Jans, quinsis which subsequently undergoes organization, or to use the equally expressive words of Athemetry, "on the deposition of the coagulable part of the blood the effect of accident or of a Common inflammatory process." "What leads to this eruption, however, though sometimes it may with propriety be referred to blows and other accidents as hinted at by Athemetry, is yet in the majority of cases unknown to us. Equally unknown to us are the laws which regulate the organization of this eruption, or in other words, why at one time it should become organized into fat, at another time into fibrous tissue, or at another, into that of Cancer. The laws of "Analogous formation," by which we are wont to explain the mode of growth of healthy tissues here fail us. Yet still in the case of plane tumours, which resemble healthy tissues, we cannot deny that the surrounding parts
operate no small influence on the nature of the tissue into which the excudation becomes transformed. It has been just observed that tumours may consist of a structure either similar to that of the natural tissues of the body, or totally different from any of these, first in their individual elements, but in the mode of arrangement of these elements, for in Carcinos we find no elementary structure which we do not also find in any healthy organ of the body. Now it becomes a matter of the highest interest and importance to determine, whether the latter class of tumours or those which have been designated heterologous, correspond with these tumours, which for various reasons have been justly designated malignant. In the solution of this problem I think will in a great measure depend the practical utility of the microscope in the examination of morbid growths. In the first place, however, it is necessary that we attach a definite meaning to the term malignant, for it is one which has been employed in very various significations, such as a tendency to recur after removal, a tendency to involve the neighbouring tissues, a tendency to grow in a Constitutional
tain of the System. Dr. Bennett believes that the most accurate meaning of a malignant growth is one which has the power in itself of redevelopment. Nevertheless, though at the same time he thinks along with Dr. Walke, that it would be a great gain to science, to relinquish the word altogether. He does not state, however, whether the tumours he describes under the name of "Cancerous" are malignant in the above signification of the word, or whether the term malignant is restricted to them alone. On the contrary, we know, and indeed Dr. Bennett allows, that tumours of the most innocent nature, fatty tumours for instance, occasionally return after being removed, so that if this is the signification of the term malignant, I quite agree with Dr. Bennett, that it would be a great gain to science, to relinquish the term. But if the term be employed in a more comprehensive sense, I at the same time believe that it is of the utmost importance to science, to retain it. These tumours, in my opinion, should be regarded malignant, which locally are characterized by rapidity of growth, or by a tendency to involve the neighbouring tissues, for which epithet,
local or constitutional in their origin at first, all
events tend ultimately to touch the system, and
manifest this tendency in various ways, as by appear-
ing successively in different parts of the same indi-
gidual's body, by a tendency to reproduction after
removal, and by affecting the general health. But
it is true, one may say, we see the most simple
and innocent tumours presenting some of the a-
bove characters, for example, we may see a
fibrous tumour becoming reproduced after its
removal, fatty tumours appearing in many
parts of the body at once, it is so, but still every
surgeon knows, and will allow that there
are a class of tumours to which the above cha-
acters are more applicable than to others.

D. Bennett, in the preface of his work, the great
object of which is the discrimination between
cancerous and other tumours, indicates, that the
pathological anatomy of cancerous and cancerid
growths will afford to practical men "ideas
sufficiently fixed and positive to govern their
conduct in many important and dangerous cases."

But I think it must be evident, that unless
cancerous tumours possess some such characters
as have above been assigned to the term Malignant, while other tumours do not possess them, or at all events in a less degree, there is little use, practically speaking, in ascertaining whether a tumour is Carcinous or not.

To assign a definite meaning to the term Malignant, is impossible, and at the same time not desirable. It is a word which cannot be regarded as possessing a comparative signification, those tumours being most malignant which exhibit most of the characters above described to malignancy. Thus a tumour which has a tendency to be reproduced after removal is more malignant than one which has not, a less malignant than one which besides having a tendency to be reproduced after removal has also a tendency to multiply itself in different parts of the body; or to involve the neighbouring tissues and rapidly to ulcerate; still less malignant than the which manifests all these tendencies. With these views of the signification of the term Malignant, I believe that the best way of considering the subject of tumours will be to adopt a division of them...
according to their structure, and under the head of each class mention the degree of malignancy by which it is characterized.

We shall first consider Cancerous Tumours.

I. Cancerous Tumours.

These possess a structure quite different from any normal tissue of the body, and have hence been designated heterologous. They are also characterized by a high degree of malignancy. Some forms of specimens of Cancer no doubt exhibit a greater degree of malignancy than others, but all agree in possessing one or more of the characters already assigned to that term. They have a decided tendency to be reproduced after removal, either in the site of the first tumour, or in some other part of the body. They have a tendency to appear in different parts of the body. They have also a tendency to involve in their growth the neighbouring healthy tissues, a tendency to often going to ulceration, and in their ultimate stages there can be no question that they seriously affect the general health, and very frequently are the cause of death. Their growth is on general accompanied by more or less pain.

The appearance of a Cancerous tumours will be come...
Very greatly according to the kind of Cancer which is examined, as will be afterwards considered, but I believe it may be safely said, that in the great majority of Cancerous tumours, if not in all those concerning which we can speak with any degree of certainty, a "serous, juice" is exuded from their substance on pressure. Though, as above mentioned, the texture of a Cancerous tumour is totally different from any normal tissue, yet still the elementary structures composing that tissue do not differ from those found in the healthy organs of the body. The principal of these are the following.

1. Fibres - Almost all Cancerous tumours contain more or less fibrous tissue, it being this which imparts to them their firmness of consistence. The fibres of Cancerous tumours differ in one essential particular from those and with in a healthy structure. The "Fibrae Commonae" are white, very delicate, with a diameter of 1/600 to 1/500 inch. Along with these there are sometimes the yellow elastic, or the most delicate fibres of Henle, but the presence of these is by Dr. Jones, Constant. The quantity of the latter when present is in general small in amount, and arranged in an irregularly peticulate manner. The
"Vogel's Path: Anatomy Page 296.

This is not clear - AB
former again, generally perpendicular to one another,
do so to form bands which intersect one another, and
which are so arranged as to leave numerous
empty spaces in the interior of which is enclosed
the cellular element of the tumour. See Figs. 2, 4, Dr.
Vogel thinks that the "poundish capsules" containing
cells often met with in Cancer are formed as
follows — that there is first formed a cell with
a thick cell wall, and that in this as a parent
cell new cells are formed, while the cell wall
assumes a fibrous character. This is, however,
a very improbable explanation, for it is contrary
to all that we know of the laws of cell growth,
that the wall of a nucleated cell should become trans-
formed into fibrous tissue. It seems more probable
that from the first cells there are developed, in
such a manner as to constitute a poundish mass,
which gradually pushing aside the surrounding
fibrous tissue, forms a rounded space for its acco-
dation. This explanation is also consistent with the fact
that as a Cancer becomes older, it becomes softer, and
contains more cells and less fibrous tissue.

2. The presence of cells may be said to be almost
absolutely essential to the constitution of Cancer, though
at the same time in some examples of retrograde Cancer, as will afterwards be shown, we may be

due to detect any. But in making the above

statement, I do not mean to imply that there

is any sort of cell peculiar to and characteristic

of Cancer. On the contrary, the more one exami-

nates tumours, the more one must he become con-

vinced of the fact, that every form of cell is not

with in Cancer, and that it is in general

quite impossible from looking at a cell to pro-

nounce whether it is Cancerous or not. The draw-

ings illustrative of the "Observations" in this thesis

sufficiently corroborate the truth of this assertion.

At the same time there are certain characters in general

presented by Cancer cells, which it will be right to

to mention. The form of Cancer cells is exceed-

ingly various. We find them round, oval,

diangular, C arabate, fusiform, elongated, 

(see figures). The oval and round are however the

most common. Each cell wall is either transpa-

cent or slightly granular, and exhibits, under the

microscope, a distinct outline. They vary greatly

in size, some having a diameter of 250 each, others

only 200 or less. Acetic acid renders the cell
wall more transparent, if strong, dissolves it. Dr. Bennett remarks that young cancer cells are most easily affected in this way. Each cell wall contains one or more nuclei, and, generally speaking, the size of the nuclei, as well as their number, is great in the case of Cancer cells than in most others. The nuclei have a round or oval form, and are not acted upon by Acetic acid. Each nucleus may contain one or more rounded granules or meleoli in its interior. Sometimes large, parent cells are met with, containing numerous nuclei, and often one or more perfect young cells (see Fig. 5). Besides the nucleus each cell contains a transparent fluid between it and the cell wall, and sometimes a few molecules and granules. The latter are occasionally so numerous as completely to occlude the nucleus, and this probably accounts for the frequent occurrence in Cancer of compound granular cells. At other times coloured or black pigment is deposited in the interior of Cancer cells, as in that form of Cancer, which Vogel (Ithins) have mentioned as a distinct species under the name of "melanotic." But the most remarkable peculiarity of Cancer cells is their power of rapidly multiplying by a process of
endogenous reproduction. The development of cancer cells has been well described by Dr. Bennett in his admirable work on Cancerous and Cerebral growths p. 146. Cellules are precipitated in a blastema, and become fused into amelons—from the surface of this amelons a cell wall arises—other nuclei appear in the interior of the cell, originating in a manner similar to the first one. Gradually these nuclei become enlarged and transformed into young cells, the nuclei becoming amelons—lastly, the parent cell becomes distended, bursts, and liberates its contents.

3. A transparent viscous fluid in which the cells are suspended. This fluid sometimes exists in great quantity, especially in the gelatinous form of Cancer. The true nature and composition of this fluid seems to be but little known. Vogel says it is characterized by a principle resembling mucin, which coagulates into an amorphous mass on the addition of Acetic acid, Sulphate of Ammonia. It seems to be the fluid from which are precipitated the granules met with in Cancer, from the fusion of which together the nuclei of the cells are formed.
or less quantity in most specimens of Cancer, though
sometimes they are in very small quantity. Not
unfrequently oil globules are met with, occasion-
ally a few flecks of Cholesterol. [Fig. 5.)
5. The amount of Bloodvessels in Cancerous tis-
ue varies greatly. Sometimes few if any new Bloodvessels
are formed, the morbid mass being nourished by the
vessels of the part in which it is deposited. At oth-
times the quantity of new vessels formed is very
great, thus accounting for the haemorrhages which
take place from the ulcerated surfaces of some
Cancerous tumours. Some of these newly formed
vessels are represented in fig. 12. These vessels
generally pierce among the fibrous portion of the
Cancer: Vogel says, "rarely, if ever, between
the cells"; but in the case detailed in Ch. III. The
vessels were seen lined on either side by the
elargated Cancer cells.
The presence of Lymphatics or Vessels has never
been demonstrated in Cancerous tumours.
The above are the elementary structures con-
monly met with in Cancer. We now come to
consider which of these are necessarily present,
or in other words if there is any structure pecu-


to Cancer, and by seeing which one could distinguish it from all other morbid deposits. Much difference of opinion prevails on this point. Professor Bennett maintains that cells suspended in a transparent fluid, and infiltrated through a fibrous stroma exist in every carcinomatous formation, and that by this structure Cancer may be distinguished from all other morbid deposits. Hebert on the other hand maintains that the cellular element is the only one which is constantly and essentially present in Cancer, and he also seems to think that the form of the cancer cells are sufficient to enable one to distinguish Cancer from all other morbid productions.

With regard to the evidence of a fibrous structure in Cancer, Muller says that sometimes none can be detected, and Vogel expressly states, that in some forms of Cancer, as for instance in exophytic, these fibrous structures are altogether absent. Therefore becomes a very interesting and important inquiry in reference to the pathology of Cancer to determine whether fibrous tissue is necessarily present in it or not. It is evident that such a question as this can only be deter-
Error by a series of very careful observations, and
even then a very great obstacle to arriving at the truth.
In all the organs in which Cancerous deposits occur,
so that it becomes exceedingly difficult to determine
whether the fibres found in a Cancer are a portion
of the arrested deposit, or a portion of the organ in
which this deposit takes place; for, as has been
already remarked, there is no difference whatever
between the fibres found in a Cancer or those
found in a Healthy tissue. In the solving of the
above question Dr. Redfern has pointed out the
propriety of attending to whether any example
are and with of Cancerous deposits which contain
the fibrous tissue, especially in those parts of the body
where fibrous tissue does not exist naturally. He
has himself detailed the particulars of a Case in
which Cancerous deposits were found after death
in various parts of the body: most of these on exa-
mination presented the ordinary appearance of
Cancer, but a similar deposit in one of the hemi-
spheres of the brain where no fibrous tissue exists
naturally, consisted of variously formed cells without
any fibres. A case of a similar nature forms the sub-

ject of Obs. No. In this case very faint traces of delicate fibres could be detected in the cancerous deposits in the lung, but none whatever in the growth near the sacrum. From these two cases and all others, it seems probable that a fibrous tissue does not necessarily exist in cancer. But it may be asked, how is it then that fibrous tissue is so very frequently present in cancer? This, I think, as has been just mentioned, may be owing to the almost universal distribution of fibres in the tissues in which cancer is developed, and may be still further explained by considering the origin & growth of cancerous tumours. Where we see a chordoid mass deposited in an organ, and at the same time the normal structure of that organ gone, we must admit that the latter has become transformed into the former, or what is perhaps a better mode of expression, that the latter has disappeared, and that its place has become occupied by the former. It is not to be expected that the accomplishment of this process can be a sudden one, or that all the elements of the normal structure will disappear with equal rapidity. On the contrary, it seems more natural to imagine that those tissues which are known to
Clinical Lectures by Dr. Bennett."
be strongest, and longest to resist change, will be the last to disappear: and accordingly, we find, that when Cancer is deposited in an organ, the fibrous tissue is the last to disappear. If we consider the progress of a Cancerous or most other morbid deposits, we must see at once that in every case the ultimate termination is destruction of the tissue in which it takes place. The great peculiarity of Cancer is the high state of vitality of the deposit which causes this destruction, consisting, as it does, for the most part of highly developed nucleated cells, especially as they contrasted to Tuberculous deposits, in which there does not seem to be sufficient vitality for perfect cell formation. In connection with this, it is interesting to observe, that Tubercle is most common in those cases in which the whole system manifests a low state of vitality, the very reverse being the case with Cancer. "Both, however, agree in their ultimate effect - the destruction of the organs in which they occur. The origin and growth of a Cancer seems therefore, seem to be as follows: In the first place an inflammation is thrown out from the Capillaries of the part, described by Vogel, as a firm, dense, noninflammatory,
Substance" and designated by all other the "Transitional Modii." This constitutes a curious or cytoplasmum, from which are developed the Cancer cells in a sarcosum which has already been described. As these cells increase in number, they gradually by their pressure cause to disappear the natural structure of the organ, destroying first those tissues which are most amenable to destruction, affecting and the more durable, last. But even these may ultimately quite disappear, and the more rapidly, the more rapid is the growth of reproduction of the cells. I do not think it can be regarded as any argument against the opinion which I have been advocating of fibres not being present fairly present in Cancer, that we very often meet with Cancerous tumours containing more fibrous tissue than naturally exists in the part of the body in which the tumours occur, for there is every reason to believe that in such cases the tumours have not been at their commencement Cancerous tumours at all, but simple fibrous tumours which have afterwards degenerated by having Cancer cells deposited in their substance. But even allowing that some such tumours have been
as the one described in Obs. XXVI.
cancerous ab origine, it is quite possible that in some
cases the fibrous tissue already existing in the part,
by the law of "analogous formation," exercises such
an influence over the epidermitis or cytoplasmy,
as to convert a portion of this into newly fibrous tissue,
as in the growth of a purely fibrous tumour. All
I mean to advance is, that fibres are not always
present in cancerous tumours, and consequently
that they are not an essential element of cancer.
With regard to the cellular element, there are
some tumours, it is true, which we cannot
doubt to be cancerous, and in which we cannot
detect a single perfect nucleated cell. But still,
even in these cases, we can trace evidences of
the previous existence of cells, in the presence of
globules, and albuminous granules, into
which the cells have become transformed, and
therefore conclude, that the only element pecu-
liar to cancer is nucleated cells. I have already
mentioned, that little dependence can be placed
on distinguishing a cancer cell from any other
by its form, and mere appearance, for almost
every forming cell may be met with in Cancer.
The question then comes to be "Can we by

Microscope alone always ascertain whether a
lesion is cancerous or not? I myself believe
not. The microscope no doubt in many cases
affords most invaluable information & assistance,
but in every case before forming a decided opinion,
one should make a careful examination
of the appearances presented by the tumour to
the naked eye, so as to ascertain the presence or
absence of a silky juice &c., and having done
so, weigh the information thus obtained with
that afforded by microscopic examination.

I shall now proceed to consider the different forms
of cancerous tumours which present themselves. Various
classifications of these have been proposed by different writers on the subject. One of the first, (and
still the one most generally adopted by surgical
authors,) was a division of them into four classes:
oesomatodes. Muller makes five species which he

Lebert mentions five: 1. L'œufphaloiide, 2. Aginche-
desomatodes. V. Carcinose infiltration. Vogel speaks,
of four, 1 Cellular Cancer or Incoherent, 2 Fibrous, 3 Sclerous, 4 Melanotic or Gelatinous or Colloid. 
But the arrangement which is most convenient is that of Dr. Bennett and Walsh. These anions make only three varieties of Cancer, viz. 1. Sclerous or hard Cancer, 2. Incoherent or Soft Cancer, 3. Colloid or Jelly like Cancer. These three forms we shall now consider.

1. Sclerous or Fibrous Cancer (Argel) Carcinoma, which is derived from the Greek word καρκίνος, asp, has been applied to that form of Cancer which is remarkable for its great hardness. When cut with a knife, it grates under its edge like a piece of cartilage. Combined with hardness it also possesses a considerable degree of toughness. The colour of a freshly made section approaches most commonly to a greyish white, and on scratching a tolerably thin section of the mass, and holding it up to the light, it is found to be somewhat translucent. On squeezing the tumour there exudes from its substance a juice of milky consistence, and a greyish white colour, except when tinged with blood. This juice, on microscopic examination, is found to contain the cellular element of the growth, and is enclosed
in the arteries of a dense fibrous stroma. The presence of this milky juice is of great importance in a diagnostic point of view, serving to distinguish genuine hypertrophies, which at first sight might be taken for fibrous tumours. Guerchier indeed says, that, judging by the naked eye, this is the only distinctive character of Cancer. The amount of this juice varies greatly in different specimens of Cancer. Sometimes it is very sparing or at an early stage of growth, when it is often very difficult to distinguish whether a tumour is a Cancer or a simple fibrous tumour; but as a Cancer advances in growth, the milky juice gradually increases, while the fibrous element disappears, probably from absorption caused by the pressure of the increased amount of cells, until at several points it assumes a semifluid consistence. These softened portions consist almost wholly of cells, entirely broken down, and closely resemble soft Cancer. - Seiridius Cancer is not in general remarkable for its vascularity; yet still despite the assertions of Scarpa to the contrary, Seiridius tumours may be injected; and after this has been done, the distribution of vessels...
is generally found to be irregular, being far more abundant at some parts of the tumour than at others. The form of Cancer described by Müller under the title of C. petriculare seems to be a variety of Scirrhus, though certainly it is very difficult to form a clear idea of the description he gives of it.

2. Incephaloid. Medullary Sarcoma (Achemy)
Carcinoma medullare (Müller). Cellular Cancer (Vogel)

This form of Cancer is characterized by its great softness, and from its resemblance to the substance of the brain it was so designated by Locmée.

(ἐγκέφαλος the Brain). It is remarkable for its rapid growth, for the great predominance of the cellular over the fibrous element, owing to which circumstance it has been named by Vogel Cellular Cancer. The small amount of sometimes the total absence of fibrous tissue (Of. V. Page. 25) is probably the result of the rapid growth and increase of the cells leading to its disappearance by absorption or to suppression of parts of the surrounding tissue. Sometimes we find an incephaloid tumour almost entirely composed of elongated uniform cells, exactly like fibre cells in the act of becoming transformed into fibres without however any
trace of true fibrous tissue. These cancerous cells were considered by Valentin as characteristic of encephaloid, but they exist in many other sorts of tumors, and moreover they are often entirely absent in in encephaloid. The appearance presented by an encephaloid tumor will vary greatly according to the degree of its vascularity; sometimes it presents a fangirious appearance, it bleeds on the slightest touch, owing to the large number of vessels it contains, Vales to bleed being extravasated from these vessels into the surrounding parts. This form has been named Turgus hemiculates, but has been undeservedly separated from the class of encephaloid tumors. In other cases there are fewer vessels, and the mass presents a yellowish white colour, with a consistence varying considerably according to the degree of softening and the amount of fibrous tissue it contains. A small portion of an encephaloid tumor when carefully examined, will generally be found to have a tendency to split up in one direction more than in another, and on squeezing it a milky juice exudes from it. In addition to their rapidity
of growth. Encephaloid tumours are also remarkable for their tendency to soften and become an ulcerated condition, and also for the great size which they often attain. Prof. Bérand observed an encephaloid tumour in the thigh of a female as large as the body of a full-grown child.

It must however be remembered that though well-marked examples of Sarcinomata encephaliformes are very different from one another, yet that we constantly meet with cases which exhibit all stages of transition from the one to the other, many of which it would be difficult to refer either to the one or the other.

3. Gelatinous or Colloid Cancer — Carcinoma alvearellare (Ludler) — Carcinoma areolare (Bernard) — G. gelatiniforme (Laennec). The chief peculiarity of this form of Cancer is the great quantity of that viscous fluid which has been already alluded to, and more or less of which exists in all examples of Cancer. It consists of a stroma of fibrous tissue arranged so as to form numerous loculi, which are all full of the gelatinous fluid. This substance is either perfectly transparent or slightly opalescent. Its colour
is generally greyish or that of amber, more rarely, green, red, or black. Microscopic examination shows that this gelatinous substance is made up of undifferentiated cells, resembling those found in other forms of Cancer, but generally very large, with thin and delicate walls. Vogel says he has occasionally found air in crystals of Ammoniac - Magnesium phosphate. The fibrous loculi containing this gelatinous substance vary in size from that of a pin's head to a large marble. They sometimes communicate with one another, at other times they are quite isolated. Colloidal Cancer in most cases contains but few vessels. I am not aware of its having ever been carefully injected. Curn-Wilhiers describes both arteries and lymphatics as permeating the fibrous struma of the mass, but as the disease advances, no trace of these, he says, can be detected. Colloid Cancer most frequently occurs in some portion of the intestinal canal or on the free surface of the peritoneum.

In some tumours we find a combination of colloid and some other forms of Cancer. Thus colloid grasses are sometimes found imbedded in a basis
of cirrhosis, as in a case mentioned by Dr. Walsh in "Those from a Transition." These form a transition from the one form of cancer to the other. Sometimes indeed we find all the three forms of cancer occurring together in the stomach.

Though all examples of cancer may I think, he referred to one or other of the above three forms, or to a combination of these, yet there are one or two varieties which are worthy of notice here. In the first place Fungus haematodes, as already mentioned, is a term which has been applied to those varieties of licephaloid, which are remarkable for their great vascularity and tendency to bleed.

When again the cells of any of the forms of cancer contain a greater or less quantity of dark brown or black pigment granules, we have the melanotic cancer of Vogel or cancer melanomatosus of Muller. It has been already remarked that all forms of cancer possess a high degree of malignancy; but it may also be observed that the more nearly cancer approaches the licephaloid form the greater will be its malignancy: the more rapidly will it grow, involve the surrounding tissues, often ulcerate.
II. Tubercular Tumours.

Tubercular Tumours (Abercromby) — Tubercular tumours are developed in those constitutions affected with what is generally denominated the scrofulous diathesis. Like Cancerous tumours they have a tendency to soften, suppuration, ulceration, and owing to the constitutional predisposition they are also like Cancerous tumours, often found in different parts of the body at the same time; but unlike Cancerous tumours, their growth is in general slow. They have little tendency to reproduction after removal, they are not the source of much pain, nor are they so fatal in their results. The Origin of Tubercular tumours are doubt depends on the same cause as that of all other nodular growths, viz: an exudation of Liquor Tumefacientius from the Capillary blood-vessels of the part. This exudation is not organized into a structure like that of the surrounding tissues, as in the case of a fatty tumour, neither as in the case of Cancer does it form a Matris for the formation of highly developed Nucleated Cells. The main characteristic of Tubercular tumours, and of Tubercular deposits generally is the low state of organization which they pre-
sent, the elements found in them exhibiting an appearance indicative of an imperfect attempt at cell-development. The principal of these is what has been named Tubercle Corporules. These are of very irregular shapes and of very various sizes. Their average diam. is somewhere about 2,000 mic. Each contains in its interior one or more dots or granules. Water causes little change upon them, but they are rendered very transparent by the addition of Acetic Acid. These corporules are always mixed up with more or less granular Molecular Matter, the whole being suspended in an Amorphous Transparent Fluid. A Tubercular tumour presents on section a greyish white or a dirty yellowish colour, its consistence is sometimes as great as that of cheese, at other times not more than that of cream. The softer the part examined is, the greater quantity of Molecular + granular Matter will it be found to contain. Sometimes in a softened Tubercular deposit the Corporules present a rounded form, and are quite unlike pus Corporules. Acetic Acid, however, always reveals in these the presence of Bacillus as in true pus Corporules. Though Tubercle has a tendency to softening,
yet sometimes it terminates in a very opposite condition, becoming transformed into calcareous masses of strong hardness, which chemical and microscopical examination show to be made up of crystals of Calcareae Salts, Cholesterol, &c. These calcareous masses are not uncommonly found in the spleen of the lungs, in which organs and in the lymphatic glands. Tuberculous deposits are most common.

Independently of these calcareous salts, whose presence is in a creature accidental, albuminous matter is found to be almost the sole chemical constituent of tubercle.

Tuberculous tumours are remarkable for their almost total want of vascularity. Indeed there is every reason to believe, that these vessels, which have been described as existing in tubercle, have been only the remains of those normal vessels of the part in which the deposits have taken place.
III. Epithelial Tumours.

This name has been applied to those excrescences which grow from the surface of the skin and Membrane, and which consist of a dense aggregation of Epithelium or Epidermic cells. The cells found in these excrescences present all the characters of Normal epithelium cells, being like them slender, flat, or oval, and undergoing little change from the action of Acetic Acid, and having a tendency to adhere together by their edges. The forms assumed by these growths are various. The ordinary Crams on the feet, sores on the hands, horns, Condylomata, Condyloma Excrescence of the Uterus, and what are called Epithelial Caucers of the Lip & Penis, are all referable to this class, notwithstanding the great variety in their external conformation.

The causes of the formation of these growths are very various. They may be due to various local irritations, as to pressure from some part of the dress (as in Crams), or their origin may be of constitutional Nature, as in the case of Condylomata developed in Constitutions tainted by syphilis. The proximate cause of their origin in growths may be said to be an abnormal or
creased nutrition of the part, for though no vessels are found permeating the accumulated mass of epithelium, yet the true skin underneath is always found abnormally vascular, and the papillae enlarged and elongated. Their mode as well as cause of origin also varies. They may commence little as a simple pouting laceration which gradually increases in size, or as an ulcer which extends while its edges become thickened and undermined; or, owing to the obstruction of an efferent follicle of the skin, the contents of that follicle, consisting of epithelium cells, may become accumulated, and constitute a third form of these growths. The last however more properly belong to the class of cystic tumors.

These growths as already mentioned consist for the most part of epithelium cells, which present various forms according to the stage of development. At first they are more or less globular, but as they become older they become more or more flattened and elongated. Often too they split up into various filaments. In some epithelial tumors the bases of the cells are found to have thus split up, so as to impart to the mass
and some small cancerous nodules in the lining of a patient, whose appearances before had lead to a very painful sensation removed from the left angle of the mouth by Mr. Allin (Case of Clarke'sian Pathological Case Book, May 4th, 1837.) At the same time, I think it seems, that it would be rash to draw any conclusions from any of the above circumstances as to the nature of certain epithelial growths, or to the relation which exists between them and Cancer. Any careful investigation of the subject, accompanied with accurate examinations of the tumours removed, tales of stones which are reproduced, must be made. Yet still I think what has been said is sufficient to warrant a demand such as investigation.
somewhat the appearance of a fibrous structure; this is seen in the ordinarywarts of the hand, horns etc.

Generally speaking, epithelial tumours may be said to be of a very innocent nature, and to possess none of the charaters of malignant growths. Some, however, are of rather a doubtful nature and with regard to a few the above statement must be made with considerable reservation, as for instance, the vanity growths met with on the lower lip and penis, and which has been hence been denominated epithelial cancer. In the case mentioned in Obs. X of the malignat (cancerous) tumour adherent to the angle of the lower jaw, the tumour which some months before had been removed from the lower lip was described by all those who saw it, as presenting all the appearances of the vanity appearance common in that situation of the body. Dr. Tyne moreover has informed me that he has frequently known the removal of vanity growths from the lip followed by the formation in their neighborhood of tumours decidedly malignant, and proving the cause of death. Dr. Gavnder mentioned a case to me in which he found an disposition extensive carcinom deposits in the lymphatic glands of the neck.
IV. Fibrous Tumours.

Fibrous Tumours are those which are entirely or mainly made up of fibrous tissue. It is often very difficult to decide whether a structure derives its name from a fibrous tumour or is merely a hypertrophy of the normal areolar tissue of the part. Some fibrous tumours, it is true, possess a well-defined margin and are sometimes enveloped in a sort of cyst, and about these there can be no difficulty; others, however, seem to pass gradually into the surrounding areolar tissue.

The appearances presented by fibrous tumours are very various, and of course differ according to the maturity and state of perfection, so that it will be right to consider them from the commencement of their growth. Fibrous tumours owe their origin to a fibrous exudation from the blood, which may result from injury or from some unex- plicable cause. The form which this exudation assumes is as doubt as in many cases influenced by the surrounding fibrous tissue of the part. The fibres which are (mostly of the white variety) may be developed in one of two ways. 1st by a number of granules appearing in the exudation, arranging themselves in rows, adhering together into flakes,
Enule has perfected a third mode, in which fibres are developed, viz., by the fusion of granules to form fusiform nuclei, which elongate and split up the Conradid epineurium into filaments.

* See Observ. XX.
fibres, as we see in examining the structure of some organized Blood clots. — 2. In the previous formation of nucleated cells, which elongate and split up into fibres, the nuclei often long remaining embedded among the fibres, or becoming elongated and transformed into yellow elastic fibres. Sometimes it happens that we find tumours exemplifying all these stages of development. We find sometimes nothing but an amorphous fibrous mass: thus in some parts of certain shrivelled fibrous tumours we have a structure (but amorphous granules) can be made out with the highest magnifying power. At other times we find nucleated cells in all stages of development, and there again elongating and becoming transformed into fibres, as in the gelatinous polypi of the nose. At other times a fibrous tumour is seen to consist of well-formed fibres with naked nuclei imbedded among them, with a few or without any traces of cells, while others again consist almost entirely of fibres without other nuclei or cells. These fibres for the most part resemble ordinary white fibrous tissue, but may often enfold one or more cells; there is more or less fibrous tissue of this.

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But if a human power only by means of nuclear fission, it must be different from those which alone by means of other means form this kind.

*Vogel's Path* Arch. p. 216.
yellow elastic fibrous tissue, Dr. Bennett has separated from true fibrous tumors, those which consist of fibres infiltrated with naked nuclei, but as these are only fibrous tumors, arrested as it were, at a certain stage of their development, such a distinction I think unnecessary. Indeed naked nuclei are present in greater or less quantity in most fibrous tumors, as Voelz says "in some but not all mature perfectly formed tumors are these nuclei ever absent." As already mentioned, the appearance presented by a fibrous tumor will depend entirely on its state of perfection, some are soft, gelatinous, of a white color, as certain nasal polypi. These tumors described in Obs. XXXVII., others are soft, and in their appearance bear a very close resemblance to soft, on the other hand, many present a structure of great density often as great as that of cartilage, of a white or yellow color, presenting on section a glistening aspect, with the fibres arranged in various ways. These are the described fibrous tumors of some authors. Between these different varieties all sorts of transition forms are met with. Occasionally several are associa
ated together in the same tumor. From these considerations I am inclined to believe that but little advantage can be derived from any classification hitherto proposed of fibrous tumors. All fibrous tumors contain vessels, but in general these are few in number.

In a chemical point of view fibrous tumors consist of fibroin. A few, however, have structure as distinct and like that of the fibro cartilages of the external ear, yield on boiling the chemical principle found in cartilage, viz. Chondrine. These have been named by Müller and Bennett Chondroid fibrous tumors.

The size attained by fibrous tumors is often considerable. They have been known to weigh 20 lbs.

Fibrous tumors may occur in any part of the body. The walls of the uterum are one of their commonest localities. Sometimes they are developed in the trunk of large nerves or on their exit. Sometimes constituting Neuronomata which often produce very annoying sensations. A subcutaneous nervous tumor, whose structure a more accurate description will be afterwards given, I found to consist of very fine
filaments with nuclei intermixed among them.
As fibrous tissue exists in greater or less abundance in most tumours, and for instance as fatty tumours, according to the varying amounts of the other ingredients of the tumour, as fat cells, we have a gradual transition from true fibrous tumours, to true fatty tumours &c.
The same remark applies equally to the transition of fibrous into cancerous tumours; and indeed there is good reason to believe that tumours, which at one time have consisted of nothing but fibrous tissue, have ultimately become cancerous, from the development of cancer cells in the meshes of the fibrous element. From the ordinary course of cancerous tumours, in this way it is quite possible that fibrous tumours which in themselves have little of a malignant character, may, if not removed, ultimately degenerate. But when it is stated that fibrous tumours have, as such, little of a malignant character, there is one circumstance which it is right to mention in connection with these statements, viz., that certain fibrous tumours have a tendency to recur over and over again in the same locality after

2. Qno. XXXVII V XLIX.
their complete removal, while they exhibit no other character of malignancy, and possess only the ordinary structure of fibrous tumors. These have been alluded to by some surgeons under the name of Recurrent fibrous tumors. Dr. Bennett has described two such cases, and two others will be found detailed in the following observations. Both the tumors of this nature which I examined were of soft consistence, and contained fibro-elastic fusiform cells in all stages of development into fibrous tissue.

V. Cartilaginous Tumors.

[From the Chondroides - Former Cartilaginous].

Cartilaginous Tumors are those whose structure bears a greater or less resemblance to that of Cartilage. It is to the researches of R. Muller that we are principally indebted for accurate by distinguishing these growths from all others, and separating them into a distinct class under the title of Eucelendromata (Epykondpos cartilaginis).

The form of our Eucelendromata is generally rounder

and its external surface smooth. On making a 
section through its centre two different structure 
are found to enter into its composition. 101 a fibro-
membranous interlacement arranged so as to 
leave a number of small loculi which are full 
of 2. a soft, translucent, pink, or greyish substance 
of the consistence of a firm jelly. Microscopic ex-
anamination shows the latter to consist of nucleated 
cells embedded in a hyaline fluid, or more 
crassely in a firm amorphous matter; the former 
in the latter case being denser, and more resem-
bling true cartilage, as in a case of inclusion 
of the Testicle mentioned by Illner. The rela-
tive amount of the fibrous & cellular elements 
varies greatly. Sometimes there is very little 
fibrous tissue; the tunic consisting almost 
entirely of nucleated cells embedded in a 
hyaline matrix; at other times, the fibrous 
element greatly preponderates, the structure in 
this case more resembling that of fibro-cartilage, 
and constituting a transition to the true fibrous 
tumour. It is in the fibrous parts that the Blood-
vessels almost granulate from Vagel 12 states that 
these are but few in number. But the case
detailed in Pl. XVIII and also a specimen of endochondral bone in the Edin. University museum, injected by Mr. Goodric, show that the vascularity is often considerable.

Endochondromas may be divided into two sorts—1. Endochondroma of bones and 2. Endochondroma of the soft parts.

1. Endochondroma of Bones—These have been again subdivided, according as they originate from the centre of the bone, or merely from the surface underneath the periosteum. The former is the more common, but the structure in both is essentially the same. Five cases illustrative of the former are detailed in Observations XVIII, XXX, and five illustrative of the latter in Observations XXXIX, XXX. All these occurred in the phalanges of the fingers, where these parts are most commonly met with. The endochondroma which arises from the centre of a bone is generally surrounded by a bony envelope, which arises partly from the expansion of the original bony laminae, and partly from the formation of new bone; sometimes there is found ossous matter in the films of the articular surfaces (Pl. XVIII.)
As the tumour becomes large, however, the osseous envelope gradually grows thinner, and ultimately disappears entirely at one part; the superimposed integuments become stretched, ulcerate, and the whole tumour undergoes a process of softening and disintegration. Sometimes we find a number of enchondromata growing air holes in the immediate proximity of one another; but a remarkable circumstance is, that however large, however close two of them may be together, they seldom or never coalesce, provided they be separated by an articulating surface. In other words the disease is always limited by articulating surfaces. Central enchondroma, as already mentioned, is most common in the long bones as those of the phalanges; on the other hand, peripheral enchondroma occurs most frequently in the flat bones as those of the femur and pelvis.

2. Enchondroma occurring in the soft parts is a rare affection. Of 36 cases of enchondroma published, only 4 in the soft parts. Dr. Bennett has figured and described a peculiar form of this tumour removed from over the parotid gland, which on section was found to con-

2.Obs. XVIII.
list of small cartilaginous nodules embedded in a moist yellowish substance like a potato, which microscopical examination showed to consist of nucleated compound granular cells.

The Causes of Echondromata are but little known. Their origin is sometimes ascribable to external injuries: at other times they are congenital: and often no cause whatever can be assigned for their origin. Appearing, as they sometimes do, in different parts of the body at once, they would seem in some cases to depend upon some constitutional cause.

Echondroma is developed in precisely the same way as the primitive cartilage of the embryo, and it differs from common cartilage in retaining more of its embryonic condition.

The size attained by Echondroma varies. They are seldom much larger than an orange. Glase however, mentions one which weighed 9½ lbs.

Echondromata, on being boiled, were found by Glaser to yield a variety of gelatine, which he denominated verdnier, and which he also found in the permanent cartilages of the body.

Echondromata Simons have been known to exist for many years without being the least of any
pains, or the cause of any inconvenience, from their bulk; yet, though, as above mentioned, when they attain a great size, they are liable to ulcerate. Often, yet still they can be said to possess but very few of the characters of malignancy. They never implicate the neighbouring tissues; thus when occurring in a bone, they never spread beyond its articulating extremities. Moreover they never have been known to be reproduced after removal. Inclined tumours are most common in early life, whereas carcinous tumours occur more frequently in old people. Inclined tumours also differ from carcinous in containing gelatinous in place of albumen.

VI. Adipose Tumours.

[Adipose Tumours - Abnormal.] These Tumours have been denominated adipose or fatty in which oily matter is the prevailing element. A division has been made of fatty tumours, according as the oily matter exists in the form of globules, contained in a common external cyst (Adipose cysts).
or is contained in the interior of fat cells. But as the former belong more properly to the class of cancerous tumours, we shall confine our attention at present to the latter class.

Fatty tumours, as thus defined, are sometimes almost entirely made up of fat cells with a very little areolar tissue, and these constitute the true fatty tumours or "Lipoma simplex" "gellulifer." In others there is a greater amount of fibrous tissue, and these have been denominated by Hellem "Lipoma circumscriptum," "L. adheereens according to the arrangement of this fibrous tissue: and they constitute a transition from the true fatty into the fibrous tumour.

Fat cells are generally of a round or oval form, or sometimes polyhedral, from the lateral pressure given cell upon another. They vary in size from two to twelve, or more or less. Each cell contains an oily fluid, which escapes as globules when the cell wall is burst. This fluid is soluble in ether. Each cell also contains a nucleus, though, owing to the oily matter, this is often difficult of detection. The nucleus becomes more visible when the oily matter has been dissolved out by hot alcohol. It is the
seen to be round, and apparently adherent to the surface of the cell wall. Sometimes the tumour is surrounded by a circular crypt of altered mucous membrane arranged in a stellate manner.

Adipose tumours are remarkable for the small number of blood vessels they contain; a statement which is borne out by the cases afterwards to be detailed.

The surface of a fatty tumour is in general very much lobulated. It is also in most instances quite distinct and easily separated from the surrounding normal fatty tissue. In a few instances, however, the two are inseparable, the tumour appearing to be a mere hypertrophy of the normal fat. In two of the cases afterwards detailed this was the arrangement, and in both of these the tumour was congenital. I am not aware, however, whether this arrangement is most common in congenital fatty tumours. In these tumours which are distinct from the surrounding fat, the surface may be isolated by the walls of numerous cells thrust together, or the whole tumour may be enclosed in a more or less distinct fibrous cyst, the latter forming a transition to the true adipose cyst, but differing in the oily matter being contained in cells which are
The substance of fatty tumours quite resembles that of ordinary human fat. The situations in which fatty tumours occur are very various. They generally, however, are found where the natural fat is most abundant as in the fold of the hip and this may in some degree explain their origin, for if an oedematous or fatous cause be thrown out into a tissue where fat is already predominant, one may naturally suppose that in accordance with the laws of analogical formation, it will be also converted into fat. The growth of adipose tumours is often very rapid, they sometimes attain a great size. One of those afterwards to be described weighed 4½ lb. exactly, and the greater part of this mass had grown in the short space of six months. Dr. Cooper removed a fatty tumour from the abdomen of a steer which weighed 37 lbs. One of the largest so recorded is one which there is a cast in the Museum of St. Thomas's Hospital. It weighed between 50 and 60 lbs. and was attached by a narrow pedicle to the patient's neck, hanging down as far as his knees. Sometimes many fatty tumours are developed in the body at once. Notwithstanding the great size
which fatty tumors sometimes attain, and the consequent stretching of the integuments over them, it is but seldom that the latter ulcerate. Dr. B. Apothic remarks that the skin over a fatty tumor very rarely inflames and ulcerates." Sometimes, how- ever, this will happen as in the case described in Obs. XVII and if this ulceration be allowed to go on, by the tumor not being removed, the health may suffer severely. But on the whole it may be safely said that fatty tumors are of a very innocent nature; and the statement of Dr. Cooper, that fatty tumors may sometimes become malignant, (Conceivably? I think) requires confirmation.

A variety of Adipose Tumors has been described by Müller under the name of Circumferentorum or Laminate adipose tumors, which, though seldom met with, yet deserves notice, as it differs considerably from the above description of the true Common Lipoma. The fatty tumors. It is not dilated, is enveloped in a thin membranous cyst. Its consistence more resembles that of hard, firm fat, and it presents on section a lustre like that of Mother of pearl. Its chief fe-
culinary is that the fat cells composing it are arranged in concentric laminae easily separable from one another. The cells themselves are more commonly polyhedral, often round or oval, and imbedded in their interstices are crypts of Cholesteatoma. The oily contents of the cells are not soluble in alcohol as those of the common fatty tumors. Cholesteatoma is accordingly described as totally devoid of bloodvessels, and taking this into connection with the fact of its being always contained in a membranous cyst it would seem to be merely a sort of transition from the common fatty to true uncytotic tumors, differing from the latter in being composed of true fat cells.

Cholesteatoma has been found in all parts of the body. It is of very rare occurrence, and I have never had an opportunity of examining a specimen of it.

The above description of Cholesteatoma is taken from the original one of Allis.
VII. Enucleated Tumors.

Most of the tumors already described are in general found surrounded by a more or less distinct envelope of similar tissue, but the peculiarity of the class of enucleated tumors is, that the contents of the cyst exist in a very low state of organization, and have no muscular or other organic connection with the walls of the cyst or the surrounding tissues. Enucleated tumors may be divided into two classes, simple and compound.

Simple Enucleated Tumors consist of a single, perfectly closed membranous cyst, containing a thick, semi-fluid, opalescent fluid, varying greatly in its characters in different cases. In an anatomical point of view we may consider 1. The structure of the developing cyst, 2. The nature and characters of the contents. 1. The cysts themselves vary greatly in thickness and constancy. Sometimes they are thin, transparent, while at others they possess considerable thickness and constancy. When carefully examined they are found to consist externally of a layer more or less thick of white or sometimes yellow elastic films, tissue. When the inner surface of this is scraped with a knife, a greater or less gran
1. See Observ. VIII. XLI. Vc.

2. See Figures 16, 68, 96.

3. Figure 37.


5. Observ. XII
ity of a whitish jell substance is collected on the edge of the knife. This when examined microscopically is seen to consist of a number of nucleated cells, presenting the characters of epithelial cells. If a thin section be carefully made transversely through the walls of the cyst with a Valentini's knife, one may often succeed in detecting the nucleated cells on the inner edge of the section, undergoing a gradual transition into the fibrous tissue on the outer edge.

Holmschek has described in some of these cysts tubercous or spiral follicles exactly similar to those existing in the skin. 2. The contents of cryptic tumours are exceedingly various in their characters. They sometimes contain a limpid watery fluid (Hygromatous Cysts), exhibiting no structure under the microscope, except perhaps a few scattered nucleated cells (like epithelial) and albuminous granules. Sometimes the fluid is more consistent, rather glairy, and resembles somewhat drained honey (Cellulocystic Cysts). It contains nucleated cells and granules as in the last case, but in far greater abundance. Sometimes the contents present somewhat the appearance of
x. Obew. VI.

x. Obew. VIII. VI.

x. Obew. XXXIII.

+ 3. This remark applies rather to the Crypts of Compsognathus than to true, uncoiled lizards.
In some instances of this disease, I observed, the fluid was found to consist of oily matter \( \text{Cholesterol} \), with numerous small transparent cysts full of oil globules. At other times the contents are soft, like sand or putty (Steatomatous Cysts). It consists of nucleated cells, Cholesterol, and oily yellowish granules; or they may resemble jelly (Cillloid Cysts), or may consist of lymph undergoing organization. This semi-organized lymph is often found in the form of carilflows (pericentes) projecting from the walls into the interior of the cyst. Elapsed in with the above are often found in the contents of encapsulated tumours a greater or less quantity of Blood (Haemorrhagic Cysts) either natural, or undergoing change. In one instance afterwards related, the contents of a simple encysted tumour were found to consist almost entirely of pure blood. The cause of the extravasation of blood into the cyst, or into the cavity of the tunica vaginalis in the case of Ovariotome, remains to be shown, but in connection with this, the facts mentioned in Observ. XXXIV. 4. XI. of the walls of cysts contain
withe our albuminous exudation


ing in the former case, recently effused blood. In the latter an albuminous exudation exhibiting in both cases vascular points on their inner surface is not altogether devoid of interest; and D. Gillespie of this city informs one that the walls of a lumina to which he had an opportunity of examining possessed a sort of erectile tissue. Some in cystic tumours in addition to oily matter contain a quantity of hair, which, from the observations of Kohlrausch, seems to be developed in follicles like the hairs of the skin. Kohlrausch also believes that the oily matters formed along with the hair, are the products of the secretion of sebaceous glands existing in the walls of the cysts. Horns, teeth, and portions of bone are also found in the interior of some cysts. Various explanations have been given to account for the presence of these bodies, some as Gruvelhier, maintaining that they are the abortive remnants of a foetal structure, while others as Kohlrausch & Vogel assert that they are merely the exclamation local growths of the epidermis of the face. Encysted tumours may be found in almost every part of the body, but their most frequent site is immediately beneath the skin, especially of the
1. See Observ. XXI.

2. Observ. XI.

3. Surgical Essays II, 236.
Scalp, eyelids, V face. Of internal organs they are commonest in the Ovaries. They are sometimes congenital, very often hereditary. They sometimes attain an immense size, their contents amounting to 6 or 7 pounds or more.

The causes and mode of origin of Incurvated Tumors are points which are very much disputed. Dr. Ashley Cooper maintained that they were all glandular follicles, which had become distended with their contents, owing to the obstruction from some cause or another of their excretory duct. This was doubt as the true pathology of a few of these tumors, as is proved by our being able to detect the opening of the excretory duct, though it to evacuate the contents of the tumors. Incurvated tumors are liable to be produced in this way on the face. Whether, however, the origin of all incurvated tumors will admit of this explanation is very improbable, though at the same time this is a point, the determination of which is by no means easy. It seems highly probable therefore in the majority of cases, incurvated tumors are not distortions of glandular follicles by their natural secretions, but entirely new formations. As in the
Another cyst external to this is formed by the surrounding acellular tissue.

The conversion of the protein compounds into fatty matter is exemplified by the formation of adipocere after death. The oil globule, seen in the interior of muscular fibres in fatty degeneration, may possibly owe their origin to a process of a similar nature.
case of other tumors, too, their origin is probably in
most cases, as maintained by Vogel. Others attrib
utable to an effusion of lymph scarring, or extrava
gation of blood, the result of external injury, or some
other cause. The circumferential part of the fibrous
mass, whose organization is influenced by the tumor
bodies, is developed into the fibrous cyst, the de
velopment being most perfect externally, while the
central portion becomes transformed into the various
contents of encapsulated tumors. This speculation is also
borne out by the fact, that, the older an encapsulated
tumor is, the less fibrous, and the more oily
ingredients enter into the Composition of its Contents.
If, for example, we take a Drumburn greens of
the scalp, the largest will always be found to
contain least fibers, and most oily matter (as
in Abs. XXX. ) The cyst itself gradually becomes
more dense, highly organized, and, taking the
secreting function, separates from the blood mater
ner either similar to, or which becomes transform
ed into a substance the same as the already exis
ting content, and in this way the growth of the
tumor may be accounted for. Encapsulated tumors
may attain considerable size without increasing.
1. Observ. VIII.
or causing any pain or inconvenience, save from their bulk. At length, however, their contents gradually become more fluid—blood often is extravasated into their interior—the superimposed integuments become thinned, yet last ulcerate. From the ulcerated openings there continues to be a purulent and often bloody discharge. It must be remembered, however, that syphilitic tumors may often last a whole lifetime without any of the above bad consequences manifesting themselves. Simple syphilitic tumors have by no means a malignant character. They have no tendency to involve the neighbouring tissues in their growth or to contaminate the lymphatic system; if once carefully removed, they are seldom or never reproduced.

2. Compound Syphilitic Tumors consist of more than one cyst. Tumors have been described which constitute a sort of transition from the simple to the compound, consisting of one cyst with its interior partitioned by a number of septa of connective tissue. Compound syphilitic tumors may consist of a cluster of cysts separated from each other by a small quantity of connective tissue, but more commonly...
1. Loc. citat: p. 166.
they are associated with some other form of tumor, constituting the class of tumors which have been described by Shuler under the name of Cystostarcoma. The former have been made the subject of particular inquiry by Dr. Rodakoff, who divides them into 3 varieties: (1) Agglomerated clusters of simple cysts; (2) cysts which contain others projecting into their sinuses, the younger cysts being attached to the walls of the parent by pedicles. The contents of these cysts are in general clear fluid; at other times this is more or less opaque, while most infrequently the contents are solid, and consist of a fibrous tissue mixed up with nucleated cells. — The Cystostarcomata tumors of Shuler consist of cysts whose contents vary in different cases like those of simple cysts, and which are embedded in the substance of some of the other forms of tumors already described, such as fibrous or Carcinomata tumors. Shuler distinguishes three different forms of Cystostarcomata tumors: 1. Cystostarcoma simplex — in which the cyst has one or a "distinct membrane, the inner wall of which is simple, smooth, or at most beset with a few vascular nodules."
in which the cysts contain "yomager cysts in their
intest which are attached to their walls by
pedicles" "E. C. phlbbodes, in which the cysts
are ill-defined. After without a distinct proper
membrane, in whose interior is more or less filled
up by cauliflower-like ophthalmae springing
from their inner surface - (these ophthalmae
being found in microscopic examination to
consist of lymph undergoing a transformation
into fibrous tissue.)

The malignant or less malignant nature
of a cysto-sarcomatous growth entirely depends
on the nature of the tumour in which the cysts
are imbedded. We have no reason to believe
that the presence of cysts increases the malignan-
cy of tumours otherwise innocent.

The above constitute the most important classes
of tumours properly so called, but in addition to
these several others may be briefly alluded to.

Melanotic Tumours.

These can hardly be said to be a distinct class,

2. Muller's Archives 1836.
for any of the above tumours, in the substance of which dark pigment is deposited, may be said to be melanotic. The pigment is of a dark brown or black colour, and exists in the form of granules either free or contained in the interior of the cells of the tumour. From this it will appear that the degree of malignancy of a melanotic tumour must differ greatly in different cases.

Gelatinous Tumours.

have been described by Vogel as a distinct class. They are certainly not of frequent occurrence, and I have never had an opportunity of examining them. They consist of a viscid colloid substance, perfectly transparent, presenting an amorphous appearance under the microscope. Müller has described a gelatinous tumour under the name of Bellenexline, whose substance was composed of grey globules with scanty bundles of fibres and vessels, V scattered through the whole an immense number of crystalline needles. 2

Fibrinous Tumours.

A class of tumours have been described under this name by Celsparí. They consist of discoloured
Bennett on Cancerous V. Cancerous Growth. p. 197.

Golpeau "De la cartilagine dans tous les organes."

Thése du Concarne, 1832.
lots of extravasated blood. They are of a yellowish color. Upon microscopic examination are seen to be made up of frustiform compound granular cells, altered blood corpuscles, molecules, granules. These tumors are said to be not uncommon in the olfactory. 

Syphoma.

This name was given by Hensle to a form of tumors which he has described. In the naked eye it appears to consist of numerous filaments running parallel to one another, which on microscopic examination are found to be tubes loaded with granular matter. The tumors described in No. XXXV. seemed to be somewhat of this nature. Many of the tubes in this case were quite visible to the naked eye, fully 1/2 inch in diameter. They contained in their intergranule small corpuscles, whose characters will be detailed more at length hereafter. See Page 180.

Vascular Tumours.

are those which consist of dilated bloodvessels with more or less areolar tissue. It may be a large vessel which is dilated, constituting our
Anomalous in the case of an Artery, or a Varix in the case of a Vein, or the tumours may consist of a great number of vessels, as in the true erectile tumours. Erectile tumours seem to consist of the small vessels or Capillaries of a part which have become greatly dilated. Anomalous Varix are most common in old people whereas erectile tumours are almost entirely confined to early life.

Osteous Tumours,

Bony projections from the surface and substance of the bones of the skeleton, constituting the affections known to Surgeons under the name of Eccentric, Osteosis etc. hardly deserve the name of tumours. They cannot be distinguished from the calcearous deposits which sometimes take place in the soft parts of the body, and sometimes in the substance of tumours; the former presenting the structure of true Bone while the latter are only unorganized concretions. The former may be regarded as local hypertrophies rather than tumours in the proper sense of the word.
Observations.
She stated that it had only been growing for 9 months.
Observation I.

Cancerous Tumour of the Mamma. Excision - Cure.

Mrs. a married lady from England about 40 years of age, of rather spare habit, and very nervous temperament, was operated upon by Mr. Syme on the 10th of December, 1850, on account of a tumour of the left mamma. The tumour was situated at the upper and inner part of the gland, and as felt through the integuments was of a circular form, and occupied a space about equal to that of a Crown piece. Consistence was very hard. There was no enlargement of the axillary glands, and the patient's general health was good. She occasionally suffered a good deal of pain in the tumour. Chloroform was administered, and when she was fully under its influence, Mr. Syme made an elliptical incision thirteen long through the integuments, and dissected out the whole of the mamma gland, including the tumour and a portion of the surrounding fat. Several vessels were tied, and the edge of the wound were then brought in contact by sutures. She had no bad symptoms after the operation, and returned to the country at the end of two or three weeks, the wound having quite cicatized.

Description of the Tumour. - The whole of the excised mass weighed a very little more than 4 oz. and consisted of an elliptical portion of the skin 3 inches long, 1 3/4 in. broad...
at its middle where the nipple was situated. Between
the Mammary fat and skin was a thin layer of fat. The Mam-
mary flap was not at any part abnormally adherent either to
the skin or the subjacent muscle. On examining the
flap, both externally and by section, it presented over
the greater part of its extent a structure perfectly normal.
At its upper third portion there was a tumour of very hard
Consistence unbedsted in its substance. It was of a circu-
lar flattened form. (diam. = 1 1/2 inch. # Thickness = 1/2 inch)
Its surface was somewhat uneven. On making a sec-
tion through its centre, it grates under the knife. The
surface of a fresh section presented a greyish white Colour
with a slight tinge of pink. On squeezing it, numerous
small drops of thick creamy fluid issued from it.
When this fluid was washed away the surface of the
section was found to be studded with greeny points about
the size of a pin's head, and perforated in the centre. These
were found to be Continuations of the Milk ducts into
the Mucoid Mass. Along the edge of the tumour crept the
nipple were two or three Hard nodules about the size
of millet seeds, presenting a Structure similar to that
of the larger deposit, but separated from it by sound
Membrana. There was also another deposit of the same
nature, about the size of a large pea. in the substance
of the gland fully 1/4 inch from that first described.
There must be some mistake here in estimating the majority's power.
The fluid squeezed from a section of the last ves of a
purplish grey colour in place of white-
Microscopic examination. A portion of the creamy fluid from
the large deposit was placed between two glass plates viewed
under the microscope (200 linear). On adjusting the focus
an immense number of transparent punctate cells came
into view. The largest had a diameter of about 1/4 inch. Fig 1.
others only 1/100 or less. The shape of the cells was also very
various. Very many of them presented a globular form,
with the nuclei situated at one end, and apparently
attached to the cell wall, with a quantity of fine greyish
granular matter between the nucleus and cell wall. Others
of the cells were elliptical. In few of them flask shaped.
Some of the cells contained a single and others a
double nucleus. The nuclei were for the most part
dark or less globular (1/2000 in). It contained a nucleolus
reflecting light. Several nuclei might be seen floating
about without any cell walls. Hetic acid rendered
the cell wall first more transparent. When dissolved it,
while it rendered the nucleus only more distinct. One
or two large punctate cells 1/50 in. were seen enclosing
three or four nuclei apparently becoming themselves
transformed into cells. Illigled with the above cells
were several compound granular corpuscles a considerable
quantity of granular matter and few oil globules. The
whole appeared to be suspended floating in a transparent structureless fluid. On examining a thin section of the tumour made with a Valentin's knife, it was found to consist of a stroma of white fibrous tissue arranged in such a manner as to leave small empty places enclosing the cells and other constituents of the milky juice. Fig. 20.

Remarks: This tumour afforded a well marked example of Scirrhous Cancer—consisting of a fibrous stroma with cells infiltrated through its substance. The persistence of the milk ducts in the midst of the scirrhous deposits confirmed the statement of the patient as to their rapid growth. These deposits seemed to be undergoing a process of softening both from the great amount of milky juice, and from the great amount of milky juice, and the cells mixed with cells albuminous granules, as shown by microscopic examination; so that it is highly probable, that, if not removed, the disease would have made rapid progress.

Observation II.


History. Margaret Neil, aged 40, a widow, was a patient in the Royal Infirmary from the 15th to the 29th of May 1849, at which time ill was found to have mammary cance
Hospital Case Book.
account of a "hard" tumour involving its substance. This tumour she had only observed three months before. She said it was about the size of a closed fist, and at times was the source of considerable pain. Before the wound had completely cicatrized, she observed a small lump at its inner and upper extremity, which ever since has been gradually increasing in size. At the date of her second admission into the Infirmary, it measured 3 inches transversely x 2 inches above downward. It had neither a nodulated surface and a very hard consistence. There was no enlargement of the glands in the axilla, and the patient was in the enjoyment of good health. August 29th. Today after the patient was brought under the influence of Chloroform, I made an elliptical incision over the tumour, removed the whole of it along with some of the surrounding fat. The wound healed by the first intention, but it had almost completely cicatrized by the 19th of September. When the patient was dismissed from the Hospital without any threatening a return of the disease.

Examination of tumour after removal. The diseased mass removed weighed 1 3/4 oz. It consisted of the tumour itself, an elliptical portion of the superimposed integuments, a small quantity of adipose tissue. Anteriorly the tumour...
presented a convex modulated surface which was very adherent to the skin. The posterior surface was flat. It separated from the fibres of the pectoralis muscle by a small quantity of areolar tissue. On making a section through the centre of the tumour, it offered considerable resistance and grated under the knife. The surface of the section was smooth and of a greyish-white colour. On stroking it with the edge of a knife, or on squeezing the tumour between the fingers, a small quantity of a milky juice was obtained. A small drop of this was placed between two glass plates, and examined under the microscope. It was found to contain nucleated cells, naked nuclei, oily and albuminaceous granular matter. A few compound granular cells. The nucleated cells were of an oval form, the long diam. being about 1/50 inch. The cell wall was very delicate and transparent. It completely disappeared by the action of acetic acid. Each contained a rounded or oval nucleus containing in its interior two or more transparent granules or nucleoli. The diameter of the nucleus was about 1/500 in acetic acid produced no change on them. On making a thin section of the tumour with a Valentin’s knife and placing it under the microscope after the addition of a drop of acetic acid in order to render it more transparent it presented an appearance represented in Fig. 4.
a dense fibrous stroma composed partly of white and partly of yellow elastic tissue, and arranged to as to leave lobuli or compartments, which were full of naked nuclei, cells, etc., the same as those already described as entering into the composition of the milky juice.

Remarks. The examination of the above tumours left no doubt as to its Cancerous nature, belonging to that form of Cancer denominated Senilis. The appearance of a flesh section, the milky juice which could be separated from it, the microscopic examination showing that it consisted of nucleated cells suspended in an amorphous fluid, and infiltrated through the stroma of a fibrous stroma, all indicated a Cancerous tumour. This conclusion as to its malignant character is also confirmed by the fact of the appearance of a second tumour before the former resulting from the removal of the first had completely cicatized. The first tumour I had not an opportunity of examining but it probably possessed a similar structure. The milky juice was far less abundant than in the tumour last described. It contained far less oily and albuminous particles.
Observation III.

Cancereus Tumor of Lower Jaw—Removal—Cure.

W.——" Ill. — aet. 37, Labourer, was admitted into the Royal Infirmary on November 25th, 1850, under the care of Dr. Lyne. He stated that he had been perfectly well until 10 weeks before admission, when from a violent concussion in a railway carriage, his lower jaws received a severe blow from another man's head. Two of his incisor teeth were knocked out, and two others were so loosened that they had afterwards to be removed. The surrounding soft parts were very severely lacerated. A few days after the accident a swelling began to appear in the hollow beneath the tongue, attended with great pain. This was lanced by a surgeon, and a dark bloody matter escaped. This gave great relief to the pain, but the swelling continued. In a few days it burst, discharging a thick purulent matter. On admission the four lower incisors, and the right canine teeth were gone. Projecting beneath the point of the tongue was a tumour about the size of a plum, evidently attached to the alveoli of the incisor teeth. It was of soft consistence as to retain the impression of the point of the finger; its upper surface was very irregular, and threw out a fetid discharge of a dirty greyish colour. The jaw
for about 2 inches on either side of the symphysis and as far down as the lower margin seemed somewhat thickened. She complained of no pain in the tumor, but its situation and the fetid odor of the discharge made her anxious for its removal. Various Caustics had already been tried, but without any benefit. There was no enlargement of the glands of the neck, and with the exception of the tumors, the patient was in the enjoyment of perfect health. Dec? 16th. To-day the patient was brought under the influence of chloroform, etc. Tynne then made an incision from the middle of the lower lip to the point of the chin, dissected on both sides the soft parts from the bone. The symphysis with two inches of the horizontal pannus on either side was then removed by means of the saw V bone pliers. The two flaps of the chin were secured together by means of common catgut sutures. To prevent the tongue slipping back its point, secured to the chin by a thread.

Dec? 18th. Thread became loose by which tongue was tied forwards, yet patient could not swallow, there were difficulty in controlling its motions. Dec? 20th. Sutures removed.

Dec? 9th. To-day the patient was dismissed cured. The ends of the jaws were covered with a soft granulating substance. They were quite in their natural position. Would be improved by a proper diet and down. No symptoms of return of the disease.
When the tumour was enucleated away from the bone, the excavation hollowed out in the latter was found to extend down to within ½ inch of its lower margin.
Examination of the Tumour after removal. It was of the size of a plum. It sprang from the alveoli of the front teeth of the lower jaw. On dissecting the tumour from the bone, no trace whatever of the alveolar could be seen, but along the upper margin of the jaw there was a sort of Cup Shaped Cavity, bounded before behind by the anterior and posterior laminae of the bone, which were separated from one another half ⅓ inch. To the bottom and sides of this Cavity the Vascular Structure under Consideration was attached. The Consistence of the tumour was very soft, so that it could be easily impressed with the finger. At its upper surface it was of much softer Consistence than where it was attached to the jaw. At the left extremity of the Cavity in the jaw there were a few drops of a thick puriform fluid of a reddish brown Colour. On section the tumour exhibited a smooth surface of a pinkish grey Colour, from which a juice of a dirty pinkish colour exuded on pressure.

Microscopic Examination. On examining microscopically a drop of the fluid drained from the surface of a freshly made section, there were found in it the following elementary Constituents. Nucleated cells of various sizes and in all stages of development. Some of these were 5-10 μm in size as to have a chord measuring fully 500 μm.
Many of these cells contained only one nucleus. (7000X.) In others the nucleus was seen splitting into two, in others there were two distinct nuclei, while a few cells were seen loaded with nuclei. The nuclei were for the most part of a rounded form, and contained in their centre one or more nucleoli. Several large another cells were seen encircling smaller cells in their interi, with a little granular matter between the different cell walls. The cells were mostly of a rounded or oval form, others were pyriform, for few still more elongated. In a few the cell wall was perfectly transparent but was contained some or less fine granular matter. Acetic acid rendered them still more transparent, if they dissolved them entirely, leaving the nuclei unaffected.

The cells were most abundant in the deepest portions of the tumour. In the pyriform fluid. 1. A number a naked nuclei similar to those contained in the cells.
2. Compound granular cells. A few of these were seen, principally in the pyriform fluid. Many of the large nucleated cells were also loaded with granular matter. The above elements were mixed up with a quantity of molecules or granules. 

5. A few scales of bilestone. Near the attachment of the tumour to the bone there was a quantity of mineral matter in a granular form, which was dissolved by dilutions.
A [Valentin's] section of the most consistent portion of the tumour, was found to consist of a fibrous stroma with the filaments were very fine. In the meshes of these filaments were enclosed the cells, etc. already described. At one or two places the filamentinous tissue was seen disposed in a sort of concentric circles.

Remarks. The microscopic examination of the above tumour left no doubt in any mind as to its cancerous nature. All the ordinary elements of cancer were present - a fibrous stroma saturated with a milky juice, which was loaded with nucleated cells and free nuclei. Its rapid growth also favoured such a conclusion. Two things are worthy of notice with regard to it. 1st. Its mode of origin. 2nd. Its situation. 1. Its mode of origin. The patient attributed the growth of the tumour entirely to the blow which he had received on his jaw. He asserted that there was no trace whatever of a swelling in the part before he met with the injury. It is possible that he may have been mistaken; that the tumour may have begun to grow before he met with the accident, and that the latter only hastened its development; yet the fact of the tumour being attached principally to the inside of the alveoli, which had been lyed by the accident deprived of their teeth,
renders this improbable. Blows and other external injuries are no doubt the frequent causes of the origin of simple or cavernoid tumours, which may ultimately become malignant, but the peculiarity in this case is the fact of an injury causing the formation of a tumour, which from its very origin seems to have been malignant in nature. Duhem has recorded the particulars of a case very similar to the above, in which the symptoms of the lower jaw were removed on account of an osteosarcomatous tumour, which the description would indicate to have been decidedly malignant. In this case also the man attributed the origin of the tumour to a blow which he had received on the chin three months previous to the operation. In this case an operation very similar to the above was performed, which was temporarily successful, but the man died six months afterwards from a return of the disease.

2. Situation. Springing as it did from the alveolar processes of the jaw, this tumour must be regarded as an Yebli. From its malignant character it is not devoid of interest. Many medical authors have described and rarely a tumour of the gums is malignant. Lister had stated as his experience that a tumour of the gums is in general not malignant. First opt its degenerate. He, however, distinguishes from the ordi
1. Lister's Practice of Surgery p. 225.

2. Carcinous Haemorrhoidal growths.
nary spuils "a soft tumour of the gum, papiloid in its pro-
gress, broken in its surface, furnishing fetid and bloody dis-
charge, which is sometimes, it is said, met with." This
description quite coincides with that of the tumour
under consideration. It originated probably in the gum
and ultimately the osseous texture of the jaw was in-
volved to a great extent.

Cholesteatome is not of very frequent occurrence in Can-
cer though it is sometimes met with. Dr. Bennett at
page 58 of his observations mentions his having found
Cholesteatome in Cancer of the mesenteric glands.

Observation IV.

Cancerous Tumour of Testicle: Extrication of Testicle - Cure.

History: Joseph Hartley, aged 36, a weaver was admitted into the
Royal Infirmary on the 1st of October 1850 on account of a
mass of the right testicle under the care of Dr. Dunham. The
patient stated that 10 months before, this testicle began to
increase in size, to be the seat of great pain in the
scrotal cavity and was sometimes adopted for his relief, leeches
and cushions, a mercenary corset &c. This swelling went
gradually increasing. On admission the tumour
possessed a solid Consistence except at its upper part where
there was a pretty distinct fluctuation. A puncture was
made into this with a lancet, & a small quantity of...
a clear fluid evacuated. The whole tumour was about the size of a Coconuts. After this admission leeches were applied to the tumour, with vanishing effects. The application of these did not cause any diminution in the size of the tumour, and was followed by considerable enlargement of the glands in the groin. Decem. 20th. To day the patient was brought under the influence of Chloroform. Dr. Dunmore removed the testicle in the usual manner. A few vessels were tied at the edges of the wound, kept in apposition by sutures. The wound was dressed with simple swathe-dressing. The ligatures came away on Decem. 25th. About a fortnight after the operation the wound having quite cicatrised, the patient was dismissed cured. The swelling in the groin having greatly diminished in bulk.

Description of the Tumour. This was about the size of a Coconuts first. It weighed about 9oz. At its upper part there was a distinct cyst capable of holding about 3ij fluid; its walls were collapsed. The form of the tumour resembled somewhat that of an egg. On making a section through its centre from above downwards, the greater part of its fluid was found to consist of a greasy, white substance of pasty firm consistence, but yielding on pressure an abundance of a white milk-like juice. This was totally different from the natural structure of the testicle.
which examination showed to be almost completely obliterated. At the lower part of the section there was a deposit about the size of a half-drawn piece of a substance having a brownish pinkish colour. This substance in the section presented a triangular form. Two sides of it were surrounded by the other tetrad of the true crown, while the third formed part of the greenish external surface. The brownish pinkish substance was of uneven, softer consistency than the grey, approaching that of brains, and from one or two parts of its surface a gumy firm fluid could be squeezed out.

Microscopic Examination. A drop of the oil-like juice collected on the edge of a knife from the more solid portion of the deposit exhibited in the field of the microscope an appearance represented in Fig. 8. There were numerous transparent globular bodies varying in size from 100 to 1400 microns or less. The outline of these was round or less round. Each contained in its interior one, two, three, or more minute rounded globules or nucleoli, with a little granular matter. Arctic acid seemed to have little effect on these bodies - elbised up with them there were a quantity of globules V. granular Matter V. A few Compound granular globes. In a section made with a Valentini's knife, these elements were seen grouped in masses, imbedded in the meshes of a stroma of white fibrous tissue. In the
4. R. S. on Cancerous Hemorrhoid Growth, p. 196.
91.

Three brownish parts of the tumour. There were found globular bodies exactly similar to those just described. But there was some granular matter. No compound granular cells, nor in the more solid part. In this position too, a few of the globular bodies were found surrounded by a distinct transparent cell wall, One cell which was of a spindle form shape had a strand of tooins was found. Callading: five of the globular bodies Fig. 9.

Remarks. Careful examination of the above tumour convinced one of its Cancerous nature. From the almost total absence of cells, from the greater part of the tumor being composed of Radial nuclei fibres, it may be thought to have been more proper to have referred it to that class of tumours which have been denominated by Dr. Bennett "Films unbleached." But there are two circumstances which have produced one not to do so. In the first place none of the three cases of this disease detailed by Dr. Bennett could a milky juice be obtained by pressure from a fresh section of the tumour, whereas in the present case the milk was obtained and the juice thus obtained was very copious. Again the nuclei in this tumour, differed greatly in their arrangement among the fibres from those found in fibrous unbleached tumours. Moreover, though...
By referring to the figures it will be seen, that the elements above described as 'Nuclei' are not unlike bodies often met with as tubercular deposits, but the general physical characters of the tumour, and the fact of many of these bodies being enclosed in distinct cells contradicted every notion of the tumour being tubercular.
The great majority of the nuclei were devoid of any cell-wall, yet a few cells were found containing nuclei exactly similar to those which spilled from the enlargement of the glands in the groin at the time of the operation; it is all probability produced by the irritation of the tumour of the testicle; for it disappeared on the removal of the latter. The esp found at the upper part of the tumour seemed to lie the remnants of the slime vaginalis. Fluid in the sac is not an infrequent concurrence of Cancer of the testicle as well as of Simple Sarcocele. The fluid was of a pale brown colour, but I had not an opportunity of ascertaining its more accurately.

Observation V


Edward S[...] 26 a Labourer was admitted into the Royal Infirmary under the care of Dr. Smyth on 18th October 1850, Labouring under a fungous Tumour Situated over the Sacrum. He stated that 52 years before a small hard wart had appeared on the site of the present tumour. For three years there was not much pain in this; but as the size increased so also did the pain. She was admitted into the Infirmary last Monday, the tumours being then about the
size of a turkey's egg, & having at its summit a dilated, bleeding surface. Mr. Byrne performed the operation by an elliptical incision through the integuments about a fortnight after his admission. At the end of eight weeks the wound had quite cicatrizied, & he was dismissed from the hospital. Eight weeks before his second admission a small flat lump appeared at the lower angle of the old cicatrix. This rapidly increased in bulk and at the date of admission was as large as a hen's egg, & somewhat conical form with a truncated ulcerated summit. For 10 or 12 weeks before his admission he had been complaining of occasional severe stitches in the right side of his chest, & for 6 weeks he had been liable to hemoptysis. Some days after his admission the patient was seized with a severe pain in the lower part of right side of chest, accompanied with cough, dyspnoea, & very rapid pulse (125). There was dullness on percussion, tubular respiration, increased vocal resonance over a space of several inches at the lower right side of chest. Moist rales heard over rest of chest. These symptoms went on increasing. On withdrawing the remedial measures employed. In his expectoration there was sometimes pure blood, at others it was only tinged with blood. Once or twice he was observed to spit up cylindrical masses of coagulated blood, apparently casts of the bronchial tubes. The expectoration was examined with the microscope; it contained only blood corpuscles,
The tumors over his arm gradually increased his pain, and there was often considerable discharge of blood from its surface.
granular matter, and Epithelium flakes. The Patient daily grew worse. His pulse still continued rapid, but soft and feeble. He became subject to diarrhoea, nocturnal perspirations, his appetite gradually failed, he became inanitated and weak that he could not sit up in bed. His Countenance assumed a yellowish hue. The dullness of the chest as percussion spread, it could be made out at various isolated spots over its surface. The cough was of a peculiar lugging character. He became daily weaker. He died on the Morning of 7th.

Description of the tumour over Jaundice. After death this was removed by a Scalpel along with a semielliptical portion of the surounding integuments. The mass beneath the tumour was perfectly found free from the disease. In fact the skin and a very small amount of the subcutaneous areolar tissue were alone involved. The tumour at its base was of an oval form measuring a space about equal to the size of a halfpenny. The thin could be traced for half inch all round but gradually became lost in the disease. From the base the tumour gradually expanded onwards till it became so large as to have covered the palm of one hand. Its upper surface was very irregular, of very soft consistence. Of a black, or dirty, almost blackish Colour. It emitted a very fetid odour, it was evidently in a gangrenous condition. On cutting from above downwards through the centre of the tumour, the tissue of the latter at its base presented a striking contrast with that near the upper surface.
By scraping its surface with a knife, a small quantity of a cream-coloured juice was obtained.
From the surface down through one half the thickness of the tumour it was of a dirty greyish or black Colour, while that of the lower part of the tumour was of a beautiful cream white Colour. The two passed gradually into one another. The white substance was first unlike Brain in Colour and Consistence. It was observed to have a tendency to split up in a direction perpendicular to the thin alternate black vessels running in a similar direction. This could be seen with the naked eye. On examining a minute particle of this white substance under the Microscope it was found to consist almost entirely of an infinity of cells. Of these, the greater number of these were elongated to perform their average length being 200 in. breadth at the centre 70 in. Many of the cells seemed very much twisted upon themselves, an appearance which was probably produced by pressure between the glass plates. At the centre of each cell was a nucleus. Between the nucleus and cell wall a little fine granular Matter. The Nucleus Fig. 11. was of an oval form (200 in by 70 in). Very distinct in comparison to the cell wall. Each contained in its interior a few granules. Some a distinct Nucleolus. In some cells there was a double nucleus. Along with this the above cells were a very few round oval cells: These were more abundant at some parts of the tumour than at others. Here there were a few hexagonal epithelial plates adhering
by their edges. There was also some granular matter, which became very abundant near the gangrenous portion of the tumor. The fusiform cells comprising the white substance were arranged side by side with their long axes running principally in one direction, so that a thin section, when examined with a low-magnifying power, presented the appearance of a films tissue with amicronas nuclei imbedded between the fibres. It was this that imparted the fibrous-like appearance to the white substance as seen by the naked eye. There was no true films tissue in the tumor. The small vessels in the white substance of the tumor were seen to pass in the long axis of the fusiform cells in the neighborhood, but was separated from the cells by a distinct basement membrane.

The lungs on examination were found to contain large deposits of a meibid tissue exactly similar to the white substance of the tumors we have just been describing. In the R. lung these were most abundant, but across near its base were as large as two fingers. The cells in these masses presents the same fusiform appearance as those in the tumors over the diaphragm, but in addition to these cells, the meibid masses in the lung were found to be divided into bundles of true films tissue, the filaments of which were exceedingly delicate. This however never by the means of writing...
Remarks. The tumour whose description we have just given is peculiarly interesting in several points of view. It was undoubtedly Cancerous, if the grater of Eosinophila. Its history, if the existence of morbid deposits exactly similar in the Lungs, to those in extent as to cause death confirm our opinion arrived at by an examination of its structure. It seemed to have originated in the vascular tissue beneath the skin. Consider next its size, it is remarkable how little it had involved the surrounding tissues, the subjacent muscular tissue being perfectly free from the disease. It must have at an early period become blended with the skin, which at the period of its admission was stretched over its surface. Ulcerate it. From this ulcerated surface there protruded numerous fungoid Cauliflower granulations, which appeared to be extremely vascular, bleeding freely on the slightest provocation, as on the removal of the piece of lint with which it was dressed, the tumour at this period presenting all the characters of that condition of Eosinophila Commonly denominated "Fungus Disconnectus". These granulations showed little tendency to become organized. On the contrary, for some days previous to the patients death, the surface of the growth appeared to be undergoing a process of destruction, as indicated by the dark colour it assumed, the jet black colour it exhibited.
Small pieces which became detached from its surface. As regards the proper substance of the tumour, which at the base still remained undestroyed, the most remarkable fact ascertained by its examination was that of its being entirely composed of cells. Its fibrous structure whatever could be ascertained to be present after the most diligent examination. (See Page 26.) In the similar deposits in the lungs bands of a very fine fibrous tissue were found pervading the masses of cells, but whether these constituted part of the morbid deposit, or were only remnants of the normal tissue of the lung, it is impossible to say.

The form and arrangement of the cells composing the tumour were also well worthy of notice. The form of the cells refers the growth to that species of Eucarcinoma which J. Muller describes as characterized by curved or fusiform cells. These elongated cells he speaks of as undergoing a transformation into fibres, but certainly the examination of this tumour, though the cells were arranged with their long axes remaining principally in one direction, leads one averse to such an hypothesis. So far as I am aware, it has not yet been shown that cancer cells are ever transformed into fibrous tissue. The blood vessels pervading the mass were separated from the cells by a distinct though almost structureless wall. They bore a close resemblance to the small capillaries of the
Brain. The epithelium scales, several of which were seen adhe-ring by their edges, were evidently derived from the skin.

Observation VI.


Mr. A. — upwards of 60 years of age. Consulted Mr. Syme in the beginning of November 1830, in reference to a very immense tumour in his back, so large that it could be seen projecting from beneath all his clothes. I gave his back the appearance of being bent. This tumour had been growing for 16 years, and its origin was attributed to a blow which he had received on the upper being thrown on his back while playing at leap frog. The tumour extended from the lower part of the lumber to the middle of the thoracic region. It had a fluctuating consistence throughout. On tapping it the tingeplate was distinctly conveyed from one side to the other. On 13th of December, Mr. Syme introduced a small trocar into the most dependent part of the tumour. A few drops of a thick yellowish fluid escaped through the same, being introduced a probe about 7 inches, but the consistence was such that no more would come away. The probe was therefore withdrawn, with a slow
tomy, an incision 3 inches long was made into the tibia. Through this opening the contents of the tibia were rapidly evacuated. It amounted to 1/4 of a fluid ounce. The walls of the cyst were at first allowed to collapse of themselves, but when the Matter was nearly all out, pressure was employed at first to drive away as to exclude the entrance of air. A pad of lint was then placed over the wound. A broad flannel bandage secured the body. After some days there was a slight reaccumulation of fluid in the cavity. This was drawn off, 1/4 oz. of pure Alcohol injected, and after some days came a whole fluid ounce of Alcohol was thrown in. This Caused Considerable distention of the cavity, but no fast symptoms whatever. The swelling after a few days began to diminish, and though there is still considerable fullness in the region of the tibia, the foot is pushed to the original Description of the fluid removed. This amounted to 140 fluid ounces. Its color was a dirty yellow, in this respect, as well as in consistence resembling ordinary pus. But what gave it a very remarkable appearance was that there were suspended in it an innumerable number of translucent gelatinous bodics, of a more or less pointed form, and varying in size from that of a cherry to one almost imperceptible to the naked eye. In microscopic examination the yellow portion of the fluid was found to be composed of innumerable
Dr. Bennett in his Observations page 195. Speaks of the Choleste
tone of illsue, as consisting of granular fatty matter conc
buried with crystals of Cholesterine, and it was this which in
duced me to refer this substance to that class. Afterwards as
certained that illisue's own description of Cholesteotone is
considerably different, as will be seen by referring to pages 58-587
of this thesis. It presents, he says, a nearly lustre, and
the oily matter, is not in the granular form, as contained in polyhedre
globules of oil of very various sizes, mixed up with flakes of Cholesterine, some of which measured fully 7 to 8 in. in diameter. The oil globules were finally dissolved by the action of aseptic Ether. Along with the above there were a few pus Corpuscles, with the characteristic nuclei, but these were by no means abundant, in comparison with the oily matter. One of the smallest of the gelatinous bodies, when magnified, was seen to possess a distinct external cyst, containing a quantity of minute globules of an oily nature, and which escaped upon puncturing the cyst by pressure. The cyst itself possessed considerable thickness, but seemed perfectly structureless. In some of them there seemed something like a fibrous structure, an appearance, however, which on more careful examination proved to be owing to creasing of the cyst by its being pressed between the glass plates. (See fig. 13.)

Remarks. The above constitutes a good example of this class of cystic tumours, which Muller has designated by the title of Cholesteroma, being entirely composed of flakes of Cholesterine combined with an immense amount of oily granular matter. It contained 256 Gibbelsheim Flakes. From the existence of a few pus corpuscles the cyst seems to have begun to suppinate. Altogether the case is well worthy of attention.
from the lengthened duration of its growth, the great size which it had attained, and the beneficial effects of the treatment employed.

Observation VII.

Ulcerated Inverted Tumour of Scalp: Removal - Cure.

Agnes B — aged 76 from Falkland applied for admission into the Royal Infirmary on the 26th of December, 1830 on account of an ulcerated tumour on the left occipital region of the scalp. She was a tall, spare woman, and said she enjoyed good health. The tumour alluded to the first noticed when she was only 20 years old. It was then about the size of a small pea. Every year it had increased in size, but of late more rapidly than at first. On admission it was about the size of a turkey’s egg. At first it was about the size of an orange. In the immediate vicinity of its lower margin there was another elevated tumour of the size of a cherry, with its surface entirely dotted over the surface of the scalp were a number of smaller ones about the size of peas or less. Since the
long tumour had begun to soften the fluid had a
good deal of pain with it. Dec. 28th. Today Dr. Syme
transfixed the base of the large tumour with a long sharp
surgical V cutting afterwards forwards on either side re-
gained a V-shaped portion of it. The remaining portion of
the wall of the cyst was then pulled out with a pair of
dissecting forceps. In about a fortnight the wound
had quite cicatricised, and the patient had greatly im-
proved in her general appearance. Before the operation a
drop of the purulent discharge was examined under
the microscope. It was found to contain true V Blood
Corpuscles V granular matter, but no Nucleated Cells.

Examination of Tumour after removal. On dissecting it from in-
ward towards the following different structures were
found. 1. Most externally the tumour presented two irregular
ulcerated fleshy areas between 1 and 2 inches in length. It was
pretty firmly adherent to the subjacent tissue. 2. Im-
mmediately underneath the skin there were at a few points
a small quantity of areolar and adipose tissue, but this
amounted to form a distinct layer. A coria-
creans like substance of a yellowish Color forming a
layer at some points nearly 1 inch thick. This was made
up of yellow elastic fibres densely aggregated together.
4. On examining the inner surface of the above it was found
to be lined with a dirty greyish viscerous matter which could
be scraped off on the edge of a knife in considerable abundance. This was composed entirely of epithelium, granules and granular matter. The epithelium was of various forms, each containing small lamelons of the Fig. 16. Substance found in the interior of the tumour was a reddish brown colour, of the consistency of thick apricot jam and had an abominably nauseous odour. Microscopic examination showed it to consist of red blood corpuscles and a large quantity of granular matter. Many of the blood corpuscles presented a distorted edge, while a few seemed to be breaking down into the surrounding granular matter. Most of the red corpuscles were just a little larger than the blood corpuscles.

Remarks. The general aspect of this tumour and the circumstance of there having been several times a rather opium discharge of blood from its ulcerated surface, made it at first doubtful whether it was not a tumour of the gall bladder. But from considerations indicated above to arrive at a different conclusion, which the examination of the tumour after its removal showed to be the correct one. The discharge from the tumour consisted entirely of pus blood corpuscles, granules of containing the various elements of cancer cells. Simple infected tumours on various parts of the abdominal wall seldom or ever been known to degenerate or take on
System of Surgery by Chelius transl. by Scott, II, 698.
a malignant action. The extreme fetor of the discharge was quite in accordance with what had before been observed in suppurating tumors of the scalp. The original contents of the cyst in this case seem to have been entirely discharged, with the exception of the fibrous subcutaneous lining the inner surface of the fibrous envelope, which place was supplied by blood undergoing decomposition. The tumor had been growing for 5 years, having first appeared, as was generally do, about the age of 20.

Observation VIII.

Incurted tumor of the scalp—Removal—Cure.

On the 23rd of December, 1850, Mr. Syme removed another one from the scalp of the patient who formed the subject of the last observation. This was in the immediate vicinity of the ulcerated one already described. It was a globular form about the size of a cherry, with its surface entire. It was removed in exactly the same way as the first one. The wound cicatrizied in the course of a few days.

Description of Contents. These were of a cream-white color. Upon the persistence of a trick. Although microscopic examination proved them to consist of flakes of cholesterine, oil globules, granular matter, compound granular corpuscles, etc.
Nucleated (Epithelium) Cells. The last presented very irregular forms had an average diameter of 500 inches. They were most abundant next the wall of the cyst. Many of them were loaded with granules.
Remarks. In the last observation the proper contents of the cyst had become replaced by extravasated blood undergoing decomposition, but in the present case we dissolve the proper contents of the cyst, illustrating a variety of these contents and an uncommon aseptic tumour.

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Observation IX.
Congenital Adipose Tumour at Inner Angle of Lower Eyelid - Removal. Cure. a child aged 10 weeks was brought to the surgeons on the 9th of December 1850 on account of a small tumour situated at the inner angle of the left lower eyelid. The tumour was about the size of a small hazel nut. It formed a conical projection under the skin. Passing from the tumour to the Conjunctival Surface of the lower eyelid corresponding to the tumour, a connecting the two together was a very membranous band about 3 inches long, 4 inches broad. The eye was otherwise normal. Both of the above distortions appearances were observed at the time of the infant's birth. The tumour had since then considerably increased in bulk. A transverse incision (3/4 inch long)
was made through the integuments over the fleshy, which was then removed piece by piece with a pair of dissecting forceps, being intimately adherent to the surrounding parts. The edges of the wound were then brought together by two sutures—There was hardly any hemorrhage. The wound had completely recovered in the course of a week.

Description of the Surrone. This, as already mentioned, was about the size of a small hazel nut. When the incision was made through the skin, it projected between the lips of the wound, presenting a lobulated surface, the lobules being about the size of musket balls. It was of a yellow colour like ordinary fat. It was so intimately connected with the surrounding normal fatty tissue, that it could not be removed entire, and accordingly it had to be pulled out piece by piece. On compressing a portion of one of the small masses removed, it quickly returned. The microscope, it was seen to consist of large fat cells, many of them having a diameter of 250 inches. Most of them were of a rounded form; others presented a more or less singular outline, probably from the escape of a portion of their oily contents, a quantity of which in the form of oil globules was scattered over the field of the microscope. Many of the fat cells possessed a pointed nucleus; no crystals of uric acid could be seen.
Passing through the fat cells were bands of white fibrous tissue. The latter seemed to be arranged in the form of a capsule, enclosing the fat cells.

Remarks: The above tumour which presented the structure of an ordinary fatty growth was remarkable on three accounts: 1. Its situation, not being a common one for adipocere tumours. 2. The fact of its being congenital. 3. The intimate connection which existed between it and the surrounding normal fat.

Observation X.

Ulcerated Cancerous tumour adherent to lower jaw.—Examination of the discharge.

James Smith, aged 57, Pensioner, was admitted into the Royal Infirmary under Dr. Syme's care on the 32nd of January 1852 on account of a tumour adherent to the right angle of the lower jaw. He had before been a patient of Dr. Syme's last June, at which time a portion of the right side of the lower lip was removed on account of a tumour about the size of a cherry, which had been growing for 6 months, and which had been treated with Caustics without any benefit. The wound was healed, and he was dismissed well-healed. He remained so for some months. About two months ago, however, a tumour began to grow over the angle.
of the lower jaw on the right side. This has now at-
tained the size of half an orange; it is firmly adher-
pent to the bone. The pain in this structure is so intense
by acute, that he seldom sleeps without using opiate.
About three weeks before his admission the tumour
pointed, swelled; the opening has continued
discharging superviroce. Though the tumour adheses
to the bone, the latter is not involved in this disease.
for the inner surface of the jaw is quite normal.
The Patient is losing his appetite; it has a peculiar
yellowish complexion and an anxious expression of countenance.
Examination of the discharge. This is of a yellowish colour, and of a
thick and tenacious consistence. On placing a drop of it under the
microscope, it exhibited innumerable granules of the
ordinarily appearance. Along with these there were a few
compound granular corpuscles, \[\text{Fig. 18}\] also
a few pedal cells of much larger size than the surrounding
pus cells. These were granious shapes, most of them being
either round, oval, triangular, or triangular. Their size also
varied, the average being about \(\frac{1}{2}\) cm. - the largest
of one cell, however, which was gave oval form, measured
fully \(\frac{1}{2}\) cm. Acetic Acid rendered the fluid all still.
More transparent, \(\text{after a time dissolved it entirely.}\)
Each cell contained a single thin stone; sometimes a double
formed or oval droplets. (\(\text{Fig. 18}\)) with two to more granules
or needle in its interior. Many of the cells were seen breaking into the surrounding granular matter of which there was a considerable abundance.

Remarks. That the above cells resembled those most, I think there can be little doubt, and their detection in the discharge considered peculiarly interesting, as indicating the nature of the tumours from which the discharge proceeded. This conclusion as to the tumorous nature of the tumour was also confirmed by its rapid growth, the great pain experienced in it, by its affecting the general health, and by the fact its being appeared in the neighborhood of one which some time before had been removed from the lip. The first tumour I had not an opportunity of examining, and therefore cannot speak positively as to its nature. As there were no enlarged glands in the neck, I now think that it would have been proper practice to have removed a portion of the lower jaw with the tumour, but such an operation was contraindicated by the evidently malignant nature of the tumour, and by the fact well known to surgeons, that removal of a portion of the jaw on account of a tumour adherent to it is far less successful operation than removal of the jaw for a tumour of the bone itself.
Observation XI.

Epithelial growth on scrotum - Removal. Case.

History. William Lambert, aged 27, was admitted to the Royal Infirmary under the care of Dr. A. Mackenzie on January 10th, 1851, an account of a large, soft, exocerence growing on the middle of the scrotum, which he first noticed about 12 months before, which since then had been steadily increasing in size. On Jan. 20th the whole growth was removed by a pair of scissors. The edges of the wound were brought together by sutures, and the patient recovered without any heat symptoms.

Examination performed. The growth consisted of an elliptical portion of the dermal integuments, two inches long, adhering to which was the tumour about the size of a small snail. Its form approached to globular; its surface was lobulated, very rough to the hand. On making a section through one of the small lobes, the surface presented a friable Consistency, greyish white colour, nearly opaque. It seemed to consist of a number of columnar pieces let side by side, so that a longitudinal section through one of the lobes exhibited a number of radiating axes passing from the base to the circumference. On squeezing it a slight quantity of watery fluid escaped from the surface. On examining a minute portion of the solid part under the microscope, it was found to consist entirely of...
See Observations XII 40
of cells and granular matter. A few of these cells were found oval or oblong with an average diameter of 500 inches, but most of them were more or less elongated, arranged with their long axes running in one direction. They were compressed in one direction so as to resemble scales. Each contained a solitary round nucleus with a little fine granular matter. Acetic acid produced little change either on the nucleus or cell wall, except rendering the latter a little more transparent. Some of the cells in the field were solitary, but most were adhered to others by their edges.

Remarks. This tumour was evidently an hypertrophy of the Epithelial layer of the skin, consisting entirely of an accumulation of Epithelial cells, very closely resembling sebaceous excrecences met with in other parts of the body. The above tumour formed a good example of these growths, which so often follow, and in many Cases would seem to depend upon Venereal Complaints.

Observation XII.

Canoeed Epithelial Tumour of Lower Lip. Removal of Lip. Formation of New one - Cure -

History. John Allan, a man of 60, a labourer, was admitted into the Royal Infirmary under the care of Mr. Smyre on
Sept. 21st 1830. Labouring under disease of his lower lip. Projecting from the margin of the left extremity of the lip was a rough vinegar tumour about the size of a cherry, ulcerated on the surface, covered with a greyish yellow discharge. The ulcerated surface extended along the whole margin of the lip. On introducing the finger into the mouth, the whole lip was found thickened and ulcerated as far down as the reflection of the mucous membrane upon the jaw. The disease commenced about 2 years ago in the form of a small principle at the left side, which has gradually extended over the whole lip. He has occasionally pain in the part, but not very severe. There is no enlargement of the glands in the neck, and his general health is good. Oct. 2nd. Ed. Lowry removed the whole of the lower lip by an incision. The first incisions were then continued downwards and forwards, so as to fashion out two lateral flaps from the chin. These flaps were then dissected off the jaw bone, it turned upwards so as to form a clew lip. They were maintained in position by three needles, twisted sutures, the lowermost needle being made to pass through the summit of the portion of integuments still adhering to the jaw. Oct. 5th. The needles and sutures were removed to-day. The incisions have all united by the first intention. Oct. 11th. Not a single bead
Symptoms have manifested itself since the operation. The lacerations have all united firmly, but there is still a granulating surface along the margins of the lip. The patient was able to have his dinner on the day, Oct. 16th. He was dismissed to stay home. The new lip quite joins his teeth; he can articulate with it, I also let it drink.

Examination of lip after removal. Before the removal of the lip, a small portion of the discharge from its ulcerated surface was examined microscopically, and presented an appearance depicted in Fig. 20. It can Fig. 20.

Distinct principally of large pus corpuscles (many 5000 rich & clean). Many of those possessed the characteristic stellated interior nuclei. In others there was only a double line of only a single nuclei. Elapsed gap with these corpuscles were a number of epithelium cells. Many of these were in the form of linear scales of a more or less rounded form and having an average diameter of 500 in. Others were oval, or irregularly, while many were very rounded, etc. A few of the larger cells were seen splitting up at one or both extremities into fibres. Along with the first epithelium cells was a quantity of granular matter.

On making a section through the thorn at the left end of the lip, it was found to be made up of two different parts: 1. A yellowish white, soft, granular mass, which principally near the ulcerated margins of the future,
V 2. Underneath the above, a former structure of a white colour.

On making a thin section of the latter and examining it micro-

copically, it was found to be made up of a number of

uniform or elliptical nucleated cells arranged with their

long axes in one direction, so that under a low-power the-

section resembled fibrous tissue. These cells might be seen

in all stages of development—naked nuclei, cell walls

forming around them. Acetic Acid produced little change in

these cells. In addition to these cells there were others, which

were found with a distance of 1000. Preserving after being

acted on by Acetic Acid a granular structure was visible. They

seemed to be fibro-plastic cells. The other portion

of the mass presented the same structure under the Hei-

croscope, but it contained a far larger quantity of granular

matter, the epithelium cells were less adherent to one another.

The lining attachment of the diseased mass to the lip was

very vascular.

Remarks. The above case is an example of a very

common disease—the hypertrophy of the Pinnaceous

membrane of the lower lip, the epithelium being rich

quantity as to constitute a large warty excrecence, precisely

similar to warty excrecences found in other parts of

the body. Until recent microscopic researches explained

the real nature of this disease, it was designated and

regarded by surgeons as Cancer of the lower lip.
and through examination of the structure of these growths, shows that they are hypertrophies of the skin; yet certainly they do often possess many of the characters of a Malignant tumour. See Page 45.

Observation XIII.

Subcutaneous Nerveous Tumours on Spine - Excision. Cure.

History. Thomas Crawford, age 45, blacksmith, was admitted into the Royal Infirmary on the 4th of Sept., 1850. He complained of a small tumour about the size of a hazel nut, situated under the skin at the lower part of the left humeral region immediately above the crest of the Shin. It was about two years since he had first observed it but he said it was as large then as on admission. His attention was first drawn to it by an intense pain of a pricking nature at the part. For the last two years he has been more or less troubled with pains of a similar description, so severe as often to prevent sleep, make him very anxious for the removal of the tumour. On the 11th June, made a small incision through the integuments over the tumour, caught hold of the latter with a hook and dissected it out. The wound healed by the first intention, the patient was dismissed cured. Two days after the operation, having had no return of the pain he was formerly troubled with.
Description of the Tumour. It was perfectly globular, and about the size of a common hazel nut. It presented externally a smooth porcelain-like surface, as if it had been enveloped in a cast. On making a section through its centre, it was found to be of rather a gelatinous consistency, of a white colour with a slight tinge of pink. A small quantity of a watery fluid could be squeezed from it by pressure, although, however, it exhibited no structure under the microscope. A minute portion of the tumour, after being teased out with a pair of fine needles, placed with a drop of water between two glass slides, presented under the microscope a structure represented in Fig. 22. It consisted of a very fine fibrous tissue, the fibillae of which ran for the most part in parallel directions and in some what wavy lines. Interspersed among the fibillae were a number of dark specks. The addition of Acetic Acid caused the fibillae almost entirely to disappear, while the dark specks were rendered more distinct. It was found to be elongated. The nuclei, the long axes of which corresponded to the direction of the fibillae, these nuclei measured about 2400th inch in their long diam. were about three times as long as broad.

Remarks. The structure of the above tumour differs from what is called tumour.
Dr. Bennett at page 190 of his Observ. on Cancersous Haemorrhities, describes them as consisting of bands of fibres running in waved lines, and sometimes forming loops, with occasional transparent cells, containing a nucleus composed of two or more granules, very affected by Acetic Acid, which he considers Cartilage cells. No such cells could be detected in the above tumour. The elongated nuclei were probably the nuclei of the cells from which the fibres had been developed. I have never had an opportunity of examining the structure of a true Neurinoma, springing from the trunk of a nerve. Its structure may differ somewhat from that of the subcutaneous tubercle of which the present is our example, and it seems to be the former to which Dr. Bennett alludes in his description. A remarkable fact in connection with subcutaneous Neurous tubercle, which the present case illustrates, is that they seldom increase at all in size after they are first observed by the patient. In his first Cases, all the disease was observed, the patients have been suffering from them for two years, before they present themselves for relief. These growths occur more frequently in females than males. Year these frequently in the limbs than the trunk of the body. This one, however, was in the trunk of the patient a male.
Observation XIX.

Cancerous Epithelial growth on the lower lip - Removal - Cure.

History: Janet Christian, aged 37. Washerwoman was admitted into the Royal Infirmary under Dr. Syme's care on Jan. 21st, 1857, on account of a Quarty Euphrescence growing upon the left side of the lower lip. It extended from the left angle of the mouth almost to the middle of the lip, but did not involve much more than the margin of the lip. It had been growing for 18 months, and she attributed its origin to her lip having been scorched when she was at harvest time. It commenced as a small pimple. Occasionally the lower surface of the wart used to fall off, but another would form. Jan. 23rd. Dr. Syme removed the whole of the excoriated mass by one stroke with a pair of curved scissors. The Skin and Membrane were kept in contact by 4 sutures. In the course of a few days the wound had quite cicatrizd.

Examination of the part removed. This was about 1 inch long, 1 inch broad, and included the whole thickness of the lip, with a small portion of the Orbicularis Ois Muscle. On the upper surface was the rough hard Euphrescence above alluded to. This seemed to consist of 2 masses each about the size of a large pea, and separated by a deep fissure. By means of the edge of a knife the hard crust on the
Surface could be raised up with ease. Underneath it there was found a soft pulpy matter of a cream white colour. On examining a minute portion of this under the microscope, it was found to be made up entirely of unicelate cells, granular matter. Some of the former were round, others oval, but most were more or less elongated. Three or four of the extremities were distinctly seen splitting up into fibres. These cells adhered to one another by their edges. They were but little affected by the action of Acetic Acid. Each of them possessed a single round or oval nucleus (σόκε). Underneath the pulpy matter was the true skin which was much thicker than the more vascular from Natural. Its papillae were considerably enlarged. The hard horny substance presented on Examination the same elements as the soft matter. It was evidently a portion of the latter become dry and unciate.

Remarks. This growth was evidently of the same nature as that described in Obs. 12. Hypertrophy of the epithelium of the lip. It differed from that of Obs. 12, in the more elongated form of the cells composing it. It also at its surface being always covered with a hard but rare place of being in a state of ulceration.
Observation XV.

Tubercular Tumour in Axilla - Excision - Cure.

History. A. S. aged 51. Married, was admitted into the Infirmary on the 26th of August 1850, on account of a tumour in the right axilla. This tumour was the size of a small orange, with a lobulated surface and a firm consistence. The first observed it three years before, it being then no larger than a hazel nut. She never had any pain in the tumour till within a few months before admission. Even on admission the pain she complained of was not of a very severe character. Doubts being entertained as to the real nature of this tumour, and the patient being very anxious to get rid of it, it was resolved to remove it. Accordingly on August 20th the patient was brought under the influence of Chloroform and Mr. Syme dissected out the tumour. A longitudinal incision having first been made through the integuments between the two folds of the axilla. The wound healed entirely by the first intention, and the patient was dismissed cured on Sept. 12th.

Description of Tumour. It weighed altogether 3½ oz. and was it consisted of one large portion, the size of a small orange, with several smaller masses about the size of cherries loosely attached to it. An obscure fluctuation could be felt in each of these masses. On cutting into
them, they were found to contain in the centre a yellowish white pulp, which microscopic examination showed to be made up of irregular Corpuscles of granules, exactly like those found in air in definite tubercular deposits in the lungs. The interior portion, Fig. 24, of the masses was of pretty firm consistence, but gradually became softer and more friable towards the centre. It presented a smooth surface when cut, of a pinkish grey colour. It consisted principally of a network of white fibrous tissue, with Corpuscles of granules similar to those already described infiltrated through its meshes.

Remarks. This tumour appeared to be made up of a series of the lymphatic glands of the Accilia, enlarged in consequence of a deposit of tubercular matter which had softened in their centre. The pulpy matter was made up of an immense quantity of Tubercle Corpuscles. Some of these were found that contained pus Corpuscles. None of them exhibited, however, the characteristic granules of pus on the addition of Acetic Acid. The harder portion of the tumours seemed to be undergoing a process of softening from the formation in its substance of Corpuscles, similar to that which composed the pulpy fluid. The case is the more interesting as it is, after the 7th
Observation XVI.

Carcinoma Tumour on alveolar process of upper jaw. Excision. Cur. Mr. J. a gentleman asked to consulted Mr. Ayre towards the close of November 1850 on account of a tumour springing from the alveolar process of the upper jaw. This tumour he had first observed growing six months before. It was situated a little to the right of the mid line, occupying the situation of the outer incisor and canine teeth. The whole of the teeth in the upper jaw were gone. The tumour was about the size of a potato's plum firmly adherent to the jaw. Its consistence was firm near its base hard like bone. The tumour membrane of the gums was exposed all over its surface. It was often the seat of pretty severe pains. Nov. 27th. To deny Mr. Ayre cutting through the aphtous parts with a bistoury, removed the tumour along with the portion of bone to which it was attached by a wire suture. A pair of bone pliers was employed for division of the bone. The cavity which communicated both with the socket the anterior of Highmore was stuffed with lint. For about a week after the operation, there were occasionally pretty copious oozings of blood from the cavity.
The colour of a fresh section was a beautiful florid red, not unlike that of the spleen after being exposed some time to the air.
in the bone, which were stopped by clogging it with bark. The patient quite recovered from the effects of the operation, but died six weeks after, from attack of Apoplexy.

Description of the part removed. The Tumour itself was ovoidal form, about the size of potato plum. It was firm but not hard. Consistence, except near its base. It seemed to take its origin from the alveolar cavities of the teeth, which were removed along with a portion of the osseous floor of the Right Nostral and Right Anterior of Right Groove. A section was made with a scalpel from the apex of the tumour down to its attachment to the bone.

The surface of the sections presented a dark red colour, with a few turbid, turbid streaks of white. On dissecting the tumour from without inwards, the following structures were observed: 1. The mucous membrane which was reflected of the gums upon the tumour. 2. The submucous areolar tissue, which was particularly thick (tough) I denote on the anterior aspect of the tumour. It was made up of white and a good deal of yellow fibrous tissue. 3. A thin fibrous covering immediately enveloping the proper texture of the tumour from which septa were sent inward through the depth of the latter, constituting the reticulated, turbid, turbid tissue already alluded to. As the fibrous envelope was traced toward the base of the tumour, Bony matter was found deposited in
it Commencing about the middle of tumor, until at last it seemed to become continuous with the bone itself. The Tumor in fact appeared to take its origin from the interior of a greatly expanded alveolus. On dissecting the tumor from the bone, the surface of the latter was found to be very rough, & the cavities formerly occupied by the roots of the teeth quite obliterated. The substance of the tumor presented an intensely vascular aspect, and the presence of numerous blood-vessels was confirmed by microscopic examination. A scraping the surface of a fresh section a considerable quantity of a thick fluid of a slightly reddish color was obtained, which the microscope showed to contain numerous transparent nucleated cells, such as are represented in Fig. 25, along with blood corpuscles, oil-globules &c. The Majority of these cells were of a globular form with a shining, varying from 5½ to 6½ inch downward. They were seen in all stages of development. Many of them were loaded with globules reflecting the light strongly, and evidently of an oily nature, as shown by their solution in Ether. The nuclei were found about 2½ to 3½ microns in diameter, & often contained a distinct nucleus. Other cells were seen along with those above. These were mostly of a much larger size (8½ to 10½ microns), of various very irregular forms, with their edges collapsed, much
less defined than those first mentioned. They each contained only a single nucleus with a quantity of oil globules & granular matter. Some of them, however, had more than one nucleus. One was seen with four. Many of them seemed to be breaking down into the surrounding granular matter, from which as well as oil globules there was a considerable amount floating loose among the cells. These last cells were probably only a more advanced stage in the life of those first described, as various transition forms from the one to the other could be traced. None of the cells above described exhibited any tendency to adhere to one another by their edges. Acetic Acid rendered the cell walls more transparent. After a time dissolved them, while the nuclei were left unaffected. On examining under the microscope a thin section of the tumour made with a Valentine's knife, after the addition of a drop of Acetic Acid, it was found to consist of a network of fibrous tissue, principally yellow elastic. Various empty spaces were left in this network of a more or less circular form, in which were imbedded masses of the cells & oil globules already described. At fig. 26 is represented the magnified appearance of a thin section made with a Valentine's knife through the external envelope, including a portion of the proper substance.
of the tumour.

Remarks. In classifying this tumour with Cancerous tumours, I must acknowledge that at first I had some hesitation in doing so. The absence of a milky juice, and the great similarity of many of the cells to Epithelium cells were the cause of this hesitation. After some consideration, however, I came to the conclusion that there could be little doubt as to its Cancerous Nature from the following grounds: 1. The red colour of the juice obtained from the tumour was evidently owing to the Eosin-mercuric Blood corpuscles which it contained, these being derived from the Bloodvessels of the growth, which was, as we have seen, very vascular. Independently of these, the juice resembled those of Ordinary Cancerous tumours, containing like them a large quantity of the cellular element of the tumours. 2. The cells themselves, though many of them were not unlike Epithelium cells, yet differed from these in exhibiting no tendency to adhere together by their edges, and in the cell walls being easily affected by the action of Acetic Acid, iodine. Many of the cells were like those commonly met with in Cancer; in fact, as we have seen, the
form of a cell cannot be taken into account as determining whether it is a cancer cell or not.

3. A thin section of the tumour exhibited the ordinary structure of cerebriform tumours, a fibrous stroma with loculi full of cells. The pathology of tumours originating in the alveolar processes of the jaw is but little known, few cases having been recorded in which they have been carefully examined. It was fortunate that I have been able to lay my hands upon the present case, as also that which forms the subject of Observ. 3. I consider on this account the more deserving of interest.

Observation XVII.

Large pendulous fatty tumour in angle between hip and thigh. Uccerated surface. Removal. Cure.

History. J. — R. — aet. 53. Weaver's wife, a middle aged healthy looking woman, was admitted into the Royal Infirmary on January 4th, 1857. An account of a large tumour hanging from the angle between the right hip and thigh. This was of large size, as large as one's head, of a pyriform shape, tapering at its upper extremity to a narrow neck, tending very large at its lower.
end, which was divided into three lobes by three distinct depressions. The tumor was of elastic consistence. The integuments moved freely over the surface of the growth, and the whole mass could be turned round 4 pound or itsreek. The tumor had been growing for 15 years, but for three years more rapidly, for 5 months before admission: three weeks before, it had ulcerated at several parts of its surface, and since then she had been subject to violent headaches, her appetite had fallen off, her health seemed to be suffering. Jan. 8th. To-day Dr. Lyne removed the tumor, the patient being under the influence of Chloroform. Three or four small arteries had to be tied. The wound did not heal by the first intention, but had almost completely cicatrised by January 29th. When she was dismissed from the Hospital.

Description of the Tumor. It weighed 8½ oz. and was of a rounded form (after removal). Uncovered over its irregular surface five ulcerated patches, the largest being about the size of a penny piece. The surface of these ulcerations presented a dirty greyish aspect. It was coated with a greyish yellow puriform fluid. On examining a drop of this under the microscope, it was found to consist of Red Corpuscles, Compound granular cells,
and a large quantity of oil globules, and granular matter. On removing the integuments, the surface of the growth itself was found to be very much lobulated, but separated from the normal subcutaneous fat by a distinct fibrous envelope. On cutting into the substance of the tumour, the surface of a section presented an appearance exactly the same as that of ordinary human fat, with here and there a few bands of white fibrous tissue intersecting it. Microscopic examination showed it to be composed of globular and polyhedral fat cells, with a small quantity of areolar tissue. The crystals of Manganous Acetate could be detected in the interior of the cells. The substance of the tumour immediately beneath the ulcerated surface was much softer than the rest, and a quantity of an oily fluid could be squeezed from it by pressure.

Remarks: This tumour was a good specimen of the ordinary lipomatosus fatty tumour, occurring too often in a situation where such tumours are not uncommon. The chief peculiarities about it were its great size, the ulcerated patches in the integuments covering it — see page 58.
Congenital enchondroma on middle finger. Amputation of finger - Cure.

History. P. - J. aged 12, a stout healthy boy, the son of a fisherman in Shetland was admitted into the Royal Infirmary on the 21st of October 1850 on account of a tumour about the size of an orange growing from the proximal phalanx of the middle finger of the left hand. He stated that the tumour had existed at his birth, but of late had been increasing more rapidly in size. A fortnight before admission had ulcerated on its surface. The tumour was of a globular form, of a somewhat elastic consistence, and evidently springing from the centre of the bone.

Oct. 22nd: The middle finger was amputated at the metacarpophalangeal joint. By the 27th of November, the wound had completely cicatrized, the patient never having had a bad symptom.

Description of Tumour. It weighed 6 oz. Avoid. It was of a globular form, and about the size of a large orange. It projected principally from the ulnar aspect of the bone. The integuments over the part of the tumour most distant from the bone exhibited an oval ulcerated patch slightly harder than a half crown piece covered with a puriform
fluid. On dissecting off the integuments and subcutaneous fat the surface of the tumour proved exhibited a smooth, firm, and white aspect. On cutting down to the attachment of the tumour, it was found to take its origin from the very centre of the phalanx. On cutting into the substance of the tumour, it yielded readily before the knife, and was of first, elastic consistence. The tumour was surrounded externally by a fibrous envelope, which near the attachment of the tumour seemed to pass into the continuous with the expanded bony laminae of the phalanx. From this external envelope a number of cannifying processes passed inwards into the proper substance of the tumour. These septa were very vascular, so much so, that at some parts of the tumour they appeared quite red. In some of these odorous matter was deposited. They divided the substance of the tumour into numerous polygonal compartments, which were filled with a pink, translucent substance of the consistence of a firm jelly. It was elastic for on making a section it was found to pile up from the cavities containing it. This when examined under a microscope (at 80 lines) was seen to
contist almost entirely of transparent, nucleated cells of exceedingly various forms, a few of which are represented in Fig. 29. - Round, oval, irregular, triangular, etc. Some were Caudate, splitting up at one extremity into 2 or more filaments. A few of these cells were of large size, having a diameter of about 400 μ in, but the average diameter seemed to lie between 500 μ & 1000 μ in. Each cell contained in its interior a solitary round or oval, opaque nucleus, 2500 μ to 2000 μ in diameter. In a thin section of the tumour the above cells seemed closely packed together, the connecting medium, if any, being perfectly transparent. The substance of the tumour next the ulcerated portion of the integuments, for about the thickness of 1/4 inch, was softer & more yellowish in colour. It exhibited under the microscope, in addition to the above cells, many globules of granular matter. A few fibrous corpuscles indeed a process of softening seemed to be extending, so to speak, from the ulcerated surface all over the tumour.

Remarks. The above tumour constituted a good example of an enchondroma, originating from
The centre of a bone. It presented all the characters already mentioned as peculiar to such tumours. See Page 49. Ulceration of the superimposed integuments is not an uncommon occurrence in enchondromata, which have attained some size. In this case the whole tumour was evidently undergoing a process of softening, this being most evident in the neighbourhood of the ulcerated integuments, it loss to near the bone, where indeed it presented the ordinary consistence of an enchondroma.

Observation XIX.

Enchondroma of Ring Finger. Amputation of Finger—Cure.

Cf. 13. a boy stout and in good health consulted Mr. Syme on the 2nd of November 1850 on account of a tumour on the proximal phalanx of the ring finger of his left hand. This had been growing for about two years & he could attribute no cause for its origin. It was about the size of a potatoe plumt, intimately connected with the bone, and projecting from its radial aspect. He had never any pain in it, but was anxious to get rid of it on account of its inconvenience. For fear of its getting larger. On the 7th of November
All the symptoms amputated the patient at the deciduous phalangeal joint. About a fortnight after the removal of the part, the cicatrices, the patient was in good health.

Description of the Tumour. It was of a globular form, and about the size of a potato plant. The integuments were freely over it. On dissecting off these its external surface presented a smooth glistening aspect. In making a section from the most prominent part of the tumour down to its attachment to the bone, it was found to take its origin from the medullary cavity of the latter. The bony laminae were expanded over about one half of the tumour, forming a sort of osseous envelope, which assumed more the texture of cartilage in the most prominent part of the tumour. The surface of the section presented a greyish white colour with a translucent luster.

Examining through the substance of the tumour was a network of septa dividing it into a number of areola. These septa were of a lighter colour than the rest of the tumour. When examined microscopically, they were seen to consist of fibrous tissue. The substance which filled up these areola was of a greyish-white colour, jelly-like consistence. A small portion of this was compressed between two glass plates. When examined
under the microscope was found to consist almost entirely of transparent nucleate cells. These cells varied considerably in size, some having a diameter of too rich, while that of others was only $2000$ in. or less. They also varied greatly as to form, round, oval, pyriform, fusiform, Caudate. A great number of them were pyriform with the nucleus situated at the larger extremity of the cell. Each cell contained a single Viti or few cases a double nucleus. The nuclei were round or oval, about $4$ the size of the cell. Contained a central dot or Nucleolus. Acetic Acid did not seem to affect much either the cell or the Nucleus - the cell wall if anything was rendered a little more transparent - the cells as seen in the field of the microscope were partly isolated, and partly aggregated into masses. A few Molecules or granules were seen floating among the cells. The above elements seemed to be suspended in a transparent, structureless fluid.

Remarks. This tumour like the one last described was an example of Enchondroma, originating in the centre of the proximal phalanx of the ring-finger. It had not attained the size which the last one had. The integuments over the tumour were perfectly sound, and
there were no symptoms of softening in the substance of the tumour.

Observation XX.

Gelatinous Polypus of the Nose - Removal - Cure.

History: On the 24th of March 1849 Dr. Biddle removed with forceps a polypus from one of the nostrils of a man, from whom several others had been removed at previous periods. The polypus was about the size of the last joint of the index finger, its form approached that of a pear, its narrower extremity being that by which it had been attached to the lining membrane of the nose. It was of soft gelatinous consistence and a section of it presented a greyish white colour. Internally it was enveloped in a thin membrane, which under microscopic examination showed to be composed of an intertissue of white fibrous tissue. This membrane contained numerous arborescent bloodvessels. On tracing its external surface for examining with a microscope a few whitish flakes which were collected on the edge of the knife, these were found to consist of columnar epithelial scales (500 miles long) many of which had cilia on their broad extremities. Fig. 55.
A portion of the gelatinous substance of the polypus when examined was found to consist almost entirely of nucleated cells. There were two kinds of these:

1. Globular cells 2200 in: ni diam containing a single central nucleus which on the addition of a drop of Acetic Acid presented a slightly granular surface.

2. Elongated fusiform cells each containing a central nucleus with a small quantity of fine granular matter. The cell membranes in both cases were very faint, completely disappeared on the addition of a drop of moderately diluted Acetic Acid, which at the same time rendered the nuclei far more distinct. These elongated cells were arranged for the most part side by side. Many of them were observed splitting up at one extremity, and evidently undergoing a transformation into fibrous tissue. Indeed at one or two parts of the polypus which were of firmer consistence than the others, true fibrous tissue was found. The tumour did not appear to be very vascular, but one or two small arteries might be seen courting through its substance.

Remarks: This tumour as an example of the gelatinous polypus, is not uncommon in the nasal cavities. I think it may be classed under the head of fibrous
tumours with more propriety than under the epithelial
epithelial excrescences from the thin mucous membrane, for
though the external surface was coated with a layer
of epithelium, its substance was composed of fibrous
structure, or rather of cells undergoing a trans-
formation into fibres. The rounded cells alluded
to in the description were evidently the fibro-
plastic cells of Lebert, and but a younger stage
in the development of the fusiform cells, numer-
ums cells being seen presenting transition forms
between the two. The transformation of the fusii-
form cells into fibres might also be traced.

Observation XXI.

Encysted Tumours of the Scalp — Removal — Cure.

History. John Roy aged 63, a builder, was admitted
into the Royal Infirmary under Dr. Lyon's care
on 23rd, 1857, on account of several large en-
cysted tumours of the scalp. The two largest of these,
each about the size of an orange, were situated side
by side immediately over the occiput. The one on
the left side was of a globular form, consisted of a single
cyst; that on the right was also somewhat globular,
but there was a distinct depression on its surface in
indicating its Composition of two different Cysts.
Scattered over the rest of the scalp were seven other simi-
lar, but smaller tumors. The patient stated that it was 30 years since the largest began to grow, and that his brother, maternal uncle, and brother's grandmother had been all subject to the same disease. The two large tumors were removed by Mr. A. First removed by a Vacation, the contents of the Cysts then evacuated. The rest of the Cysts walls
felled out with a pair of dissecting forceps. In the course of a fortnight after the operation the wounds had quite cicatized.

Examination of the Cysts and their Contents. As the three
Cysts removed differed somewhat from one another, it
will be most convenient to describe them individually.
1. The greatest part of the largest Cyst was filled with five
fluids. One of a reddish brown fluid of the consistence of gruel.
The whole surface of this fluid glistened with scales of
Cholesterol. The inner surface of the Cyst was lined
with a yellowish yellow substance forming a layer
which thick, which was divided by a Number of ir-
regular Cracks into polygonal pieces. The inner surface
of this substance being bathed by the fluid Contents.
presented a similar colour, but on scraping off the
surface, it presented a white colour, and an appearance
similar to the contents of tumour 3. The outer surface
of the cyst presented a smooth surface, and a fibrous
appearance. A drop of the reddish brown fluid when
placed under the microscope exhibited structures as
represented in Fig. 55. Numerous scales of Cholesterol,
Compound granular cells, oil globules, V-shaped
hair matter, and also a great many blood corpuscles.
A few nucleated cells presenting a more or less
rounded outline, varying in diameter from 500 to 1000
rich, little affected by the action of Acetic acid
each containing a single minute nucleolus. The
fritaceous substance lining the inner surface of the
cyst presented the same elements, but here the nu-
cleated cells greatly predominated over the Choles-
terine and oily matter. In fact it more resembled
the contents of tumour 3. On making a section with
a Valentijn knife through the walls of the cyst from
without inwards, placing it under the microscope, af-
"ter first adding to it a drop of diluted Acetic acid,
it was seen to be made up of nucleated cells which
at the inner edge of the section were exactly the same
as those in the fritaceous matter lining the cyst,
but towards the outer surface they gradually became more elongated, at the very external surface they were transformed into a tissue distinctly fibrous. 2. The contents of the second tumour, which with the next together formed the globular mass adhering to the right side of the occiput, exactly resembled those just described, with this exception that the fluid portion, which measured 9 3/16 was of much lighter colour—a sort of buff brown—and contained very few Blood Corpuscles. 3. The third Tumour, which was much smaller than any of the others, being not larger than an ordinary sized plum, contained no fluid matter at all, but its cavity was entirely full of a Creamy White pulvinoceous matter, similar to that lining the inner surfaces of the large cysts. It was made up of immemorial nucleated cells, like those already described, compound granular cells, granules, oil globules, Vapors, and Shales of Phlegethon.

Remarks. The fact of the small cyst being full of a somewhat solid Matter, of the laugh bres, even though they contained fluid, having their inner surfaces lined with a similar solid Matter, would indicate that the contents of the latter had also been
at one time solid, and that the formation of the fluid
had been a subsequent process. Its formation probably
resulted from a gradual softening of the more so-
lid matter, and as the result of this softening we
find a greatly increased quantity of oily matter
Cholesterol-a circumstance which is not
without interest when we recollect, that the
presence of oily matter, in some Cases of Cholesterol
also, is a frequent Concomitant of softening of the
healthy textures of the body, if not the means by
which that softening has been affected.
The gradual transition of the cells found in the
interior of the cysts into fibrous tissue in the pancreas
would lead us to suppose that the latter has been
formed by a gradual transformation of these cells,
and would thus contraindicate the opinion of
those who maintain that an encysted tumour
of the alp always results from the expansion of a
sebaceous follicle by an accumulation of its Con-
tents.

Observation XXII.

Adipose Tumors of the Leg: Excision Cure.

History. William S.- aged 48, a tall, strong man in the
enjoyment of good health was admitted into the Edin-
Inferiorly, under the knee-joint. Amputate on the 26th of Nov. 1867 on account of a tumour situated at the outer tanta-
rich aspect of the upper part of the left thigh, its upper border being about six inches below the level of the Its-
chauntre major. It was of a rounded form, and about
the size of the palm of the hand. Its surface was Dis-
dilated, as was well shown by making the skin over
it tense. Its consistence was elastic, and it seemed
but loosely attached to the surrounding tissues. The
patient complained of no pain in the tumour, but
said he was very subject to numbness, peculiar
sensations running down the thigh. On Nov. 26th, I
amputated the tumour, first making a longitudinal
incision through the integuments, when
instructed, or rather pulling it out. Only one small
artery had to be tied. By the 6th of December the
wound had quite cicatrizied.

Description of the Tumour. It weighed 3oz. avoid: It
was of a Cylindrical Compressed form, and very
much lobulated. The lobules were imbedded in
Cavities in the Natural fat out of which they were
pulled rather than dissected. They were separated
from the Normal fat by a distinct Membranous layer
of areolar tissue. On cutting into the tumour, it
presented an appearance precisely similar to that of ordinary human fat, if anything of a somewhat paler colour. Microscopic examination showed it to consist for the most part of fat cells. These were of a more or less globular form from 200 to 1200 in diameter, but none of these contained a round nucleus, but hesitate crystals of inorganic acid, through diligently looked for could nowhere be seen. Along with the fat cells were numerous globules of oil, which had escaped from a rupture of some of the cell walls. Here and there through the substance of the tumour there had been a few strands of areolar tissue, but the amount of it was very sparing.

Remarks. This tumour presented all the ordinary characters of an adipose tumour: the lobulated surface distinct from the surrounding fat, the resemblance on section to ordinary human fat, the small amount of vascularity, if the composition of cells containing oil with more or less areolar tissue, are the characters presented by most fatty tumours.

Observation XXIII.

Adipose Tumour over Left Clavicle. Excision. Cure.

History. Elizabeth H, aged 52, was admitted into the
Infirmary on the 16th October 1850 - on account of a tumour about the size of a clavicle, & presenting all the characters of a fatty tumour, situated over the middle of the left clavicle. This had been growing for upwards of four years. She had no pain in it, but occasionally complained of pain down her arm. The tumour was excised by Dr. Lyne. One small vessel had to be tied. The operation took without any bad symptoms.

Description of the Tumour. It was a rounded mass, compressed from inwards with a diameter of 2.1 inches, and weighed 3/4 oz. Its surface was lobulated, but quite distinct, easily separable from the unjured subcutaneous fat. Its appearance on section & microscopic structure exactly resembled those of the tumours last described.

Remarks. This case, like the last, furnishes an example of our occurrence often met with, viz - a fatty tumour at the proximal end of a limb producing pain in the limb below, this not being accountable for by its pressure on any great veins trunk.
It had been observed at the period of the Cold Bath, but was then of very small size.
Observation XXIV.

Congenital Adipose Tumour on back. Excision - Cure.

Act: 6½ months was operated upon by Mr. Symes on the 11th of December, 1850. The operation consisted in the excision of a fatty tumour growing under the integuments over the right shoulder. The tumour caused a bulging of the skinfully as large as a Coquim bean. An incision was made over the tumour through the integuments, and the tumour removed with some difficulty owing to its intimate connections to the normal subcutaneous fat. 2 small arteries were to be tied. The edges of the wound were kept in contact by sutures, and by the end of three weeks had quite cicatrizied, but there still remained a considerable fullness in the site of the original tumour.

Description of the part removed. It weighed 5½ ounces, and was a rounded, compact form. Its upper surface was rather smooth, for owing to its inseparable connection to the normal fat, the two had to be artificially separated by the knife. The lower surface, however, which was easily dissected from of the latissimus dorsi, presented the ordinary lobulated appearance of lipomatosous tumours. Its microscopic
Structure was quite the same as that of other fatty tumours already described. Some of the fat cells contained any crystals of ill-negaro acid, even when taken from a portion of the tumour which had been exposed to a temperature of 40° Fahr.

Remarks. This tumour was remarkable for its rapid growth, as like that of Obs. IX., for its being conjunctial, and for its intimate & inseparable connection with the normal fat.

Observation XXXV.


Elizabeth, age 63, was admitted into the Infirmary under Dr. Sime's care on December 11th 1857, on account of a tumour of the lower lip, which commenced 2 1/2 years before in the following manner. After being exposed to whole day to a warm frame a "back" (to use her own expression) formed in the centre of the lip, from a small wart began to grow in the situation of this frame, this gradually extended over the whole lip as far as the angles of the mouth. There was an admission a large proeminence fully 1/2 inch thick, fringing the whole of the margin of the lip, overlapping the skin of the chin.
which, however, was not at all involved in the disease. In putting the figure into the mouth, the whole lip was found thickened, thinned out as far as the pith of the mucous membrane upon the jaw. She complained of great pain in the part, often so severe as totally to deprive her of sleep. There was no enlargement of the cervical glands; her general health was good. Nov. 13th. Today, Mr. Spite removed the whole of the lower lip by a V incision. He formed a scar by two lateral flaps from the chin in exactly the same way as mentioned in Obs. xii. The needles and sutures were removed on Nov. 17th. By the 20th the wounds had quite cicatrisated.

Description of Scurvy. As already mentioned this formed an irregular hard excursion from the margin of the lip extending along its natural length, it overlapping slightly the skin of the chin. Its surface was ulcerated. Seperated with a slight grayish discharge, which was found to contain as Copuscles, Anycles epithelium cells and granular matter. Under section it presented a dense texture of a grayish white Colour, which was entirely made up of epithelium cells and granular matter, precisely similar to those described in Obs. xii. Which, therefore, it will be unnecessary to describe more
Remark. This tumour resembled closely the one described in Obs. XXVI, differing principally in the greater size which it had attained.

Observation XXVI.

Cancer of Mammary Excision Cure.

History.

At the beginning of January 1837, Mrs. __________ consulted Mr. Syme on account of a tumour in her right mammary gland. This tumour seemed to be about the size of a common chestnut, and to be limited to the upper and outer part of the gland. It appeared to be intimately adherent both to the gland and also to the adjacent muscle, and was of very hard consistence. It had been growing for upwards of two years, but had not given her much pain until three months before the case. Mr. Syme—During the latter period, however, it had often been the seat of severe shooting pains. On the 13th of January, Mrs. Syme excised the mammary gland, first making an elliptical incision through the integuments. The patient had no bad symptom after the operation. The wound united almost entirely by the first intention, and in the course of a fortnight had quite cicatrized.

Examination of the part removed. This consisted of an elliptical portion of the skin with the diploe in the centre,
The whole of the mammary gland surrounded by a considerable quantity of fat, and at one part of the lower surface, a portion of the Ductoral muscle about 1 inch long. The whole mass weighed 7oz: avoid. On making a section through its Centre, the greater part of the glandular substance of the illamas seemed perfectly healthy. But at one part, corresponding to the upper and outer part of the gland, there was a hard mass about the size of a large chestnut. The edges of this were not defined, but they seemed gradually to pass into the healthy mamma. The structure of this mass was very dense, not bright under the knife as when cut like a piece of cartilage. It was of a greyish white colour. On squeezing it, I received drops about the size of a large pin's head of cream white fluid issued from the surface of the section. This dense mass extended through the whole thickness of the gland, and was intimately adherent to the skin above, to the portions of muscle removed along with it, below. When a drop of the creamy fluid above alluded to was examined under a microscope (200 lines) no trace of a cell could be seen, but the field was crowded with transparent bodies like and lar, round or oval, with an
average diameter of \( \frac{1}{2} \) inch, and but little affected by the acting Acetic acid. These were either solitary or aggregated together in groups, slipped up with there was a large quantity of oil globules, granular matter, and a few compound granular cells. On making a thin section of the Prostate mass with a Valentine’s knife, adding to it a drop of Acetic Acid, placing it under the Microscope, it was found to consist of soft fibrous tissue arranged so as to leave numerous Circular Spaces about \( \frac{1}{2} \) inch in diameter, infiltrated through the meshes of this fibrous structure were the elements of the Milky juice above described.

Deaths. I have been induced to add this tumour among Cancerous growths, distinct from the ordinary present in Cancer, could be detected in it, in the first place from its general aspect and its intimate adhesion to the neighbouring tissues, and secondly, from the presence of the Milky juice, both of which characters exactly correspond to what we usually find in Cancer. I may state that Dr. Gardner, pathologist to the Royal Infirmary, straight his doubt could exist as to the Matter. The
Obs. on Carcinus. Axonicid growths p. 176.

1. Obs. 27. 28. 47. 48.

Very few Triton maculata specimens have as yet been examined. Could this be one which had refrained a true Carcinus?  

Thd.
absence of cells was not due to putrefaction, for
the tumour was examined immediately after
its removal. But though no perfect cells could be
detected, yet still there was a sufficient amount
of the debris of cells, in the form of only a albuminous
granules, to render it highly probable that the
cells had become broken down and disintegrated.
The tumour could not with propriety be classed
with those tumours which have been described
by Dr. Bennett under the Name "Fibro- nucleated"
for in none of the tumour described by that author,
or which I have myself examined, was there
ever found a thick creamy juice. It is doubtful
whether the bodies like nuclei, had been the
Cancer Cells. Probably not, for from finding bodies
not unlike them in the healthy mammary I
think it more likely that they were derived from
the glandular structure of the Organ.

Observation XXVII.

Fibro- nucleated Tumour in Mammary Region. Excision - Cure.

On the 7th of December 1857 Mr. Syme excised a small
tumour from the Mammary Region of a middle-
aged, married lady. It was situated immediately
ally under the integuments. Two or three inches above
and to the outer side of the nipple. An incision was
made through the integuments down upon the
mass, which was then grasped with a hook &
dissected out.

Examination of the Tumour after removal. It was about
the size and shape of a Common French bean or
rather firm Constance. On section, the cut surface
was smooth & of a greyish white Colour. It contained
not its milky juices, but on tracing the surface
of the section with a knife, a slight quantity gen-
eral fluid was collected on its edge, which on
Microscopic examination was found to contain
round Voidal bodies like nuclei. There was a division
of about 2000 inch. They were either isolated or ad-
hered by their edges. They were transparent, some
containing a pea or two granules in their interior.
Thereafter, Acetic Acid did not seem to affect
them in any great degree. In thin section these
bodies distributed through a fibrous stroma in
a manner similar to what is represented in fig.
§ 42.

Remarks. This Tumour belonged to a class of Tumours
which are generally classed among the true fibrous
Fibro-aneucleated Tumour in the soft palate. Excision Case.

History. Catherine B. aged 25 a servant was admitted into the Royal Infirmary under the care of Dr. Syme on the 21st of January 1857, on account of a tumour in the left side of the soft palate, situated between the raphe of the left tonsil. On looking into the mouth not much else could be seen—only a slight bulging with increased vascularity of the mucous membrane. On introducing the finger the tumour could be felt of a rounded form, rather firm consistency. The only inconvenience from it of which she complained was occasionally pain when it was touched or when she swallowed anything. It was about 12 months before it was first observed and had been of much smaller size. On the 24th of Jan. Dr. Syme removed the tumour in the following way...
The patient was made open her mouth as wide as possible. A sharp hook was introduced into the mucous membrane over the tumour, which was then divided with a bistoury; the hook was again inserted into the substance of the tumour, if the latter dissected out. The palate was cut cut through. In the course of a few days after the operation, the patient had quite recovered.

Examination of the Tumour. Its form was almost globular, and its size about that of a small marble. It was of firm consistence. On making a section through its centre, it presented a smooth surface of a yellowish white colour. No milky juice exuded from it on pressure, but on scraping the surface of the section, a small quantity of a watery fluid was collected on the edge of the knife. On placing this under the microscope, there were detected in it numerous minute bodies which seemed to be of the nature of nuclei. They were of a round, oval, or elliptical form with an average diameter of 2000 inch. They were of a greenish color, little affected by the action of Acetic acid, and each contained in its interior one or more small granules. They occurred isolated, or adhering by their edges in masses, lifted up with them; there was a good
deal of fine granular matter. On making a thin section of the tumour with a Valentine's knife, V, after adding to it a drop of Acetic Acid, examining it under the Microscope, it presented an appearance similar to fig. 44 — a fibrous tissue with a number of the nuclei like bodies just alluded to intermixed among its fibres. Through the whole of the tumour there was a pretty dense network of capillary blood vessels.

Remarks. This tumour bore a very close resemblance to the one last described, and evidently belonged to the class of fibro-nucleated tumours. The peculiarity of its situation, which is indeed a rare one for any form of growth, added additional interest to it.

________________________________________
Observation XXX.

Cystic tumour of the Mamma. Excision. Cure.

History. Mrs. — aged 60 had her right mamma enlarged by Mrs. Lyne on the 20th of August 1830 on account of a cystic tumour. The right mamma was considerably larger than the left — immediately below the retracted nipple there was a distinct feeling of fluctuation over the space of about half a crown piece.
The integuments over the same space were thin and of a bluish colour. Over the surface of the tumour there were several other fluctuating spots with discolouration of the integuments, two about the size of a Shilling piece being immediately above the nipple. The tumour had been growing for upwards of seven years. It had never been the seat of much pain, but she was anxious to have it removed out of anxiety lest it should burst. The patient had no bad symptoms after the operation, and the wound had almost completely cicatrized in the course of a fortnight.

Description of the Tumour. The whole mass removed weighed upwards of 6½ oz. The skin was of a semi-globular shape, flat towards the muscle, convex towards the skin. It consisted of an elliptical portion of the integuments with the nipple in its centre, of the tumour itself involving the gland, of a considerable amount of the surrounding fat. The tumour was composed almost entirely of cysts containing fluid, embedded in white fibrous tissue, and the atrophied remain of the Mammary gland. The largest of these cysts about the size of a hen's egg, was the one which was seen before the operation, driven through the integument.
The lining membrane of the cysts was thin and presented a smooth lens-like aspect. It seemed very vascular.
ments below the nipple. Five or six other cysts about
the size of cherries or plums were found in the anterior
portion of the tumour. Each of these cysts were quite
distinct from another, being separated by a quantity
of dense tissue. - The Original Structure of the Mammary
seemed quite obliterated. The under surface of the
tumour was very hard, approaching in some parts
almost to the consistence of cartilage. An careful exami-
nation, however, this denser substance was found to
be composed of a multitude of small cysts closely
aggregated together. The contents of the cysts varied
somewhat. The larger got them contained a thick
dark brownish red fluid, glittering with shining scales of
cholesterine, in all respects resembling the fluid of
blood clot. Lining the thinner surface of some of the
cysts was a thick smelly deposit, somewhat of the
colour and consistence of Coffee grounds. In the
smaller cysts, the fluid was a light buff colour,
in place of dark brown. On opening some of the cysts,
their cavity was found almost entirely filled up
by a Cauliflower like opacities, attached to the inner
surface of the cyst growing inwardly. This was of firm
consistence, of a greyish white colour, presented on sec-
tion a structure apparently fibrous. Its external surface
which was rough and modulated was bathed by the ordinary fluid contents of the cyst. A drop of the reddish-brown fluid from one of the cysts, when examined microscopically presented exactly the same structure as can be found in the fluid of a haematocele. In the first place there was a great abundance of flakes of cholesterol. Some of these were hexagonal, very unlike simple crystals of cystic acid. Secondly, blood corpuscles, some of them with smooth but most with serrated edges. Thirdly, Compound granular cells and masses of many of these were of large size, 500 microns, and were seen disintegrating into oil globules of granular matter, of which there was a great abundance in the fluid. Scattered over the field there were also a few nucleated flakes (500 microns) presenting the ordinary characters of epithelium. The contents of the smaller cysts only differed in containing fewer corpuscles.

On examining microscopically a minute portion of one of the cauliflower-like excrecences from the anterior part of the cyst, it was found to be made up of a very fine wavy fibrous tissue, along with a number of fibro-plastic uniform cells, the cells being most abundant at some parts, like fibrous tissue at others. Each of these cells contained a round or oval nucleus, which
after action of Acetic acid presented a rather granular surface. A few of the cells were seen splitting up at their extremities. The fusiform cells were arranged with their long axes running principally in one direction. These cells presented all the characters of the fibroplastic fusiform cells described by Boeckenhoff. The whole excrescence afforded a remarkable analogy to that of fibrous encapsulations, so often met with on the surfaces of the Pleura and Pericardium.

Remarks. The above tumors belonged to that class which have been denominated by Sullivan Cystosarcomatus, consisting from aggregation of cysts imbedded in a solid mass of fibrous tissue, the cystic structure, however, greatly preponderating over the other. From the presence of the cauliflower excrescences in the interior of some of the cysts, it seemed to belong to that variety of Cystosarcoma phylloides. These cauliflower excrescences evidently consisted of lymph under going organization. This lymph may have been ascended from the vessels in the walls of the cyst, but more probably it was derived from extravasated blood which had become decolorized.
The fluid contents of the cyst precisely resembled in appearance the contents of an ordinary hsematocele of the annex vaginalis. Like this, it evidently consisted of blood undergoing change, and contained the same microscopical elements, cholesterol, Compound granular cells, ye, which we find in blood which has been extravasated for a considerable time.

As regards the malignancy of the above tumor, it was evidently not cancerous. It consisted of simple cysts embedded in a fibrous (not a cancerous tissue). It exhibited no tendency to contaminate the lymphatic glands, or to affect the system so as to appear in different parts of the body, and no tendency to be reproduced after removal. Had the operation not been performed, however, there could be no doubt that the integuments over the large cyst would have become ulcerated and led to very distressing symptoms both locally and constitutionally.
Observation XXX.

Fibrous Tumour of the Mammary Excision Cure.

History. Ann A. aged 39, a married woman, was admitted as a patient of Dr. Jones into the Royal Infirmary on the 11th of Sept. 1850, on account of a tumour of the right Mammary. The whole gland seemed generally enlarged, and fully double the size of the left one. It was of much harder consistence. She stated that she had first observed a fullness of her right breast 9 months before. That time she had been increasing, and had often been the seat of sharp shooting pains. She had no swelling in her axilla, and was in the enjoyment of good health. On Sept. 12th the patient was brought under the influence of Chloroform, and Dr. Jones, after making an elliptical incision through the integuments, excised the whole of the Mammary, along with a considerable quantity of the surrounding fat. Several vessels were tied. The edges of the wound were kept together by sutures. By the 28th of Sept. the wound had quite cicatrizied, and the patient was dismissed from the hospital, cured.

Examination of the part removed. It weighed almost 1 lb. avoided. It consisted of an elliptical portion of the skin with the cripple in the centre, and a large quantity of fat embedded in which was the tumour involving the whole of the Mammary. On making a section through this, it
presented a dense fibrous structure. The surface of the section was of a greyish colour. Over the surface of the section several small pits might be seen, ¼ inch in diameter, of a faintish grey colour, very softer consistency than the rest of the tumour. These on examination were found to be portions of the glandular substance of the Mammary Gland altered. No juice could be squeezed from the surface of a section by pressure, but on tracing it with the edge of a knife, to examine with the Microscope, a few flaky granules collected on this, it was found to consist for the most part of oil (milk) globules, granular matter. There were also a few Company, granular (Caseinum) cells of a brownish pinkish colour, and several oval unucleated cells, about 1/20 in. in their long diameter. These showed a tendency to adhere together by their edges, were but little altered by the action of Acetic acid. A thin section of the tumour examined microscopically, exhibited a dense fibrous stroma, the fibres of which ran in almost every direction. There were both yellowish white fibres, alone or two places the stroma of the Mammary gland might be quite normal. Partaking in their interior unucleated cells similar to those above described.

Remarks. This tumour could not be regarded as of a Cancerous nature at all events at the stage of growth.
at which it was removed, for its milky juice could be obtained from it. Yet contained no cancer cells or nuclei. The few cells found in what was scraped from the surface of a section were evidently epithelial cells derived from the interior of the mammary ducts. The tumour seemed in fact to be an example of a simple hypertrophy of the fibrous tissue of the mammary with the effect of obliterating to a certain extent its secreting structure, and lose a close resemblance to a similar tumour described by Dr. Bennett in his 36th observation on Cancerous Mammary growths p. 82.

Observation XXXI.

Fibrous Tumour of Cheek — Epistaxis — Cure.

History. Dorothia W. — Aged 21. Worker in a paper factory was admitted into the Royal Infirmary on the 7th of October 1839, on account of a tumour of the right cheek situated right over the Parotid gland. The tumour was about the size of a man's fist. Anteriorly it extended to within 2 inches of the mouth and the external angle of the right eye. Posteriorly it formed a globular protuberance about the size of a large orange, projecting behind the ascending ramus of the jaw, startling up on its surface the lobe of the ear. As to consistence, the greater part of the tumour was firm and hard, except at its most prominent part, which imparted to the finger a feeling of great elasticity almost.
proceeding to fluctuation. The tumour itself was quite movable, as also the integuments over its surface. It had been growing for 3 years. When it was small and free it was confined to the space between the 2nd, 3rd, and 4th upper molar teeth. She had never any pain in it; and her general health was good. On the 11th of October, after the patient had been brought under the influence of Chloroform, Dr. Tyrrel proceeded to remove the tumour. A circular incision was made through the integuments, the three flaps dissected back, and the tumour cut out. The flaps were then brought together by ligatures. The wound healed almost entirely by the first intention. By the 22nd of October had quite contracted.

Description of the tumour after removal. It weighed 9 3/4 oz. and was divided into two portions, a larger, corresponding to the anterior part of the tumour, projecting from one part of its surface, and a smaller, globular, portion, about the size of a large orange, which corresponded to what had been the most prominent part of the tumour before removal. The whole tumour was enveloped in a strong fibrous envelope or cyst, which could be peeled off with great facility. On making a section through the centre of the tumour from before backwards, the anterior part of the tumour which had been over the cheek, was found to consist in the centre of a yellowish, very dense substance, grating like cartilage under the knife. This gradually became softer towards the posterior part of the tumour, where its consistence was al-
most gelatinous. The posterior rounded part of the tumour was less gelatinous throughout, and of a greyish white colour, and yielded freely to pressure made with the point of the finger. On examining microscopically, a thin section made with a double bladed knife of the denser portion of the tumour, it was found to consist almost entirely of a very dense network of fibres, a great proportion of which were of the yellow elastic variety. As the circumference of the tumour was approached, the fibrous network gradually became less dense, until it almost entirely disappeared, and there was substituted for it nucleated cells and oil globules, of which the posterior portion of the tumour was almost entirely composed. Some of the cells are represented in Fig. 49. Many of them were found with an average diameter of 200 to 250 microns, others were oval or pyriform, while many were still more elongated. Each cell contained a small, rounded nucleus, 200 to 300 microns in diameter, and between the nucleus and cell wall a small quantity of granular matter. The quantity of oil globules was considerable. They were round of small size (500) arranged in clusters. Osmansky. This tumour I think must be regarded as an example of a fibrous growth, different parts of
which, however, differed widely from one another both in appearance and structure, one portion being of extreme density, and consisting entirely of fibrous tissue, while another was of soft and almost gelatinous consistence, and was entirely composed of nucleated cells, oil globules, and granular matter. The cells seemed to pursue and fibro-plastic cells undergoing a transformation into fibres. The cause of the presence of so much oily matter it is difficult to explain except that the tumour was commencing to undergo a process of softening, and that as the result, or perhaps the cause of this great quantity of oily matter had made its appearance, softening and the formation of oily matter, being as we know, most uncommon coincidences in the tissues of the human body, both healthy and morbid.

Observation XXXII.


Flushing L. B.—set. 60 consulted all figures on the 12th. Left 1852 on account of a large fluctuating tumour on the left side of his testicle. The testicle was not involved in the swelling, but situated quite at its lower part. The pa-
at the swelling had existed for 20 years. For a long time it had remained very small but latterly it had been increasing in size more rapidly. The Tumour was punctured with a trocar $\frac{1}{3}$ of a catty of a watery fluid drawn off. Two draughts of pure Jodeine of Jodeine were then injected into the cavity and the Tumour was then well shaken. After the operation there was again Considerable swelling of the Tumour for a few days, but this soon subsided. In the course of a fortnight had completely disappeared.

Description of the fluid. It was of a white Colour, and slightly opalescent. When allowed to stand for some time a slight quantity of a flaky deposit fell to the bottom of the containing vessel. On forcing off the supernatant fluid and placing under the Microscope a drop of the fluid containing the deposit numerous spermatic Animals were observed swimming about in the field of the Microscope. There were seen alive fully 4 hours after the removal of the fluid. Along with the spermatic animals were a very few nucleated epithelial cells. On heating a little of the fluid in a tube it was almost completely converted into a Coagulum of Albumen.

Remarks. The above affords an example of a Complaint rich.


3d. The Cyst of a Spermatocèle is also in general much thicker than that of a Hydatid.
uncommon. The pathology of spermatocele has been but little studied. Breschet who wrote a work on the
disease attributed its origin to a swelling of the sper-
matotic cord, and especially of the epididymis, depending
on retention of the semen. This may be the case, but
I am not aware that it has been yet shown that
leads to this retention of the semen. The difference be-
tween the fluid of a hydrocele and that of a spermato-
cele is generally so great, as to be quite evident to
the naked eye, the former being transparent, straw-
coloured, the latter white, and slightly opalescent.
Microscopic examination, however, is the only test in
which certainty be relied on, and I am long ago
when it would have been thought highly danger-
ous to have treated a spermatocele by way of
injection, this means of diagnosis should never have
been neglected. But now, since it has been shown
by Mr. Grove that a spermatocele may not only
be injected with impunity, but that its injection,
as in the case of hydrocele, constitutes a certain
means of cure, microscopic examination is not
so necessary. In the above case, as in actual
spermatocele, the testicle was situated at the lower part of the
penis.
Observation XXXII.


History. A. B. act 6 a coal miner's daughter. From Dunfermline was admitted the infirmary under the care of Dr. Irvine on the 9th December 1850 on account of a large tumour in the left axilla. This had first been observed when she was only 2 years old. Since then it had gradually been increasing in size. On admission it was about the size of a large melon, of a globular form and smooth surface. Laterally it extended from the left nipple to the external border of the scapula, measuring over its convexity 6 inches. In the opposite direction it extended from the angle of the axilla to the lower margin of the 8th rib, measuring 5 3/4 inches over its convexity. The consistency of the tumour was very peculiar. Some who examined it declaring that there was distinct fluc-tuation in it, while others maintained that this feeling was produced by the great elasticity of some solid substance. There was no pain in it, even on handling it freely. On Dec. 16th Dr. Irvine punctured the tumour, and drew off with a Camile 3 3/4 of a dark bloody fluid. Three days after (Dec. 19th) there was a slight accumulation of fluid of 3 1/2 ounces,
While the supernatant fluid was transparent it was straw coloured.
similar to the last, were then drawn off, and two
droppings of pure tincture of iodine injected into
the cavity. The operation was not followed by any
bad symptom. There was again a considerable
accumulation of fluid, but after four days this
had begun to subside, and in the course of a
fortnight had completely disappeared.
Description of the fluid drawn off. Its colour was a
dark reddish brown, and after standing for some
time, there was deposited from it a dark brown
finely granular sediment. On examining a
drop of the fluid under the microscope, two sorts of
bodies were discovered floating in a clear trans-
parent fluid—1 Blood Corpuscles. There were exceed-
ingly numerous, and in fact seemed to constitute
the greater part of the fluid. The majority of them
presented a perfectly natural appearance with their
edges quite smooth and entire. A few had their edges
damaged, more or less irregular. They showed a con-
siderable tendency to adhere together by their flat
surfaces in rolls. 2. Along with the Blood Corpuscles,
were a few rounded transparent cells with a dia-
meter ranging from 1500 to 2500. None of these seem
de to possess a distinct nucleus, but each contained
Thus in the donne away a hydrocele may be Converted into a haematoccele.
in its interior, several transparent globules, dissolved by ether, a few granules of a brownish colour. The amount of these cells bore a very small proportion to that of the blood corpuscles. Only 3 or 4 could be got into the field of the micrometer at once. They were quite different from white blood corpuscles. No Cholesterol, oil globules, or granular matter present in the fluid.

Remarks. The above fluid very closely resembled the fluid of the ordinary tricuspid valve of the heart—vulgari. The mode of origin of the tricuspid valve is still buried in obscurity. Some doubt depends on this effusing blood into a cavity from some part of the circulatio. In the above case I think it highly probable, that the blood was not extravasated until shortly before the operation; for it had undergone but little change, and none whatever of those elements present which are generally find in collections of blood long extravasated.—(Cholesterol)

I am therefore of opinion, that the tumour at first depended on the collection of clear fluid, and that blood was afterwards extravasated into this fluid, impossibly owing to the great manipulation to which the tumour was subjected after the
patients admission into hospital.

The existence of a cyst containing almost nothing but pure blood, of the size, and in the situation of the one above described, is certainly very rare. I myself have never met with a description of a case of similar nature. The above case is therefore well worthy of interest. Its less interesting is the success which followed the means adopted to afford relief. For, if the same means of treatment are applicable to the analogous Cases of Herniatocele of the Stomach, it will be a great improvement in the practice of Surgery.

Observation XXXIV.

Fibro-epithelial tumour of the Mammary - Excision - Cure.

History.

On the 30th of December, 1850, Mr. Lyne excised the left Mammary of a middle aged lady, on account of a large tumour involving the whole substance of the gland. Before removal it presented a globular form. The nipple was retracted, and the integuments immediately above the nipple presented a blue discoloration. Distinct fluctuation could be felt at different points over the surface of the upper half of the tumour. There was no enlargement of the glands in the axilla. An elliptical incision was made through the integuments
including the nipple, and the tumour then dis
dected out. Several vessels were tied. The edges of
the wound were approximated by sutures. By the
end of three weeks the wound had quite cicatrizied
and the patient was in good health.

Description of the part removed. The whole mass
weighed 1 lb. 15 oz. avoid. It consisted of the tu-
mour itself with a small quantity of fat, and
an elliptical portion of the skin 6 and one half
inches broad at its middle where the nipple
was. The tumour presented a hemispherical form, the an-
terior surface being convex, while the surface next
the pectoral muscle was flat. But loosely connected
to it by a small quantity of gray and slow tissue. The
anterior surface was pretty firmly adherent to the
integuments, especially at the discoloured portions
of the latter. This discoloration was found to be
owing to the dark colour of the contents of cysts lying
immediately under the skin. Then a section was
made longitudinally right through the centre of the
tumour, and there was whatever of the normal tissue
of the mammary gland could be made out, but the
was found to be composed of two adventitious tissue
were quite distinct from one another. That which
composed the upper two-thirds of the tumour consisted almost entirely of cysts, while the lower third presented a structure precisely similar to those fibromuscular tumours known to surgeons under the name of Pancreatic fociomas. The two portions were quite separated from one another by a deep fissure, being only connected by a fibrous envelope enveloping the whole of the tumour. The side of this fissure crept the fibrous portion of the tumour was smooth and glossy, so that on viewing the whole of the upper part it gave one the idea of one large cyst, from the side of which other smaller cysts projected forwards, to an almost complete to fill its cavity. This opinion was confirmed by the surfaces of the smaller cysts being dotted by a fluid exactly similar to what was found in some of themselves. This was grey, dark reddish brown colour and deposited a brownish sediment on standing. It was found to contain an microscopic examination showed Blood Corpuscles, Compound granular Cells, Voil Globules. A quantity of albuminous granules—also a few nucleated Cells which presented the following characters. They were quite transparent, for the most part of a globular shape, and the largest had...
a diameter of about 7/50 inch. Each contained a sound transparent nucleus attached to one part of the cell wall. They were partly isolated, and partly adherent together in small clusters. Acetic Acid rendered the cell wall more transparent while the nucleus presented a slightly granular aspect. The contents of the smaller cysts were very various. Some of them contained a fluid the same as that just described. In others (the smallest,) there was a perfectly transparent hyaline fluid, which exhibited nothing under the microscope but a few nucleated cells & granules. Others contained a fluid intermediate between these two, the fluid having a slight reddish tinge, & containing blood corpuscles. Comp. Granular cells, in addition to nucleated cells & granular matter. In one or two of these last cysts the walls, which were quite transparent, presented one or two circular spots about three six diameters of a reddish Brown, resembling small eccymoses. When magnified, one of these spots exhibited a very dense network of capillary bloodvessels, but I could not satisfy myself as to there being any extravasated blood. But the two largest cysts were full of a solid substance. This was of a greyish
colours, & a jelly-like consistency. Microscopic examination showed this to be made up of fibrous plastic tissue from undigested cells, & of a very delicate filamentous tissue. The size of the cysts varied greatly, the smallest not being larger than a pea, while others were fully larger than a hen's egg. Their sides fitted into one another & their free surfaces were bathed by a reddish brown fluid as above mentioned.

The lower third of the tumour presented a greyish colour with a slight tinge of green - the cut surface was very irregular, being covered with numerous fissures which ran through the whole substance of the tumour. When a small part of it was examined under a microscope (620 linear) it was found to consist of fibrous tissue with numerous bodies like nuclei embedded between the fibres & adhering to the inner dressers. There were found in oval, with a diameter of 2500 much were little affected by the

action of acetic acid.

Remarks. The above tumour, like one already described, belonged to the class, which has been termed by

cellular cystosarcomata, consisting of cysts, in

beaded in this case in the substance of a fibrous tumour. At the lower part the cysts were entirely absent.
and the appearance of the tumour exactly resembled that of those tumours, called by physicians "Pancreatic Tumours"; and in structure it consisted of fibres with numerous naked nuclei. In the upper part of the tumour, on the other hand, the cysts greatly predominated over the fibrous tissue. Indeed as already mentioned, there appeared to be but one large cyst with a number of smaller ones attached to its inner surface, resembling in this respect that variety of Cystomecromatous tumours mentioned by Müller under the name of Cystomecoromecromatous Tumours sensu stricto. The contents of these cysts varied, some containing a clear albuminous fluid, others two with a few blood-globules, others semi-organized lymph, and others blood undergoing coagulation. The coincidence of vascular spots on the inner surface of the membrane of the cyst, with the first appearance, as it were of blood corpuscles in the contents, is worthy of notice. (See Page 63)
Observation XXXV.

(Paraphrased?) Tumors in lumbar region. Motion-Cure.

History. Peter Watson aged 49. Sucy. Bumns was admis-
ted into the Royal Infirmary under the care of its
surgeon on the 20th of November 1837 on account of a
large tumor in the right lumbar region of the back.
It was as large as a Child's head. It extended from
the crest of the ilium to within 4 inches of the inner
curve of the Spine. It laterally from the spine of
the vertebræ fully 6 inches to the right. It measured
round its base fully 10 inches. The tumor was
most prominent at its lower extremity where there
was a globular bulging from its general surface
about the size of a orange, over which the integ-
ments were thin and blish colour. At this part
the consistence of the tumor was very elastic.
Almost approaching to fluctuation. Over the surface
of the tumor, which was rather uneven, there
were one or two other very elastic points. It felt
more solid towards its base. The integuments
at some places were very adherent to the tumor,
but the latter Drilled freely on the adjacent muscle.
The Tumors had been growing for upwards of 4
years, and its origin was attributed to blow Nerv.
ed on the side from a piece of coal which broke three ribs. The patient stated that he had never had any pain in the tumour until three months before admission, but since then he had often felt sharp pains shooting through it. He was a man of a steady and regular habit, but his general health was good.

On Dec. 24th the patient having been brought under the influence of chloroform, Mr. Lyue proceeded to remove the tumour. A crucial decision was made to understand the extent of the involvement, leaving an elliptical portion adhering to the tumour. The four flaps were then dissected back, the tumour removed with great facility. The vessels were closed, and the flaps were brought together by sutures. The wound bled profusely, but no symptoms manifested itself after the operation. In the course of five weeks the wound had quite united.

Description of the tumour after removal. It was of an irregular form but ovate, and weighed 2 lbs. 12½ oz. Avoid: At some points its upper surface it was closely adherent to the skin, at others less so. A small quantity of adipose tissue being interposed. It was very loosely adherent to the muscle beneath, but a few fasciculi of the Latissi-
arms did not overlap it. A section was made through the centre of the tumour; the cut surface exhibited two substances which presented a very different appearance. One substance was hard, dense, of a yellowish colour, and occupied the central part of the tumour, principally, radiating processes being sent out from it towards the circumference. The meshes formed by these processes was contained the other constituent of the tumour, which was of much softer consistence, translucent, yellowish-white colour. It contained a large quantity of a watery fluid which issued on pressure. Both constituents of the tumour were pervaded by a number of tubular vessels very like the ducts of the mammary gland. When the tumour was examined microscopically, the hard central portion was found to be made up of a dense network of fibrous tissue, the greater part of which seemed to be of the yellow elastic kind. A drop of the watery fluid from the softer part of the tumour was found to contain a number of transparent roundish bodies about 2000 in diameter. Their outline though approaching to round was rather irregular. Each of these
bodies contained in its interior not a distinct nucleus, but from two to eight isolated granules. A few of these bodies, however, which were somewhat larger, (some 1/10 inch) were loaded with granules so as to resemble ordinary Compound granular cell. Blotted up with these bodies were a quantity of granular matter. Foil globules. The sheet-like tissues contained in the interior the elements just alluded to, but every attempt made to trace them to their ultimate terminations failed. A thin section made with a Valentine's knife through the deeper portion of the tumour, exhibited the above mentioned granules, & corpuscles arranged in masses in the meshes of a fine fibrous tissue. 

Remarks. The nature of the tumour just described I am totally ignorant of, & Dr. Gardner, the pathologist of the Royal Infirmary, to whom it was shown, said he had never seen one like it. Mr. Eyre and others seemed to regard it as of a malignant character, but from this opinion I am rather inclined to differ. The presence of ducts containing corpuscles, &c. not unlike those found in the ducts of certain
glands, would seem to indicate that the tumor
was of some sort of glandular nature. But to
determine from such a tumor could have origi-
nated, from what healthy tissue it could have
been developed, would have required a more
careful examination of the connections of the tu-
mor to all the neighboring parts than the
circumstances would permit, and a study
of other tumors of a similar nature, none of
which, however, that I know of, have as yet
been recorded.

Since writing the above, I have met with the descrip-
tion of a tumor, examined by Seale, and named
by lui "Syphiloma." The description of this tumor
coincides in many respects with that under
consideration. *(See Page, 70.)*

Observation XXXVI.

Epithelial Tumor of Penis - Amputation - Cure.

History.

On January 29th, 1857, Dr. Dancrene, in the Royal In-
firmary, performed amputation through the middle
of the penis of J. M., aged 48, on account
of a swolln excrescence growing from the prepuce, and
involving the glands. The man was a Highlander,
Except that he had previously laboured from congenital phylomus.
and could speak one English, and no history of
complaint could be obtained. There was no enlarge-
ment of the glands in the groin, and the patient's
general health was good. On March 14th he was
discharged from the hospital cured. No local symp-
tom having manifested itself after the operation.
Examination of the part removed. This consisted of nearly
one-half of the penis, along with the neoplastic growth.
On the outer aspect of the prepuce there were a spongy
excrecences of a circinate form, and covering a space
about equal to the size of a halfpenny, and projecting
about 4 inches from the surface. The surface of this
excrecence was rough and nodulated, and its
substance deeply fissured. The prepuce was tightly
contracted at its orifice, so that it was impossible
to retract it over the glans. An incision was made
along its dorsal aspect, and its inner surface was
then found to be lined with a spongy excrecence,
similar to that on the outer surface of the prepuce,
fissured like it, but with its general surface, which
had been in contact with the glans, more uniform.
The surface of the glans also presented a rough and
spongy appearance, which was most distinct at the
Corona, between which and the excrecence from the
propose there were some slight adhesions. The surface of these excrescences was moistened with a
purulent discharge of a dirty yellow colour which
microscopic examination showed to consist of pus
corporcles, granular matter, vacuolated cells presenting
all the characters of epithelium. On cutting into
the substance of a portion of the moistened mass, it pre-
vented a dense structure of a greyish white colour,
and which consisted entirely of vacuolated cells di-
similar to those found floating about in the dis-
charge. Many of them were elongated, and ad-
hesed to one another with their long axes run-
ing in one direction. They all exhibited a tendency
to adhere by their edges. They were little affected by
the action of Acetic acid. The structure, which
these cells composed, contained no bloodvessels, but
the tissue (substance) beneath them was rich,
and very vascular.
Remarks. This tumour is a good example of those
squamous excrescences composed of epithelial cells, com-
monly denominated Epithelial Tumours, or when on
the penis or Jacobin Chimney Sweep's Cancer. Like
true Cancer these growths are liable to be repro-
duced after removal, but in general they possess none
See Page 43. — See also case related of Annie, who supposes cancer in Lancer for March 15th, 1857, p. 294.

*This case was afterwards described by Page in his Lectures on Surgical Pathology, Vol. II, 1879, for conclusion of Case, refer to this.*
of the other malignant characters of Cancer. They are sometimes accompanied with enlargement of the lymphatic glands, but this enlargement often seems to proceed merely from irritation, and disappears when the irritating cause is removed, and is not owing to the deposition of a matter similar to that composing the original tumour. All experience of this kind informs one, that he knows a case in which the penis was amputated on account of growths similar to the above, with enlargement of the inguinal glands, 12 years ago. After the operation the glandular enlargement disappeared, and the patient is still alive, and has continued free from any action of the disease. At the same time one must allow that the glandular enlargement accompanying Shirley's case is not always of such a simple nature, so that its presence to any extent must always be regarded as in a creature contraindicating any operative interference in such cases.

Observation XXXVII.

Documented fibro-encapsulated tumours in pubic, iliac, and perineal regions. History.

On January 30th, 1851, Mr. Syme excised a tumour from
ated beneath the integuments immediately below the right clavicle of a gentleman aged 60. Mr. Byrne had twice before, at intervals of two or three years, removed a tumour presenting similar characters from the same region of the body; and from careful examination during these intervals, had satisfied himself that the removal each time was complete. At times, however, had always been reproduced in the original site. The present one was about the size of a small orange, of a firm consistency, compressed from its centre; the skin, which was pretty firmly adherent to it. In addition to this tumour, which was just above the cicatriz of the wound resulting from the previous operations, a process seemed to extend downwards from it along the whole course of the cicatriz (2½ inches long), which was inseparably connected to the skin. These tumours did not cause the patient much pain. There was no enlargement of the glands in the axilla, and the general health was good. The upper, larger part of the tumour was removed by dissecting off the integuments in the form of two flaps, but the process pursu-

along the cicatriz was removed along with the
cicatriz and skin to which it adhered. Its head symptoms occurred. At the end of a fortnight the wound had almost completely cicatrized, and at that time there was no appearance of any action of the disease. Examination of the tumor. The larger mass of the tumour was found to be about the size of a small orange, but of a much more compressed form. On making a section through it, the cut surface was seen to be smooth and of a greyish-white colour, and the consistence of the mass, not unlike that of a gelatinous nasal polypus. But if anything elastic-like. It could be torn with the fingers and then exhibited a sort of fibrous structure, fine filaments passing from the one torn surface to the other. On scratching with a knife the cut surfaces, the section of the tumour, a small quantity of a watery fluid was collected on its edge. A drop of this examined under the microscope (280 lines) exhibited an appearance represented in Fig. 61. It contained naked cells, naked nuclei, and fine albuminous granules suspended in a transparent fluid. The cells were mostly of small size 75 to 250 in. Some were round, but most of them were more or less elongated. Each contained a single distinct round nucleus (stout rich indians) rendered far more distinct by the action...
of Acetic acid. The cell walls were very delicate and transparent. The cell presented all the characters of fibro-elastic and fusiform cells. On teasing out with needles a minute portion of the tumour, it was found to consist of round and elongated cells similar to the above, the latter being arranged into their long axes running in one direction. At some parts there were fully formed fibrous tissue, the filaments of which, however, were so fine and delicate, that they only became visible when the supply of light to the field of the Quinroscope was very limited. After the addition of a drop of Acetic acid enormous elongated nuclei might be seen imbedded among the filaments. A portion of the process of the tumour, which was adherent to the cicatrix and surrounding skin, exhibited an examination precisely the same structure and appearance as the above. On making a section with a Valentine's knife through the skin into the substance of the cicatricial tissue, the latter was seen to commence immediately beneath the cicatricial area; along its margin the elongated cells were seen arranged with their long axes perpendicular to the skin, so as to impart to the section a very beautiful appearance.

Remarks. From examination of the above last once...
concluded that it was a simple fibrous tumour; one, however, unusual, as it was in a low stage of development, consisting of nucleated cells undergoing transformation into filamentous tissue. It was not cancerous, for it contained no milky juices, and the cells composing it were evidently undergoing a transformation into fibres. The tendency to reproduction after removal is certainly not a common character of fibrous tumours, but still by no means necessarily constituted it a cancer. It was one of those tumours tumours to surgeons as "pernicious fibrous tumours." A tumour very similar to the above, both in its structure, and also in its tendency to return after removal, forms the subject of Dr. Bennett's 3d Observation on Cancerous and Carcinoid Growths. It, as well as the above, consisted of nucleated cells undergoing a transformation into fibrous tissue, but differed from the above, in some parts of the tumour being in a higher stage of development than others. In the case just related, the development over the whole mass of the tumour was pretty uniform.
Observation XXXVIII.

Epithelial Tumour on Labium: Removal - Cure.

History. - Mary Grogg, aged 53, was admitted into the Royal Infirmary on January 30th, 1857, on account of a slowly increasing growth about the left lobe of the labium growing from the inner surface of the right labium. She said this had been growing for five years, and for seven months had often been the seat of great pain. On February 7th, it was removed with a pair of curved scissors, and on February 11th the patient was dismissed cured, the wound having almost completely healed.

Description of the Tumour. - It was about the size of an orange, of a somewhat rounded form, narrowing at its attachment than its middle, though modulated externally. Its external surface was covered with a white fluid, which microscopic examination showed to contain hairs, corpuscles, granular matter, and nucleated cells like epithelium. On making a section through the centre of the tumour it was found to consist of two distinct structures, externally a firm substance of a greyish-white colour, divided into lobules by deep furrows passing down from its external surface. This contained a few bloodvessels, and was found on microscopic examination to be composed of

...
Churchill on diseases of Females p. 29.
grounded Yelangatus cells (with an average chain of 350m) closely aggregated together, presenting all the characters of epithelial cells. The outer portion of the tumour, which was nearest the point of attachment, did not extend more than 2 lines into the substance of the mass. It was not vascular. Composed of mucous tissue with numerous bloodvessels.

Remarks. This tumour, which examination showed to consist of a cumulated epithelium with hypertrophy and increased vascularity of the submucous tissue, forms a fair example of the many growths which are so common on the genital organs of both sexes. They are doubtless in many cases, due to their origin to previous venereal disease, and they have even been known to be developed on the cicatrices of ulcers. Their presence, however, does not necessarily indicate the previous existence of venereal disease, as we find them in patients who never laboured under any such complaint. Though most of a cancerous nature, these tumours are often reproduced after removal.
Observation XXXIX.


History. Janet A. — from Tofarchire was admitted into the Infirmary under the care of Dr. Byrne on Feb. 27/37.

on account of a tumour projecting from the palmar aspect of the proximal phalanx of the right forefinger. It adhered firmly to the bone, was about the size of a large chestnut, and of elastic consistence. It had only been growing for 9 months. For about three weeks before admission, she had been troubled with considerable pain in the tumour. Dr. Byrne performed amputation at the metacarpophalangeal joint. After a short time, the wound had cicatrizied, and the patient was dismissed from the hospital.

Description of tumour. It was about the size and shape of a large chestnut, its flat surface being attached to the palmar aspect of the proximal phalanx. The dorsal surface of the phalanx presented quite a natural appearance. Internally the tumour presented a rather tumescent glistening aspect, and on pressure it was found to possess considerable elasticity. On making a longitudinal section right through the centre of the tumour and the phalanx, the tumour was seen to be attached to the surface of the bone, the tumourous growths were
See Absciss. XVII, XVIII.
not expanded over it as in the two preceding cases.

The proper substance of the tumour was transparence,
of a spintish grey colour, and of a gelatious consistence.
Interspersing its substance were bands of fibrous tissue
arranged in a peculiar manner, so as to inclose in small lobuli the gelatious substance. In some
of these bony matter was deposited, especially near
the attachment of the tumour at the proximal ex
ternity of the phalanx. At this part indeed the tumour
extended into the heart of the bone, and expanded
its proper substance. Indeed the tumour seemed
to take its origin from this end of the bone, merely
to overlap the rest of it. When a small portion of
the gelatious substance of the tumour was con-
stricted between two glass plates and examined
microscopically, it was found to consist almost
entirely of nucleated cells. These were of various
dises, their average diameter being about 7 

As to form, they were round, oval, elongated or
more or less irregular. They underwent but little
change from the action of Acetic Acid. Each Con-
tained a single round or oval nucleus (2000 inch)
with a greater or less quantity of granules between
the nucleus and cell wall. Round the edges of
the compressed produce these cells were seen floating about here, but in the centre they seemed embedded in a transparent structureless fluid.

On examining the medullary substance from the proximal end of the phalanx, close to the edge of the fracture, it was seen to consist of an enormous amount of oil globules, with several nucleated cells presenting all the appearances of the ones just described.

Remarks. This tumour was obviously an enchondroma—being of the same nature as the two already described. It differed from both these tumours, however, in involving to a less degree the proper substance of the bone. Infact it seemed rather to belong to that class of Enchondromata tumours, which originate beneath the periosteum and external to the bone, as would appear from one of the laminae of the latter being appended over its surface. The comparative rapidity of its growth was in accordance with this view, for it was considerably greater than that of Enchondromata originating in the centre of bones generally is. The existence of nucleated cells in the medullary substance the same as those composing the tumours, seemed to indicate
that an accumulation was taking place there, and becoming organized into a tumor the same as that of the tumor -- in other words, that the tumor was extending itself in that direction.

Observation XI.

Encysted tumor of the Mammary Gland - Cure.

The following tumor was removed by Mr. Sykes of...
and spaced 3000 or less. They were all exceedingly fine and delicate, and almost invisible except with a very limited supply of light to the field of the microscope. They were loaded with fine albuminous granules which completely occluded all appearance of a nucleus. The addition of a drop of Acetic acid, however, revealed the presence of a round transparent nucleus in each. The walls of the cyst were very thick (1/10 inch), and perfectly entire throughout. Externally, they were surrounded by the substance of the mammary gland. The internal free surface presented a white colour with a smooth, firm, and with a diameter of 2 or 3 lines. Microscopic examination showed that redness to depend on a close network of capillary blood-vessels. A section was made with a Valentia knife through the cyst transversely, and examined under the microscope. Internally it consisted of a dense network of fibrous tissue—both yellow and white fibres. Towards the inner surface this network became gradually more and more delicate, till there were seen only a few delicate fibres running through.
a greyish amorphous substance (Fig. 57.) Projecting
roundly from the inner surface seemed to be a
number of tapering processes like papillae.
Remarks. The above was our example of a true
inserted tumour full of a milky albuminous fluid. As
to its mode of origin, it could not have originated
from the dilatation of one of the mammary ducts
by a retention of the natural secretion, as some
have doubt, would maintain, for in the first
place, no trace whatever of any communication
or connection between the cyst and any of the
mammary ducts could be made out, though
careful search was made, and in the second
place, the contents of the cyst did not bear the
slightest resemblance to milk or to any substance
into which it might be supposed milk could be
transformed. Not a single oil or milk of bile could
be detected in it by microscopic examination.
The vascular spots on the inner surface of the
cyst were interesting when we recollect how
frequently cystic tumours come to contain pure
blood at some stage of their growth (see Page 65.)
In the present instance no blood had as yet
been extravasated
Observation XLII.

Cyst of the Lower Lip—Excision— Cure.

On February 21st, 1857, Mr. Syme removed a cyst about the size of a large pea from the lower lip of a boy 10 years of age. It was situated beneath the mucous membrane at the right extremity of the lip, immediately within its margin. It had been growing for some months, and was the source of considerable inconvenience and sometimes of pain. Its cause could be assigned for its origin. Mr. C. clipped off the mucous membrane covering the cyst with a pair of curved scissors; the contents of the cyst were then evacuated, and the remaining portion of the cyst itself pulled out with a pair of dissecting forceps.

Examination of Cyst and Contents. The contents of the cyst consisted of a glairy fluid, transparent like water, but of greater consistence. On examining a drop of it under the microscope (200 lines) it was found to contain nucleated cells in various stages of development, and which were obtained in much greater abundance by tapping the inner surface of the cyst. They were mostly of a rounded form, with a diameter of about 0.002 inch. Each contained a single rounded nucleus (0.00012 in.) with more or less
granular matter between it and the cell wall. Acetic acid rendered the cell walls somewhat more transparent while the nuclei became more distinct. Many of the cells were seen adhering in masses by their edges. The cyst in which the above fluid was contained was thin and semi-transparent. Its inner surface was lined with a layer of the cells just described. On treating it with needles a small portion of the cyst, it presented a fibrous structure with elongated nuclei, now embedded among the filaments. A transverse section with a double bladed knife through that part of the cyst, which along with the mucous membrane had been removed by the dissectors, presented the same fibrous structure externally, with cells arranged along its inner edge. There was, however, the gradual transition from cells to fibres as in the case detailed in Abs.  

Remarks. The above is a good example of a cystic structure, and very similar to those encountered within the caudae. From its contents, it was obviously still in an early stage of development. There were no oil globules in these, nor any of the other elements indicat-
Observation XLII.


History. On Feb. 22d, 1857, Ann M., aged 51, a shepherd's wife, was admitted into the Royal Infirmary under the care of Dr. Dendurne, on account of a hard tumour of the right mamma, which the first observed 3 months before admission, but which, being then of considerable size, must have been growing for some time before. It was often the seat of sharp shooting pains. The nipple was somewhat retracted, and the tumour seemed to be slightly adherent to the pectoral muscle. It extended upwards towards the axilla, and in the axilla itself an obscure swelling was felt, but owing to the quantity of fat the nature of this could not be very well ascertained. On March 1st, Dr. Dendurne removed the right mamma with a large quantity of the surrounding fat in the usual manner. During the dissection, the glands of the axilla were ascertained to be enlarged, and a bunch of them about one half the size of one's fist was also dissected out. Several arteries were tied, and the edges of the wound were brought together.
by sutures. For 10 days after the operation there was a Co-
fusus purulent discharge from the wound, considerable ex-
fluence of the surrounding skin. The patient seemed then in a very
precarious state, labouring under symptoms of pyemia. She is
(March 31st)
now, however, greatly better, and the wound is rapidly healing.

Description of the parts removed. The whole mass removed
weighed upwards of 2.2 ounces; along with the tumour
was an immense quantity of fat, and an elliptical
portion of the integuments measuring three inches by 1, in
the centre of which was the nodule somewhat petrified.
The integuments surrounding the nodule were slight-
ly adherent to the surface of the tumour. The latter was
embedded in the mass of fat, but there was no fat
on the lower surface of the tumour, it having been
separated from the pectoral muscle by only a very
small quantity of areolar tissue. The tumour itself
was of rather circular form with an average diame-
ter of about 3 inches, and thickness 2 inches to 1.
Some of the external mammary tissue could be
detected. On cutting into the tumour, its consisten-
tee was found to be very dense, approaching to that of
Cartilage. The surface of the Section was smooth
and of yellowish white colour. On squeezing it a
dropping the surface of the section, a very small co-
amount of milky juice was obtained over the great or part of the tumour; but from several isolated points a distinct drop of a pianihish grey milky juice issued on pressure. On examining a drop of this under the microscope, it was found to contain crowds of cells presenting the characters of those most common in Carcinous tumours. They were found in all stages of development, and many were seen containing two, three, or more nuclei in their interior. Their form was mostly round or oval. Their diameter varied from 3/6 to 2000 inch or less. The cell walls were very delicate and transparent, and rendered still more so by the action of Acetic acid. A few cells were seen loaded with granules which completely obscured all appearance of a nucleus. alloyed up with the above cells was a small quantity of albuminous granules, and a few oil globules. On making a thin section of the tumour with a Valentine's knife, and examining it under the microscope after adding to it a drop of Acetic acid, it exhibited a dense network of fibres arranged so as to leave empty spaces in which were imbedded masses of the cells already
described - The enlarged lymphatic glands removed from the axilla formed a mass about \(\frac{1}{2}\) the size of an ordinary fist. They varied greatly in size, one or two being as large as potatoe plums. On cutting into them their substance was found to present a white color, and yielded on pressure a quantity of a pulpy milky white fluid which microscopic examination showed to contain exactly the same elements as the juice of the tumors, with the exception that there were more oil globules and granular matter in it (see Fig. 71). The amount of this fluid varied in the different glands. Some of them seemed to consist entirely of a thick white pulpy substance. When this white pulp was washed away from a small portion of one of the glands, what remained was found to consist of a t Amarante of white fibrous tissue with numerous empty spaces in which the fluid had been con- 

Remarks. No doubt could be entertained as to the cancerous nature of the above tumors. Could it have been known before the operation to what extent the glands had become involved, this would certainly have counterindicated any operative
The joint observed it a month before, but said it was as large then as at the time of the operation.
interference—The greater quantity of the milky juice in the glands than in the tumours of the mamma, was in conformity with the greater rapidity in which, in all probability, the former deposit had taken place, for, as a general rule, the more rapidly a cancer is formed, the more nearly does it approach the characters of soft cancers.

Observation XLII.

Cancerous Tumour of the Mammary Excision—Cure.

History.

On the 16th of February 1857 Mr. Sykes excised the right mamma of a middle-aged married female on account of a tumour situated at the upper and inner part of the gland. Before removal it appeared to be about the size of one half a small orange, and felt of very hard consistence. The nipple was somewhat detached but the skin moved freely over the surface of the tumour, and the latter upon the muscle. There was no swelling to be felt in the axilla, but beneath the integuments over the clavicle was a hard lump about the size of a cherry. The tumour in the clavicle just appeared about one year before the operation, that over the clavicle had been growing for some months. She occasionally suffered considerable pain in the mamma.
The patient was brought under the influence of chloroform and the mamma was incised in the usual manner. Several arteries were tied, and the edges of the wound brought together by sutures. The patient had no bad symptoms after the operation, and the wound healed in a great measure by the first intention.

Examination of the part removed. The whole mass weighed rather more than 4 oz. avoird. It consisted of an elliptical portion of skin with the nipple in the centre, of the mammary gland, the tumour, and a small amount of fat. The tumour was imbedded in the substance of the gland at its upper and inner part; the rest of the glandular tissue was quite healthy. The tumour was of a circular flattened form and occupied a space about equal to that of a crown piece. Its thickness was about 1/2 inch. Its outline was pretty well defined, but its surface was quite inseparable from the tissue of the mamma. Its consistence was very hard, so that it grated under the edge of the knife when a section was made through it. The colour of the fresh section was a dirty greyish white, and when a slice of the tumour was held up to the light, it was seen to possess a considerable degree
of translucency. On compressing the substance of the tumour, a quantity of a greenish juice of the paste in small drops from the surface of the section. This on microscopy examination was found to contain nucleated cells and a small quantity of oil globules and albuminous granules. The cells varied in size from 0.1 inch downwards. They were seen in all stages of development. Their form was round, oval, or ameboid or less irregular. Each cell contained a rounded, rather opaque, nucleus 0.005 inch in diameter, with one or less granular matter between the nuclei. Nuclei in the interior of the nuclei were or were more nuclei were generally present. Many of the cells contained two nuclei, others three (Fig. 73.) A drop of acetic acid rendered the cell walls very transparent but did not influence the appearance of the nuclei to any great degree. A few cells were seen quite loaded with granules, which completely obscured all appearance of the nucleus. Another section was made with a double bladed knife, and after the addition to it of a drop of dilute acetic acid was examined under the microscope (200 lines). It was seen to consist of fibrous out-
work, in the meshes of which were enclosed the cells above described. The acetic acid revealed the presence of elongated nuclei, embedded among the fibres, and imparting to the whole structure a very beautiful appearance.

Remarks. This tumour was a good example of Sansirs Cancer of the mamma, and similar to several tumours which have already been described. It is difficult to say whether the small tumour over the clavicle was of the same nature or not.

Observation XLIV.


History.

On Feb. 14th, 1857. A tumour of this class removed from the face of a man. The bony lypenence which forms the subject of the present observation. It was situated on the right cheek between the nose and lower eyelid, and about 1 inch distant from either. It had only been growing for 1 or 2 months, and was the cause of considerable deformity. It was excised along with a small quantity of the surrounding fat. The operation caused considerable hemorrhage, no fewer than four arteries requiring to be tied.
As bad symptoms followed the operation.

Description of the part removed. This was 1 inch long and of conical form, broad at the base and gradually tapering to a narrow point at its distal extremity. The base of the mass consisted of fat.Externally the excrescence was covered with skin, which towards the apex gradually became lost in a dark brown mass of firm consistence. A section was made with a scalpel right through the centre of the mass from base to apex. The section exhibited an appearance represented in the annexed drawing. At its base it consisted of fat, embedded in the substance of which, like a hair in its follicle, was the proper substance of the horn. The latter was 4/5 of an inch long, and of conical form, gradually tapering from its rounded base which had a bread of 1/2 inch to a pointed extremity. At the base its substance was of a greyish colour, and smooth. After them came the apex, towards which it gradually assumed a dark brown colour, and seemed to possess a sort of fibrous structure similar to that of nail. Even at the apex, however, it was firmly adherent as nail. A portion of the soft part of the horn at its base was picked out on the point of a knife.
The flattened cell was seen with numerous concentric thins surrounding its nucleus. (See Fig.)
compressed between two glass plates, and examined under a microscope (1200 lines). It was then seen to consist of nucleated cells and granules, the former being seen in all stages of development and presenting the ordinary characters of epithelium cells. Most of them were convoluted flattened scales, while others which were smaller were more or less globular. Similar cells were seen in a particle taken from the middle part of the growth, but here many of them presented very irregular forms, and most of them exhibited a great tendency to elongation. Many of them were also seen breaking up into numerous filamentous processes. They were arranged in a very irregular manner, so as to resemble that of interlacement of fibrous tissues. A stain showing from the point of extremity of the presence exhibited precisely the same structure as that of a stain in appearance of fibres running parallel to one another, and which depended on the aggregation together of numerous elongated filamentous processes. Acetic acid caused no change in the above, except to tender the striated structure more distinct.

Remarks: The above is an example of a growth by no means common in the human body.
of horn. Horns on the surface of the body are developed in a sort of duct, which after a time bursts and allows the contained horn to grow out, and often to attain a considerable size. Its growth may be rapid as in the above case. A horn may be compared to hair, having like it a bulbous post which is implanted in a follicle from which it derives its nourishment. The vasculature is similar to the follicle as often, as in the above instance, considerable. In their structure horns also bear a close resemblance to hair, consisting at their root of well formed nucleated cells, which near the distal extremity become elongated and split up into filamentous processes, which, becoming arranged side by side, impart a striped appearance to the structure.

Observation XLV.

Carcinoma or Tumour of the Mammary Gland - Excision.

History: On the 21st of February 1857 Mr. Syme removed the right mamma of a lady, apparently 70 years of age, but stated that she was only 50. The operation was performed in account of a hard tumour in the gland, which had been growing for some years, but which latterly had been giving her so much pain as to
made her ansions for its removal. The tumour was
to be confined principally to the upper and inner
part of the gland, and seemed to be about the size
of one half an orange. The nipple was considerably
retracted, but the skin moved freely over the surface
of the tumour. There was no enlargement of the
lymphatic glands in the armpit, and the patient's
general health was good. The operation was con-
ducted in the usual manner—several large
vessels were tied, and the edges of the wound were
kept in contact by sutures. The patient recovered
without any untoward symptom; and in the course
of three or four weeks the wound had quite eic-
traged.

Description of the part removed. The entire mass weighed
altogether 10 oz. avoird. and consisted of an elliptical
portion of skin bivly 2 with the nipple in its centre,
a considerable quantity of fat, the mammary gland,
and the tumour in the substance of the latter toward
its upper and inner part. The tumour itself was
about the size of half an orange, and of a semi-elastic
law form, with its convexity in front except the skin.
It was separated from the skin, and had been from
the muscle before its removal by a considerable lay-

of fat. Its structure was very dense, grating under the knife when cut. Its substance was of a greyish-white colour, and yielded on pressure a quantity of a greyish milky juice. At several isolated points the substance of the tumour was softened into a greyish pulp. When a drop of the juice was examined under the microscope (350 lines) it was seen to consist principally of numerous naked nuclei, of a round or oval form and with a diameter of about 2500 microns. They were but little affected by the action of Acetic Acid. Each contained in its interior one or more minute nucleoli. Along with the above, but in far less quantity, were nucleated cells, the nuclei of which were exactly similar to those existing in a naked condition. These cells were round or oval and the largest of them had a diameter of 450 microns. The cell walls were very transparent and delicate, and rendered still more so by the action of Acetic Acid. Some of the cells contained one, others two, three, or more nuclei. Along with the nucleated cells and naked nuclei was a considerable quantity of oil globules and albuminous granules of a few comparable granules. A thin section of the tumour, made with a Valentine's knife, exhibited
under the microscope a delicate fibrinous membrane was infiltrated through the meshes of which were the elements of the milky juice just described. Ungulate nuclei might be seen lying between the filaments of the fibrinous element.

Remarks. This tumour was evidently of the nature of Sinus Cancrum, and from the quantity of oil globules and granular matter, which microscopic examination showed it to contain, as also from the few softened points in its substance, it seemed to be commencing to undergo a process of softening. The great number of naked nuclei in proportion to that of the Melanotic cells affords some analogy to the case of Cancer of the Testicle detailed in Observation 4.

Observation XLVI.


On March 7th 1857 Dr. Syme in the Royal Infirmary removed a tumour from the upper lip of a middle aged labouring man. This tumour was about the size of a large bean, and situated immediately under the mucous membrane towards the right end of the lip. It was firm, but not hard consistence;
and was quite movable. It had been growing for nine years. No cause could be assigned for its origin. It had never given rise any pain, and he was always to get rid of it, on account of the mere
venom of its bulk from any other cause. A simple transverse incision richly long was made through
the tunical membrane over the tumour; the latter
then seyed by a hook and dissected out. Its vessels
required to be tied. In the course of 10 days the wound
had healed.

Description of the Tumour. Its size was about three years
ordinary French beans. Its consistency was firm but
dest hard. On sectioning a section through its centre the sur-
face of the section was perfectly smooth and uniform.

its yellowish white colour. When mopped a consider-
able quantity of clear watery fluid was collected at
the edge of the knife. A drop of this when comunied
under a microscope (320 times) was found to contain
tumorous bodies like nuclei, exactly similar to those
obtained from the juice of the tumour described in
Obs. 22. They were transparent, of a faint greyish
colour, of a round or oval form, and with an
average diameter of 700 inch. Acetic acid produced
little or no change on them. Sipped up with them
was a small quantity of albuminous granular matter. A piece of the tumour was teased out with needles and examined microscopically, the above nucleus were seen infiltrated through a fine fibrous tissue. The regular arrangement of the nuclei with regard to the fibres could be made out.

Remarks. This tumour exactly resembled both in general appearance and also in structure the tumour removed from the left palate already described (Obs. 28) and also one removed from the mammary region. These all contained a simple juice, differing however, from that of cancer in being quite transparent and watery in place of resembling milk, and containing no nucleated cells. None of the three exhibited any malignant tendency.

Observation XLVII

Melanotic Carcinoma Tumour of Penis. - Melanosis of Lung. - Dr. Death.

History. James 'Lothian, aged 53. Butler was admitted into the Royal Infirmary under Mr. Lynes' care on February 14th, 1857, on account of a tumour on his penis. This was about the size of a large chestnut, of a flattened oval form, and of a brownish black colour. It was attached to the outer surface of the prepuce on the lower aspect
About 1 mile more than on the right side, where the respiration was freer. On the left side there was no vocal resonance. The patient's hair was of a dark brown colour.
of the glans, and also to the edge of the prepuce so as to render it very difficult to retract this over the glans. When the prepuce was reflected, the glans was found to be not above one-half its natural size, and on its surface there were several rounded elevations of a bluish black colour, varying in size from that of a pin's head to that of one half a sweet pea. The external surface of the tumour was very slightly nodulated, and covered with a uniform discharge of a greyish yellow colour, and very fetid odour. When it was pricked with a pin, it bled with considerable profuseness. The patient stated that it was grew the least of considerable pain. It had been growing for two years, and commenced as a small dark want on the outer surface of the prepuce fully 1 inch from its edge. It remained small for about 6 months, after which it began to grow more rapidly. Three months before admission he first observed a swelling in both his groins, and in each of these there could be felt and seen an adeninum of almost as large as a hen's egg. He had a slight cough, occasionally considerable dyspepsia. There was dullness of respiration all over the left side of the Chest, which measured in circumference...
Microscopic Examination. The puriform fluid scraped from the surface of the tumour was found to contain pus corpuscles with a large quantity of granular matter with here and there masses of pigment granules of a dark brown or black colour.

From the affection of the glands in the groin it was deemed advisable to remove the tumour, and in order to examine its structure, I shaved off with a sharp bistoury a very thin slice from one part of the surface of the tumour. A few drops of blood escaped, but no bad consequences resulted. The cut surface of the tumour was of a soft gelatious consistence, of a perfectly black colour. On scraping the cut surface of the shaving removed, a black jelly-like substance was collected on the edge of the knife. This was examined under the microscope (200 linear) and was found to consist for the most part of ameboid cells. Many of these were not unlike cells already described as cancerous tumours, consisting of a delicate cell wall, in some cases as large as 200 microns, enclosing one, and sometimes two rounded nuclei, and between the nuclei and cell walls a quantity of fine grey granular matter. These cells were seen in various
stages of development. But the majority of the cells contained, in their interior, a greater or less quantity of a dark coloured pigment. The quantity of this in some cells was so great, as completely to obscure all appearance of a nucleus. It colours varied, going from a deep red or bistre brown to a fine black. Acetic acid produced no change on it, but strong nitric acid rendered its colour much lighter. The cells containing this pigment, were of the same form and size as those which did not. One was seen to present a sort of branched form (see Fig. 81.) interlaced with the above cells was a quantity of grey granular matter and also of brown and black pigment granules. A small particle of the shrunken of the tumour was teased out with needles and compressed between two glass plates. When this was examined under the microscope, it presented a fine filamentous tissue, with cells very similar to those already described, but the exact relation between the cells and fibres could not be ascertained, as owing to the smallness of the portion of the tumour it was enabled to examine a thin section could not be

Fig. 82.
Observed on Cancerous Hemorrhoidal Growths, page 97.
Remarks. There was no doubt in my mind after
the examination of the above tumor, that it was
an example of melanotic Cancer — possessing
the ordinary structure of Cancer, with the addition
of dark pigment; and being so, it is worthy
of interest, as there are very few cases on record
in which such tumors, in the human body,
have been carefully examined. Dr. Burnett in
his Observations mentions only one case of mel-
anotic Cancer, and remarks that it is the
only specimen he ever had an opportunity of
examining in the human body. In Dr. B's case
the tumor was about the size of an orange, it
was growing from the left cheek. It was removed
with success — like the above tumor it was very
vascular; and it likewise possessed a very simi-
lar quinacropic structure. Various opinions have
been entertained as to whether or not melanotic
tumors should be regarded as a variety of Cancer.
Those which are found in the horse (in which
animal they are very common) are generally
believed to be slow, in malignant, and steel.
Cullen and Conwell have endeavored to show that the
black deposits which occasionally are met with
...The hair of the above patient was of a dark brown color—an interesting circumstance in connection with the fact that in horses black tumours are almost exclusively confined to those of a grey color.

Since the above was written, the patient has died, and as an opportunity was afforded of carefully examining the body after death, I shall afterwards give a full description of the morbid appearances revealed by this examination (See Appendix, Page — )
in the human body, should be regarded in the
same light. But yet, whatever be the nature of melano-
tic tumours in the horse, which I have never from an
opportunity of examining, it seems probable that many of them
which occur in the human body only differ from Cancer in having
black pigment deposited in them, sometimes to such an extent
as to obliterate the original structure; yet to say, however,
that black matter may not be found in other tumours Vo.*

Observation XLVIII.

History. On the 7th of September 1848, Margaret Dow, aged 19,
a servant was admitted into the Royal Infirmary un-
der the care of Dr. Syme, labouring under the symp-
toms of a movable body in her left knee joint, which
she stated, first began to trouble her about 7 months
before admission. It gave her great distress, especially
when she attempted to walk, so that she had been
oblige to give up her work. The body was quite
movable, but might generally be felt at the inner
tide of the joint, and was apparently about the
size of a large pea. Dr. Syme made various attempts,
first to remove the body by subcutaneous incision
of the synovial membrane, and, this failing, he
endeavored to make its position fixed by transfijy
it with a needle, and retaining it to transfuse for three weeks at a time. All these means failing, however, to afford relief, on the 23rd of December, he made a direct incision down upon the body and removed it—kept ensuing violent inflammation set up in the knee accompanied with general febrile symptoms. These resisted all the means employed to check them. The joint continued to swell, the whole limb became oedematous, the inflammatory fever gradually passed into hectic, and after a lingering illness the patient expired on Feb. 26th 1849.

On the day of the present case with the body as which he removed it, and the following description, [with the drawings], formed a portion of a communication read by one to the Royal Medical Society, March 30th.

"The Body as then removed was about 9 inch in length, 5½ in breadth at its broadest end. It was pyramidal, and three sides gradually tapering to a point at one extremity, and truncated at the opposite, as may be seen by referring to the figures.

"Its external surface was smooth and glistening, being covered by a membrane, which probably had at one time been continuous with the synovial membrane of the joint. Underneath this there was an
films capsule, which those bodies are generally describ-
ed as possessing; but from one of the sides daring a
few films threads, by nature formerly it stand proba-
bly been connected to one of the various surfaces in-
teresting into the formation of the joint. A transverse
section of the body showed that it consisted of two
distinct structures - one cartilage, the other bone.
The cartilage did not completely envelope the bone, but
was only adherent, as it were, on one side (as is re-
presented in fig. 86). It was separated from the
long matter by a well defined line. On examining
it with the microscope it was found to be Com-
posed of a transparent, slightly granular matrix, in
which were imbedded cartilage cells, more resembling
the elongated cells met with in the cartilages
than those of ordinary articular cartilage.

But the most interesting structure was that of the
long matter, which presented Haemovarian Canals,
Concentric lamellae, Lacunae, and Canaliculi; in all
respects resembling those met with in true bone, except
that the Canaliculi were hardly to distinguish. The presence
of Haemovarian Canals necessarily implied the existence
of bloodvessels. Hence the osseous matter was laid down
in an amorphous manner, as is generally believed to

be the case in the bone bodies in joints, but was an
organized formation analogous to ordinary bone.

Remarks. Some bodies have been found within the
capsules of all the large joints, with the exception of that
of the hip. They have also been found within the capsule
of the articulation of the lower jaw. But by far the
most common site is that of the one we have just
been considering, viz: within the capsule of the knee joint.
The structure of these bodies varies—sometimes they
consist entirely of a substance like cartilage; at other
times there is a bony nucleus in the center of the
cartilaginous mass, while at other times, as the
above case, bony matter constitutes the greater part
of their bulk. The fact of the bony matter in the present
instance presenting the structure of true bone is of
considerable interest, as it has been generally believed that
it is deposited in an amorphous manner, as in other
words, that it is an unorganized formation deposited
from a quiescent liquid, whereas, in the present instance
organized.

The bony matter was an analogous formation deposited
from a cytoplasm. — The structure of the body
does not serve to form a measure to explain its nature of
origin & formation. Various opinions have been
entertained as to the manner in which this takes place.
True, as others, have maintained that they were pieces of cartilage broken off from the articulating surfaces of the joint. Richet thought they were portions of the synovial membrane transformed into cartilage. Lander regarded them as precipitates from the synovial fluid. Hunter supposed that they were extravasation of blood, which had become organized into a structure resembling that of the part to which they were connected. Lazzaro believed that these bodies are formed on the outer surface of the synovial membrane, and gradually force their way into the cavity of the joint, the synovial membrane covering them, yielding and forming a pedicle by which they are attached. The theory of Lazzaro, which has been last mentioned, is the one which in my opinion most nearly approaches the truth, for it explains in the most satisfactory manner the structure of the body we have just been considering. This, I think, is to be far proved, by the following considerations:

1. This body, like all others found in the joint, is externally presented a smooth, firm, and thick surface, exactly like that of the synovial membrane.

2. Bodies similar to the above are often found, not loose
This interesting observation was contained in the "Thesis" of Dr. Van der Pylpit, last year, and the priority seems due to Sir Manchester.
in the joints, but attached by a pedicle to some part of the synovial membrane, which seems to be reflected over them.

3. In the present instance, though the body was gone, the remains of the pedicle by which it had been attached were still to be seen.

4. The true bone in this case could only have been developed in one of two ways. It may have originated from a proper ossifying point ("primus ossificationis"), as when temporary cartilage is converted into bone. But this must being at all probable, it appears to me that the only other feasible explanation of its presence is that it originated as a small growth or epostra, so to speak, from one of the articulating extremities entering into the formation of the joint, which, during its growth, pushed before it the cartilage and synovial membrane, till at length it was only attached by a membranous pedicle, and ultimately broke loose into the joint. The peculiar relative position of the cartilage with regard to the bone, seems to favour this view.
Recurrent Fibrous Tumour of Thigh. Excision. Cure.

History. Helen W., aged 37, servant was admitted into the Royal Infirmary under the care of Dr. Syme on Feb. 25th 1837. on account of a tumour on her left thigh. This was situated a little above its middle in its anterior veins aspect, immediately over the inner edge of the hamstring muscle. It was about the size of a small orange, flattened by firm consistence. It was covered only by the skin, which adhered pretty firmly to its middle part. It could be moved freely over the adjacent tissues. In the centre of the integuments over the tumour there was a transverse cicatrix 2 inches long resulting from a wound made by Dr. Syme in removing a tumour from the same locality 12 months before. This first tumour, the patient stated, had been two or three times the size of the present one. A month or two after its removal she perceived a small hard lump in the cicatrix of the wound. This had been gradually increasing in size, the hand no pain in the tumour itself but complained of deep seated pain in the thigh. On March 8th Dr. Syme removed the tumour along
with an elliptical portion of the skin which adhered to it. Its vessel required to be tied. The edges of the wound were brought together by sutures. This about a fortnight had quite cicatrizied, without any symptom of a reappearance of the disease.

Examination of Tumour after removal. The mass removed consisted of an elliptical piece of skin 1¼ inch long and ½ inch broad, with the tumour adhering to its lower surface. This was about one half the size of a walnut, of a roundish compressed form, ¾ of firm but not hard consistence. When a section was made through its centre its substance was found to bear a very close resemblance to a lump of fat. It was of a yellowish-white colour, and when torn with the fingers split up easily in various directions. It contained no juice; through the substance of the tumour were a few specks about the size ofullet-leads of a whiter colour than the rest. A minute particle of the tumour was compressed between two glass plates and examined under the microscope (280 diam.) It was found to consist of very delicate filaments, for the most part running parallel to one another and least interesting to any great degree.
Leeoji's 89290.
The addition of a drop of acetic acid revealed the presence of numerous elongated nuclei imbedded among the filaments. Along the edges of the compressed particle of the tumour were seen a few nucleated cells, some of them round, but most presenting a more or less elongated form. They varied in size from a diameter of two-inch downwards. The cell walls were rendered very transparent by the action of acetic acid. Each contained a single round oval nucleus. These nucleated cells were more abundant in some parts of the tumour than in others. They were particularly numerous in the white streaks above alluded to.

Remarks. This tumour afforded a good example of the use of the microscope in detecting the nature of a tumour after its removal from the body. Almost everyone to whom it was shown believed it to be a lump of fat. Dr. Symes declared that it was very similar to fat, and certainly it did bear a very close resemblance to this substance. Microscopic examination, however, proved that its real nature was very different; that it did not contain a single fat cell or any...
See Page 191.
matter in any shape whatever. On the contrary, it consisted of unicellular cells apparently becoming converted into filamentous tissue, and bore a very close resemblance in structure to a tumour already described, and which, like the present, possessed the character of a tendency to reproduction after removal. There could be no doubt that this tumour was not Carcinoma, and for the same reasons which I have already assigned in my remarks on the tumour first alluded to.

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Observation I.


History. On March 30th D. R. MacKenzie removed 2 tumours from the scalp of a female about 54 years of age. They were about the size of small marbles, and situated over the anterior and inner portion of the right parietal bone. The operation was performed in the Royal Infirmary, and conducted in the usual manner; thecepts being first transfixed by a long straight forceps and then pulled out with a pair of dissecting forceps. The posterior cyst was extracted with great ease, but pretty firm adhesion existed between the anterior one and the fun-
pounding headaches. The patient stated that they had been growing for about fifteen years. She did not know whether any of her relatives had ever been affected with them.

Examination of cyst after removal. Externally they presented a smooth surface, and firm consistence and were found on microscopic examination to consist of fibrous tissue. They were both of a rounded form, and about the size of small marbles. The posterior one was full of a soft, transparent substance of a yellowish-white colour. When a small portion of this was examined microscopically it was seen to consist of structures similar to what are represented in Fig. 91: the most abundant were cells and albuminous granules; but these were also, though in very sparing quantity, oil globules and scales of Cholesterine. The cells were rounded or more or less elongated, but in the whole their outline was very irregular. They had an average diameter of 500 inches. They were but little affected by the action of Nitric Acid. In fact few of them could a distinct impression be made up.

The anterior cyst contained a matter similar to that
just described; but in the centre of this soft substance was a mass about the size of a pea of brown hardness. On cutting into this it presented a pure white colour, and an appearance very like that of Chalk. Its consistence was, however, harder than that of ordinary Chalk. It effervesced when a drop of ammonia acid was let upon it. The surrounding soft substance presented the same microscopical structure as the matter contained in the posterior cyst, except that it contained in addition semi-crystalline masses of a dark brown colour, of very irregular shapes, and almost entirely disappearing under the action of ammonia acid. Remains. The above tumours closely resembled those which have been already described, both in the general appearance of their contents, and in their microscopical structure. The only peculiarity in the present case was the existence of calceous matter (probably Carbonate of Lime) in the contents of the anterior cyst, which I have never met with before in the contents of any other encrypted tumours which I have examined; and though I believe it is sometimes found, yet it is by no means common.
The preceding fifty tumours are by no means all whose structure I have examined, yet they are those which I have examined most carefully. Of every case I have endeavoured to give such an account as will convey the clearest idea of the reality of the mass conveyed, independently as much as possible of any preconceived themes on my part. Should I in the course of the next three months, meet with any more tumours of which I shall consider it worth while to record descriptions, I shall not fail to do so, and shall add them to the above in the form of an appendix. It is great mistake throughout has been, with what success others are best able to judge, to advance in some degree our knowledge of the Pathology of Tumours by the preceding Contributions.
Appendix.

Description of appearances presented on post mortem examination of body of James, Zebrian. (See page 217.)

(Condensed from report in Pathologist's Casebook XIII 563.)

External appearances. At all robust man. Chest broad.

Expounded — left side slightly Fuller than the right to the eye — Body rather pale, but not at all emaciated.

Muscular system well developed. Varix of both legs.

There are globular enlargements in the situation of the inguinal glands, both above and below Poupart's ligament on either side. At the extremity of the penis there is a brownish black tumour, the size of a large walnut, irregularly ulcerated on the surface, yielding on pressure an inky juice. Between the top, navicular, and the top, spongiosa, on either side can be traced small globular tumours beneath the integument, apparently not larger than a pea, movable, firm, Volatile.

Thorax. On opening the thorax a large quantity of fluid highly tinged with blood and brownish-coloured matter escaped from the left pleura, which was distended to the middle line of the body in front. The apex of the heart was very slightly
ly displaced to the right. The right pleura contained only a few ounces of fluid which was tinctured tinge
colored with blood. In removing the fluid from the left pleura, which amounted to many quarts, the mem-
brane was observed to be covered with many dark colored masses of deposit, of very various sizes, which
were scattered over every portion of the costal and pulmonary pleura, being in many cases confluent
and aggregated into flat masses of indefinite form, but at others accurately rounded, varying in size
from the smallest appreciable point, to a sheet
of $1/8$ inch. Most of these masses were covered over
with the epithelial lining coat of the pleura, but
at the posterior part of the pleura where the confluent
masses were most abundant this membranous
lining was at points wanting. These masses were
fleshy and irregular on the surface, yielding on
pressure a large quantity of dark brown very like
liquid tophi. A similar fluid was obtained from
the entire tubercles when they were cut into.
The largest tubercles projected about $\frac{1}{6}$ inch from the
surface of the pleura. The smallest were appreciably elevated. It assumed the appearance of
a very fine pruriform standing like that in
chalk drawing. The larger tubercles were almost perfectly black, as a flat, tingeless black line; the fine shading presented a well-marked brownish black tinge, tinged mere brownish purple. The left lung was completely compressed by the pressure of the fluid. The back part of the leaf pleura, where it was reflected from the root of the lung into the hollow of the ribs, was covered with a layer of recent coagulated blood at some parts; the subDenver.

The right pleura, containing a very little fluid similar to that in the left, was also affected with similar congelation. The fluid, but in very much smaller quantity.

Embedded in the pulmonary tissue of the right lung were a few similar circumscribed dark deposits. Around them the lung was quite normal. The pleural membrane of the bronchi was pale, colored.

The bronchial glands were everywhere darkly colored, but did not present much general enlargement. Larynx, trachea normal.

All the glands of the posterior mediastinum were enlarged, infiltrated with the hepatic-like
pigment above mentioned. There was a cluster of several of these glands, forming a mass about the size of a small orange, situated in front of the oesophagus, between the two bronchi at their bifurcation.

Some of the deep cervical glands also contained the mordid deposit especially a chain behind the sheath of the vessels: they were red, hemorrhagic, bulged.

Between the Adventitia muscular coat of the oesophagus were one or two rounded tumours about the size of barley corns, containing dark pigment.

The inner coat of the thoracic aorta was somewhat thickened, irregular on the surface, but contained no deposit.

Abdomen. The whole of the alimentary canal exhibited slight venous congestion, but was otherwise normal. The mesenteric glands were quite healthy.

The liver showed beneath the peritoneum about a dozen tubercles similar in size to the medium size of pine on the left pleura. On section the organ was generally swollen though somewhat congested; it contained several thin-encrusted masses of dark mordid deposit. The largest and greatest from a very small bean. Hepatic chains of glands seemed normal.
In the spleen, which was rather more fragile than usual, there was a single mass of the mobidi deposit, the size of a pea.

The kidneys contained in various parts of their cortical substance scattered melanotic tubules. There were not very numerous, accurately globular, nor in one instance only exceeded the size of a grain of sand, the exception being a solitary mass at the base of one of the pyramids and extending from it into the cortical substance.

The pancreas, suprarenal capsules, and splenic absorptive glands were quite normal.

Between the muscular and serous coats of the bladder were a few melanotic tubules about the size of barley-corns. One or two minute melanotic deposits also existed in the submucous tissue of the urethra.

The dorsal, sigmoidal, frenal gland, and anterior glands were enlarged, infiltrated with melanotic matter. Along the whole abdominal root the glands were somewhat enlarged, the largest, however, not exceeding a hazel nut in size. On section they showed a fleshy mass, highly charged with a specific fluid-like juice. Some of the glands which were but
Slightly enlarged, exhibited on section the normal structure of the gland with distinctly circumscribed points of melanotic matter.

In both seminal regions was a large mass of glands, entirely melanotic on section, resting on the outer side of the sheath of the vessels. Passing beneath Poupart's ligament to the saphenic opening, where they obviously compressed the saphenic vein, which was coiled rigid to beneath the knee. Contained coagulated blood, with several layers of fibrin firmly adherent to its internal coat.

The lymphatics of the cord contained one or two small melanotic tubercles.

The hypogastric and sacral lymphatics appeared normal, as also all the other external chains otherwise mentioned.

Head. The head was examined, but nothing unusual was found, except a few clusters of small cysts (sive go. sweet pea) in the Choroid plexus.

The black depot, in the different parts of the body presented much the same appearance, on microscopic examination, as the tissue of the tumour.
the penis, which has been already figured as described. In some cases but few distinct cells could be seen. The pulpy mass being made up almost entirely of dark brown to black granules; while in other instances, where the deposit seemed to be at an early stage, they were often very numerous.