

*On Bronchocele*  
*its*  
*History and Treatment.*

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*by*  
*William Peack.*

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*1844*

On Bronchocele

"True knowledge is the knowledge of causes"

(Bacon)

## On Bronchocele

"Luis tumidum guttur miratur in Alpibus"? (Juvenal)

It is usual, I believe, for the writer of an inaugural dissertation, to prefix some statement of his reasons for his choice of the subject upon which he writes - So many points of equal interest present themselves to the notice of the Student of Medicine, during the pursuit of his profession, that at first sight, it may appear difficult for him to determine in his selection; there is no doubt however, but that ultimately the one will be taken, with which he may be, as it were more intimately acquainted, having made that subject more particularly his study than the rest; or it may be, that it presents to his eyes certain points of interest, which by others

others would have been lost sight of altogether.

Now naturally then will it be the case, that a disease peculiar to the district in which he resides and with which he has been more or less in the habit of coming in contact, will be chosen as the subject of his thesis, in preference to others comparatively little known to him - Such has been the case in the present instance, and such are the reasons which I offer with all deference, for having selected Bronchocela as the title of my dissertation - I am well aware that my subject is one upon which the highest authorities have differed; and this fact alone will render the task to a mere student, the more formidable; for it is hardly to be expected that he will venture his opinions, even if he may have formed them, without considerable hesitation, to the criticisms of members of the profession upon whom the medical world look as the brightest ornaments of the different departments of science they profess. - Still however if the mere fact of his writing shall only have the effect of exciting a slight degree of interest among these, regarding an obscure and peculiar disease, an *Ind.* and I maintain, a great one, and one sufficient to repay him for his task is answered -

The disease

The disease then which forms the subject of this Essay is one peculiarly interesting, not only from its endemic character, being confined to certain districts and connected in some way with the tract of country where it is prevalent; but also from its affecting an organ of the body the functions of which in the animal economy are so little known, even in the present advanced and enlightened state of Medical Knowledge - Its situation and external appearances give to it a distinct and positive character, possessed by few other diseases; and yet there is scarcely any known Malady to which the System is liable, the causes of which have given rise to so much speculation and diversity of opinion and which are at the present time so unexplained and uncertain, as the one now under our consideration -

Limited inquiries confined to our own inland districts may not be sufficient to enable us to arrive at certain conclusions; the investigations must be carried still farther, through the deep valleys of the Alps and Pyrenees, the vast plains of South America, the highlands of Thibet and Tartary, the damp valleys of the islands of Java and Sumatra, and the yet but partially explored regions

regions of Africa &c - where the disease is equally, or even to a greater extent prevalent, while the climate and mode of life of the inhabitants differ essentially from those of our own country -

As this extended enquiry is out of the question, in the present instance however, I purpose more particularly to notice the disease as it occurs in this country (England) in general, and that of my own county (Derbyshire) in particular; and in so doing shall take into consideration the different statements of authors concerning the nature of the affection, as occurring on the continent and in other parts of the world; at least as far as the limits of a paper like the present will allow.

Although an essay of this nature, coming as it does from the hands of a ~~young~~ tyro in the profession, can scarcely be considered in any other light than as a mere compilation, and therefore nearly or altogether destitute of original matter - yet I may mention that I have endeavoured to give it a degree of interest by including what information I have been able to collect from various sources and also a few of the results of my own observations, which I mention to hope may not be altogether devoid of interest - and lastly I may here state

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Obligation I am under, to the various medical men residing in the districts of my own county in which Bronchocele is most prevalent, for the kindness which they have shewn me in coming forward to assist me in my undertaking —

With this short prelude then, I proceed to the subject, treating it in the following order — The History and nature of the disease — its Endemic character — its connexion with Cretinism &c — the causes supposed to give rise to it — and lastly the Medical and surgical treatment —

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The term "Bronchocele" (βρογχος & κηλη) or Goitre \* signifies a swelling on the fore part of the neck, and formerly all tumours in this situation were included under this denomination — This necessarily gave rise to much confusion, as in this region of the body we may find tumours of various descriptions — viz aneurismal — encysted — scrophulous, and the like — The

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Note (\*) Probably a corruption of the Latin word "guttur" —

Vernacular synonyms. — Greek. "Γογγρωγή", βρογχόκηλη — Latin "Guttur tumidum" — "Guttur slobosum" — French. "Goitre", "gouëter" — Swedish. "Struma" — German. "Kropf", "windkropf" — "Lufti'kenbruch" — "dicker Hals" — Italian. "Gozzo", "gozzaja" "broncocele" — Spanish. "Papera" — "bocio" — "beca" "Campanones" &c

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impropriety of applying a term of this nature to diseases perfectly distinct in their character and origin, and equally liable to occur in other parts of the human frame is obvious, and modern physicians very properly confine it to a chronic enlargement or hypertrophy of the Thyroid Gland, sometimes complicated with a morbid growth of the surrounding textures - The disease possesses several synonyms and in England usually takes its name from the particular locality in which it is most prevalent - Thus Prosser, from its frequency in the hilly parts of Derbyshire, called it the "Derbyshire Neck" - a name by which it is generally known in all parts of the country; but it has also received the titles of Warwickshire & Devonshire Neck &c being prevalent though to a much less extent in those counties - I may also mention that Prosser not satisfied respecting the similitude of this tumour to that observed on the necks of women in the Alps, also termed it the "English Brochocele" - Puzos wrote it was named "Tracheocèle"; and by Alibert, "Thyropneumia" -

The antiquity of the disease is obvious; both Pliny and Juvenal make mention of it - it is also described by Celsus. (Lib vii Cap: 13.) who ~~also~~ gives the mode of treatment practiced at his period, which we shall here after notice - Albucasis likewise gives an account of the

of the



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of the affection - his remarks will be found translated  
in Struc's History of Phlegm - he however appears to have  
confounded it with other diseases -

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Bronchocele, in its common or endemic form, has  
been correctly designated a hypertrophy of the Thyroid  
Gland - it generally makes its first appearance as  
a small tumour, sometimes round, sometimes oval, and  
of an indolent character, on the fore part of the neck,  
a little above the sternum, or midway between that  
bone and the chin, in the situation of the Thyroid Gland  
- The whole of the gland is usually the seat of the disease  
but it may affect primarily one or both lobes; and  
occasionally, the middle or connecting portion, (the isthmus  
as it is called by some) is the seat of the disease at  
its commencement - Most writers on this subject  
appear to agree that the right lobe is more frequent-  
ly affected in the first instance than the left; and  
as far as my own observations go this seems to  
be the case - Of a number of cases which I have  
had an opportunity of examining, and enquiring into  
the history of, in more than 2-3<sup>rd</sup> the enlargement  
was first perceived in the right lobe, and in  
several, in the connecting portion of the gland -  
All however are not of this opinion, and in

communications

communications lately received from medical men residing in the Gortous districts, it is stated that no remarkable difference has been observed - I am not aware that any author has ascribed reasons for the greater frequency in the one lobe than in the other - The tumour usually makes its appearance without any previous constitutional symptoms; increasing gradually and slowly at first, as a general rule, and after a time more rapidly; though in some cases it has been observed to enlarge with great rapidity from its commencement - Its growth is not attended with any pain, nor does the person affected, experience any uneasiness, excepting from the deformity occasioned by it - until it attains such a magnitude as to press upon the important parts in the neighbourhood - In most instances after reaching a certain size it remains stationary; sometimes decreases; and now and then though rarely, totally and spontaneously disappears - In old persons it has been observed to shrink and become atrophied, the skin covering it becoming shrivelled and puckered -

In those countries where the disease abounds most, and in its worst form the bulk which the tumour acquires is prodigious and beyond all relief - In some of the valleys of the Alps where  
 Every

Every inhabitant is more or less affected the tumours are  
of so great a size as to be thrown over the shoulder  
for convenience in carrying them - Alibert mentions  
a case of a goitre occurring in a man 38 years of age  
which reached to the middle of the chest, was as  
large as a gourd and similar in appearance to  
a pelican's pouch; and another when the growth  
was of a cylindrical shape tapering and extended  
to the middle of the thigh - Guethier records an  
instance when a tumour of this nature extended to  
the Pubis (\*) - Fracasi in his "Traite du goitre et des  
Cretinisme" mentions a case of a Bronchocelous tumour  
weighing 7 or 8 lbs - A German writer also, one  
when the tumour descended to the knees! - Baron  
Larrey in travelling through the Valley of Maurienne  
noticed that almost all the inhabitants were affected  
with goitres of various sizes, "whereby the countenances  
were deformed and the features rendered hideous".  
The natives of the isthmus of Darien are said  
to be disfigured in a like manner - Many  
other instances are on record, besides those just  
mentioned, shewing the enormous magnitude which  
the disease sometimes acquires, but it would be  
superfluous to enumerate them -  
Happily for us the tumour has never been known

(that

\*1 Vide lectures on Pathology by Prof. Henderson -

(that I am aware of) to attain the large size in this country which it does on the continent - The largest Bronchocoele I have myself seen was about the size of a cocoa nut, or perhaps rather larger; it occupied the whole of the fore part of the neck from chin to Sternum, displacing the Mastoid-Muscles and forcing them outwards - It appears therefore that there are scarcely any limits which the disease may not attain - it may acquire a very large size, or it may be very small in fact merely a fullness or a slight general enlargement of the Gland -

The tumour in its incipient state is usually soft and elastic, but as it progresses it becomes of a firmer consistence, though not equally so in every part, being occasionally hard and unyielding, of a cartilaginous or even bony hardness; or on the other hand it may be soft and spongy - Some writers have divided the growth and progress of the affection into three distinct stages - viz the I<sup>st</sup> or early or congestive stage II<sup>nd</sup> the middle stage of gelatiniform effusion III<sup>rd</sup> the final state of induration - (Christison) - This is on the whole a good arrangement and of importance to remember, as influencing the treatment.

treatment - but at the same time we should hold in view that the disease does not necessarily run through all these stages in every individual, as many cases are to be met with, in which we find no induration although the disease has existed for years - The tumour varies in shape, presenting at first but little outline, but becomes more rounded and full as the disease advances and frequently assumes a lobulated appearance - Jodini states that it is subject to periodical increase and decrease, and although this fact seems to have escaped the observation of other writers on the subject, yet from the accounts given by some of the medical men residing in the goitrous districts of Derbyshire it would <sup>appear</sup> that in some respects it is so - the tumour in many instances enlarging and diminishing at times without any obvious or apparent cause - again it has ~~also~~ been observed to increase during gestation and parturition, and in some cases also at each menstrual period (though this has not as yet been so well ascertained): afterward it diminishes, and in some few instances has totally disappeared; but these are very rare - Among my memoranda I find the following note of a case, occurring in the village where I reside -

Case.

Case - Whittingham - aged 46 years - one of a large family, of which no other member has ever been affected - Has a goitre of the size of a goose's egg or rather larger, situated on the left side of the neck; it is pendulous & moveable and occasions but trifling inconvenience - She states "that it made its first appearance 6 years ago (or at the age of 40) that it came on after a cold, attended with severe cough, and that it has increased during every child birth since (she has been confined 2 or 3 times) but it at times nearly disappears" - She is a native of the village in which she resides - de -

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The tumour is not prone to degenerate into malignant disease although cases are recorded when it has assumed a cancerous character; running through all the stages of that dreadful affection and terminating in ulceration of the carotid artery attended with fatal hæmorrhage - fortunately such complications are very uncommon - Even when the growth has attained the enormous bulk, before mentioned, the integuments covering it rarely ulcerate or undergo any important change, excepting that the superficial veins become varicose; as is the case with most tumours of a

large size - There is also but little disposition to take on inflammatory action, and when this does occur, it may usually be referred to some accidental circumstance, as a blow or other injury -

Bronchocele in our own country is a disease chiefly confined to the female sex. and is rarely seen among males; the proportion of the latter to the former of those affected being very small - In Derbyshire, as far as I have been able to ascertain, the average is rather less than 5 males to every 100 females - The late Doctor Manson of Nottingham, in his Valuable Work on Iodine, mentions that out of 120 cases, which came under his notice in the way of treatment, 15 were males.

Of 49 cases admitted into the Hampshire Infirmary during 10 years, there was only one male out of the whole number - Doctor Forbes states that out of 190 cases treated at the Chichester infirmary and dispensary, only two were males (this was during a period of 9 years -) and both these "were boys of a feeble habit of body, and very backward for their age" (\*) On the continent however, and in other parts of the world when the disease is found in its worst form, the proportion is much larger, and in some of the Swiss valleys males and females are indiscriminately affected -

Those



\* Note - Of 111 Cases of Gout treated by Doctor Paley - Only seven Males  
of 993 ~~patients~~ patients treated at the Ripon  
Dispensary 19 were affected with Gout of whom  
two were Males -

See Hughes on English Botanicale 1030

\* See Lectures - on Practice of Medicine -

Those of a weak and lax constitution with fair skin light hair and of scrophulous diathesis appear to be most subject to it; and a robust male is never to be seen with a bronchocle; at least not in this country - Goitre commonly makes its appearance about the age of puberty, and the greatest proportion of cases shew the commencement of the affection between the ages of 14 and 21 - Some writers assert that the earliest period of the enlargement of the gland is 9 years, others 7 years - This however is by no means the case as I have myself seen many children under that age affected with it; and very lately four cases came under my notice where the disease had existed from birth - In the London Medical Repository is mentioned an instance of a child in Derbyshire, who was born with the Thyroid gland enlarged to a considerable size - Dr. Elliotson says "at different times when I have been in Switzerland, I have made inquiry about it of the country people and of my guides; and one old peasant told me, that he knew an infant who was born with a goitre; and I myself saw one in a little boy only four years of age - However the answer I usually received was that the disease seldom appeared before six years of age, nearly agreeing with what is usually stated by authors -" (\*) Other instances of the disease

\* Note - Bronchocele has also been observed in a congenital form in the human subject. by the following authors  
M<sup>r</sup> Menzies - Transactions of Med & Phys. Soc. of Calcutta. Vol. vi  
D<sup>r</sup> Hoyle - Treatise on English Bronchocele 1830 -  
D<sup>r</sup> Campbell - Calcutta Transactions. Vol. vii -  
M<sup>r</sup> Baillie Haier. - Work on the Himalayas -

being congenital are mentioned in different works  
 Professor Mondini records a case of Bronchocele in  
 the foetus - The subject was a male child, born dead, but  
 it was evident that it had been alive to within a short  
 time of its delivery - The tumour was of very large size  
 and produced great deformity - The particulars of this  
 case will be found in the British & Foreign Medical Review  
 vol. 11<sup>th</sup> \* Note -

Again we find the disease occurring at an ad-  
 vanced age, though this is by no means common;  
 thus Dr Manson met with 6 cases between the ages of  
 40 and 50; and 4 between 50 and 60; but this account  
 is not to be much depended upon, as some of the  
 individuals had had the affection for some years - I  
 have seen a few instances however of the gland be-  
 coming enlarged at an advanced period of life; and  
 in the case of Whittingham (page 12) the disease first  
 made its appearance at the age of forty -

When the growth has made considerable progress  
 and has attained a large size it is apt to become  
 a source of great inconvenience and even danger  
 from its pressing on the important parts in its neigh-  
 bourhood as the oesophagus and trachea; producing  
 impediment to deglutition and respiration - This ob-  
 struction to the free passage of air into the lungs, is in

Some

Some instances perceived even when the tumour is of small size, and again in others it may be very large without causing it — The difficulty of breathing is in general much aggravated by increased exertion as running, ascending stairs &c. Hajani observes "that this obstruction to the respiration may be highly dangerous, by disordering the pulmonary circulation, rendering the pulse irregular and intermittent, and exciting a strong throbbing in the region of the heart, being followed by fatal disease of the lungs themselves; consequences often not suspected to have any connexion with Bronchocele, although in reality, it is the immediate cause of them" —

By pressure on the carotid arteries and in this way interrupting the supply of blood to the brain, the structure and functions of that important organ may be much affected; and in the same manner by preventing the return of blood by the Jugular veins it may give rise to a sense of fulness in the Brain; giddiness; headache, and even fatal Apoplexy. Again by compressing the important nerves in the vicinity it may cause disturbance of function of various organs, as the lungs — stomach be producing dyspepsia, dyspnoea &c. — Professor Monro mentions in his lectures "that persons affected

with

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large goitres suffer from imperfect oxidization of the blood" - Hoarseness of the voice - flushings of the face, wheezing and coughing are also attendant symptoms and often when the tumour is of moderate size - The following case illustrates well the danger and inconvenience resulting from the presence of a large Goitre -

- Case -

Case — Oct. 34 - admitted into the Hospital of Lungesy  
Panton Square St James's London - 1826.

In the situation of the Thyroid gland is a most enormous tumour - which reaches from the pinnam Adami to the sternum and clavicles - The right lobe of the gland is more enlarged than the left and projects from the neck to a great degree - No large arteries can be found pulsating on its surface, nor can the situation of the Thyroid vessels be discovered - Several large veins are seen ramifying over it, and the external jugular veins are distended to a great size - She complains of great difficulty in respiration, accompanied with cough and a distressing feeling of suffocation, also of difficult deglutition - She has frequent distressing sensations in her head and suffers much from vertigo, even to such an extent that she is frequently unable to walk; and at times is affected

with

(\*) See lectures on Pathology by Prof. Anderson -



with most severe headaches - The disease is of several years standing but has lately increased with great rapidity &c. (See Lancet Sept. 1826) -

Mr Siston found it necessary to divide the Sternomastoid muscle to relieve the pressure, caused by the presence of a large goitrous tumour, on the trachea and the parts in the vicinity - The subject was a man aged 43 - and the disease had existed only 6 years - The operation had the effect of relieving the tension - (For the particulars of this interesting case, see Lancet, March 28. 1840)

Dr Baillie met with one or two instances in which death took place from pressure of the tumour on the oesophagus and trachea -

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On dissection the tumour is found to consist of a number of cells of various sizes, which have been supposed by Hodgkin (\*) to be the natural cysts of the gland enlarged by fluid effused into them; these contain a yellowish gelatinous fluid, consisting of transparent vesicles - Mr Goodwin informs me that he has examined these under the microscope and finds them to be organized multicelled cells - The morbid appearance has been described by Dr Baillie as follows - "When a section is made of a Thyroid Gland affected with Goitre, it is found to consist of a number of cells which contain

(\*) *Morbid Anatomy* by Dr. Baillie p.p. 87, 88 —

contain a transparent more or less viscid fluid - These cells vary in their size in different parts of the same gland, and in different swellings of the same kind in different individuals - Some of them are so large as to be able to contain a small pea, but most of them are of smaller size - The viscid fluid, when the gland has been preserved some time in spirits, is changed into a transparent jelly - From this account of the morbid change of structure which takes place in Bronchocele it seems not unreasonable to suppose that the swelling depends upon a vitiated and increased secretion in the gland - The secretion, being large in quantity, gradually distends the cells, increasing thereby their capacity, and the enlargement of the cells forms the general swelling of the gland<sup>(\*)</sup> - In some instances these cysts have been found to contain a bloody serous fluid, and in others steatomatous, earthy, and even bony deposits. The late Dr. Manson, in his work before referred to, states that he has seen 3 cases of bony deposit in the enlarged gland - The first was a female subject, dissected by Professor Union and Dr. M. in Edinburgh, in the winter of 1810 - She was 25 years of age - The second, in a female also 30 years of age an out patient of the Nottingham General Hospital.

In both

"In both these instances the bony tumour was of a lenticular form, and appeared to be produced by the membrane covering the anterior part of the enlarged gland." The third example was found in an old woman, in the substance of the gland, which was but slightly enlarged and contained two irregularly formed bony masses, one of the size of a hazel nut, the other of a cherry stone - Mr Lawrence in his lectures on this subject is in the habit of exhibiting a piece of a completely bony texture, which was taken out of a Thyroid Gland - I have seen an instance of this kind myself, while assisting at the post mortem inspection of a patient who had died suddenly in the Derbyshire Infirmary - In this case the gland although not very much enlarged was found changed in texture, the lobes being ossified - the patient was a middle aged man, and during life had not experienced any uneasiness from the presence of the growth - Dr Maille also says "that this gland or a part of it is occasionally changed in old people into a bony mass, but that this is of rare occurrence" - Dr Hedemus of Dresden states that he has almost uniformly found the enlarged gland to be in part converted into cartilage or bone - Celsus thus briefly describes the appearance on dissection - "Modo caro hebet,

(†) *I. ib* vii. Cap. 13.

(\*) *Rat. Medendi*, pars vii. p. 285-

modo humor aliquis, melli aqueae similis, includitur; interdum etiam minutis ossibus fili immisti" — (†)

By some authors the tumour has been described as consisting of hydatids, filled with a transparent colourless fluid; and a remarkable case will be found in Gooch's Surgical Observations, where death was suddenly occasioned by one of these cysts making its way into the trachea — Instances are on record in which the growth, on being dissected, exhibited a complication of almost every variety of structure —

De Haen mentions a curious example of this kind which from its interest I here transcribe — "In cadavere horrendam mole thyroideae glandulae tactus, publice dissectui. Mecum auditores mirabantur nullum fere genus tumorum dari, quin in hac sola thyroidea inveniretur — Hic enim steatorna, ibi atheroma, alio in loco purulentus tumor, in alio hydatidus, in alio erat coagulatus sanguis, fluidus fere in alio, imo sine glutine locus plenus erat, alibi calce cum sebo mista," &c. (\*)

Dr. Crawford referring to the great variety of the contents of tumours of this nature says "that these circumstances countenance the opinion that the same causes may produce most of the different kinds of tumour, the modifications depending upon the difference

of life

of site, habit of body idiosyncrasy" In How far this opinion may be correct remains yet to be ascertained; at present we have no data on which to found fixed and certain doctrines on this subject —

I may state further in regard to the post mortem appearances of the disease, that some supposed cases of Bronchocele have been found on dissection to depend upon a morbid condition of the cellular membrane surrounding the gland which itself remained unchanged — Pusulent deposits are rarely found — In all cases when the tumour has attained a large size, the vessels supplying the part, as might be expected, are found enlarged —

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The diseases with which Bronchocele may be confounded are various, and it is important to distinguish between these in order to form a correct diagnosis, as influencing much the treatment required. Thus in the same situation as the affection of which we are treating may be found Carcinomatous disease Aneurism - Enlarged Lymphatic Glands - Encysted Tumours situated in the course of the trachea &c - Acute inflammation of the gland may for a time put on the appearance of a goitre, but will in general be distinguished by the swelling progressing more rapidly

and

and not attaining to large a size as the other; by its being painful on pressure, and liable to terminate in suppuration, and accompanied for the most part with general disturbance of the system - The Thyroid body too is perhaps less liable to attacks of acute inflammation than other glands of the body, although occasionally the seat of it -

Scirrhus of the gland will also be distinguished from goitre, by its greater hardness, the lancinating pains and by its recurring generally in advanced life - The system too will indicate that something more than a mere hypertrophy of the gland exists - The rarity of the affection must be also taken into consideration, although this has been doubted by some - Thus Mr Hawkins of St George's Hospital stated, at a meeting of the London Medical Chirurgical Society, that it was his belief that the Thyroid body was more frequently the seat of primary disease than is usually supposed - Case. Mr H. brought forward a case of this nature in which it appears that the disease commenced late in life, and the post mortem appearances of which were as follows - The tumour which extended on both sides from the Thyroid gland was found to have attained a large size, and the parts adjacent to the larynx and oesophagus were involved in its texture which presented all the appearances of



-ances of true Scirrhus - A large ulcer opened on the sur-  
 -face of the oesophagus, where the tumour was adherent  
 to that tube; and another ulcerated opening into the  
 trachea immediately below the cricoid cartilage - The  
 right internal jugular vein was closely adherent  
 to the tumour, its coats having been absorbed at one  
 part, and a small portion of the morbid structure  
 having projected into its interior - The pneumoga-  
 stric nerve was much flattened & its fibrils were  
 separated so as to present a plexiform appear-  
 -ance - the carotid artery was deeply imbedded  
 in the tumour - In describing the Thyroid gland  
 Mr Hawkins observed that this body had nearly dis-  
 -appeared the only part remaining being a small  
 part of the left lobe. &c. &c. Mr H. mentioned five  
 other cases of a like nature which had come under  
 his notice - Alibert states also that he has seen  
 a true goitre terminate in cancer - These cases are  
 however comparatively very rare -

Aneurisms will be known by their knotted ap-  
 -pearance after exertion by their softness and com-  
 -pressibility in the early stage, and by their strong  
 pulsation - Enlarged lymphatic glands will be  
 readily detected, by the tenderness of the parts on  
 pressure, by being accompanied for the most  
 part

part with swelling of the surrounding textures and by the general health being affected - Again Encysted Tumours will be distinguished by their possessing a greater extensibility of form, often by a sense of fluctuation perceived on pressure and by their being more moveable and elastic.

There is also another description of tumour found occasionally on the fore part of the neck, sometimes described under the name of Bronchocela, and which has been termed by Baron Larrey, who first pointed it out, "The Real or True Bronchocela" - as a description of this may not be uninteresting and as it bears upon the subject I subjoin Mr. Larreys own account of it - He says "Real bronchocela" consists of one or several tumours filled with air, which during its compression in the upper portion of the trachea, the larynx or the mouth, has produced small hernia of the mucous membrane; these tumours rapidly increase in size, so as not infrequently to exert a violent pressure on the vessels of the neck - They are situated in front, or the sides of the larynx between the hyoid bone and the thyroid cartilage, or between the cricoid cartilage and the first tracheal ring, and are invariably produced by violent exertion - The most characteristic symptom of this kind of Bronchocela

consists

"consists in the disappearance of the tumour under com-  
 "pression - In Egypt we frequently observed this kind of  
 "Brouchocele in the blind, who are very numerous there  
 "and who are employed by the priests to chant at the  
 "top of the minarets - It generally happens that after  
 "2 or 3 years such persons become totally unfit for  
 "the office on account of the occurrence and subsequent  
 "increase of their tumours" - W. Larrey had also an  
 opportunity of observing two cases of this kind occurring  
 in two subaltern officers, who for a considerable time  
 had been employed as military instructors - One of them  
 had near the larynx two tumours, which were free  
 from pain, and crepitous on pressure, they were of  
 equal size & of a globular form, and the skin by  
 which they were covered was rather tense, but with-  
 out any morbid alteration - both individuals had  
 almost entirely lost their voice being unable to make  
 themselves understood by words, except whilst for-  
 cibly compressing the tumour - They were also  
 obliged to breathe with their mouths wide open -  
 In consequence of the continued pressure on the vessels  
 of the neck the jugular veins had become enlarged  
 & they suffered greatly from congestion within the  
 head - The application of bladders filled with ice,  
 and of graduated compresses with Caraphorated  
 Spirit.

Spirit acid the Liq: Acumou Acetatis greatly reduced the size of the tumours, but did not prevent their reappearance on the least exertion - (Clinique Chirurgicale)

Many of the characters assumed by the above mentioned affection, resemble those of Goiter, but there will be no difficulty from this description in distinguishing between the two - The affection is moreover of rare occurrence, and I am not aware of any report of such cases happening in this Country - Dr Crawford thinks that such tumours might with more propriety be called "*Hernia Gutturis*" or "*H. Bronchialis*" - and would rather include such cases among the spurious Goiters -

We find again other instances in which cysts filled with various matters, as purulent pultaceous or heme found around the gland, also tumours in the same situation consisting of condensed cellular tissue; and further the gland has been found to be surrounded with adipose deposit, it, in all these last mentioned cases, suffering no change - Lastly I may mention that Mr Saund. Cooper states that he has seen a preparation of *Jungus Haematodes*, of the Thyroid Gland which had been mistaken for Goiter -

In the diagnosis of *Brouchocele* then we shall find that a little careful discrimination, with attention to the existing state of the patient - and a knowledge of

ledge of the previous history of the case, will assist much in determining the character of the disease -

Strachocoele prevails endemically to a greater or less extent in every quarter of the Globe being found chiefly in Alpine districts and in the plains and valleys adjacent, but to this however there are many exceptions - In our own country it abounds in the northern division or Peak of Derbyshire, when it is not confined to particular spots but prevails more or less throughout the whole district - It is found also in the Counties of Devon - Nottingham York &c and Dr Reeve states that it is very common in Norfolk - It is I believe comparatively rare in Scotland, although I have heard of cases occurring in the neighbourhood of Currie and Permick, and we have no record of the disease existing in Ireland -

On the continent of Europe it is met with in its worst form being complicated with Cretinism (of which we shall speak presently) in the valleys of the Alps Appennines & Pyrenees - In Carnithia, Savoy, and Vallais, (which Doctor James Johnson denominates "the head quarters of Goitre & Cretinism") and in the mountainous districts of Germany France & Spain -

On the continent of Asia; it has been noticed in

(\* ) *Outlines of Medical Jurisprudence by Prof. Verrill -*

various parts of India, particularly in the provinces of Nipaul & Behar; in the Himalaya mountains, and the mountainous parts of Thibet, China, & Tartary, the Islands of Java & Sumatra &c -

In America both North and South, being frequent in the close damp valleys of the South American Cordilleras and has also been noticed by Doctors Spix and Mercurius as a very common disease, but uncomplicated with Bretonism, in the hot and damp valley of the Rio Paraiaba in Brazil (\*) - Humboldt mentions its occurrence in Mexico and the valleys of the Andes. - It also prevails to a great extent in the isthmus of Darien, and in our own Canadian Provinces is exceedingly common, and more particularly in those along the sea coast -

Lastly it may be mentioned that on the continent of Africa, the great traveller Mungo Park observed it among the Negro's of Barbary, and in Maubere along the course of the Niger -

Such is a brief outline of the various localities in the different parts of the world, where the disease is endemic; it is however sufficient to shew that there is hardly any country with which we are acquainted which can be said to be totally exempt from it - We shall have occasion  
shew

When considering the various causes of the affection, to particularize more fully on this part of the subject -

Regarding the connexion of Goitre with Cretinism or Idiocy, I may be very brief - as it is a combination never, as far as I have been able to ascertain, to be met with in this country although exceedingly common in other parts of the world - I have said that the two affections are never found conjoined in the same individual in this country, yet it is a curious fact that in some of the districts of the Peak of Derbyshire where Goitre abounds, there are a larger proportion of persons of weak intellect, than in other parts of the country where the disease is absent - I may mention the districts in the neighbourhood of Matlock and Cromford &c as examples - The following case, which I received a few days ago from a medical gentleman residing in Derbyshire, affords a good illustration of what I have just mentioned -

— — — — — Case  
 Case 15. of fair complexion - Auburn hair -

The disease has existed for 8 years - Has resided in the Peak of Derbyshire until the last few years - Her mother and Grandmother both suffered from a similar complaint, and four other members

of the



family are affected with it. - Her uncle, a youth of about 16 years of age, although he has no goitre has extremely feeble muscular development, and is idiotic - and several of the mother's family have died consumptive -

It is however on the Continents of Europe and Asia, in the Swiss Valleys and among the Himalayan Mountains, that the two diseases go, as it were, hand in hand together - Thus in the valleys of the Alps & the cretins are rarely if ever, free from Goitre, but at the same time it should be borne in mind that all goitrous persons are not necessarily cretins - It seems highly probable, from the fact of the two diseases prevailing endemically in the same districts, that the same causes give rise to both, as will be seen hereafter - Doctor James Johnson in his amusing and interesting work on "Change of Air" he gives the following melancholy picture of the Breton Race - he says "From common Brochocele, and a state of body and mind bordering on health, down to a complete destitution of intelligence and sensibility; in short to an existence purely vegetative, cretins present an infinite variety of intermediate grades filling up these wide extremes - In general, but not invariably goitre is an attendant on cretinism -

The stature is seldom more than from four to five feet, often much less - the head is deformed in shape and too large in proportion to the body - the skin is yellow, cadaverous, or of a mahogany colour, wrinkled, sometimes of an unearthly pallor with unsightly eruptions - the flesh is soft and flabby - the tongue is large and often hanging out of the mouth - the eyelids thick - the eyes red prominent, watery, and frequently squinting - the countenance void of all expression, except that of idiotism and lasciviousness - the nose flat - the mouth large, gaping, slavering - the lower jaw elongated - the belly pendulous - the limbs crooked short, & so distorted as to prevent anything but a waddling progression - the external senses often imperfect & the cretins deaf & dumb. - The "out Ensemble" of this hideous abortion of nature presenting the traits of premature old age! Such is the disgusting physical exterior of the apparently wretched but perhaps comparatively happy cretin! - If we look to the moral man (if man he can be called) the picture is still more humiliating - the intellectual functions being as it were, null - while certain of the lower animal functions are in a state of increased activity - The cretins are voracious & addicted to  
 low

low propensities, as masturbation &c. To eat and sleep form their chief pleasures - Hence we see them between meals basking, in nonchalance on the sunny sides of the houses insensible to every stimulus that agitates their more intelligent fellow creatures - frequently insensible to every call of Nature herself! - Happy may we consider ourselves, that no such complication exists in our own country - I may further mention that in some instances the bodily deformity is not so remarkable as that mentioned above; weakness, with flaccidity of the soft solids, with enlargement of the Thyroid gland, constituting the extent of the infirmity -

I have before said that it is extremely probable that the two diseases proceed from the same cause or causes, their acting with different degrees of intensity; and this opinion is supported by the fact that in the Vallais, and in the gorges and ravines opening on its sides, both Cutaneous and Bronchocæle are found in their worst forms; on ascending the neighbouring mountains, cutaneous disappears, and goitre only is observed; and at certain altitudes both maladies vanish - Again, as we have the one disease in this country, in a comparatively mild form it appears not unlikely that the causes which give rise to it, would, if sufficiently powerful, produce

(\*) See *Lancet* Nov: 19. 1842.~

produce Bronchocle of a worse character and also Cretinism - Other opinions have been advanced as to the origin of Cretinism independently of its connexion with Goitre - Thus Doctor Elliotson states that the cause commonly ascribed by the lower orders in Switzerland is the drunkenness of the parents at the time of begetting the child - of course this is absurd -

M. Marchant a native of the Pyrenees, and a physician who has paid much attention to the study of Cretinism and Goitre in that region, considers too frequent intermarriages as one of the most powerful predisposing causes; according to his account, the inhabitants of a Pyrenean village (in the region of the narrow valleys) seldom ally themselves with those of any other village in their neighbourhood, and thence necessarily results a degeneration of the race - He adds, that the influence which this custom exercises, is so powerful that it is not uncommon to meet with Cretinism in wealthy and noble families of the Pyrenees, who in every other respect are placed in circumstances far from having any tendency to invite its occurrence (\*)

Others as Jodere, Pucelle &c are of opinion that a bad quality of the atmosphere, poor food, the neglect of moral education, and other evils necessarily attendant on poverty are

are causes quite sufficient to account for the existence of Ecstremism - Whether these can be considered as really so, will be seen when discussing the general causes of Bronchocele -

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We now proceed to investigate that part of our subject which may be considered as by far the most interesting but at the same time the most difficult viz "The Causes of Bronchocele" - It is here that so much diversity of opinion has existed, and notwithstanding all that has been said and written on the subject, still exists, each new theory which has been advanced, as accounting for the disease, tending to all appearance only to overthrow those preceding it, without itself laying any ground work for a more tenable hypothesis.

So little indeed is known regarding the nature and functions of the organ which forms the seat of the affection that it is not to be wondered that its own peculiar diseases, and particularly the one now under consideration, should also be involved in obscurity; and hence the discrepancies and variety of conjectures which have arisen regarding it.

The alleged causes of Bronchocele may with propriety be classed in I<sup>st</sup> General and II<sup>nd</sup> Local.

or Endemic - in which order we propose to consider them and in so doing shall mention the different views of the various writers on the subject, and the objections to which they seem liable - Before however proceeding to treat of these derivations we may briefly state that whatever may be the primary source of the affection there appears to be but little doubt as to the hereditary disposition to it, and that it is capable of being transmitted through successive generations - for we find it occurring in individuals to all appearance removed from every known cause liable to produce the affection and where we have no other means of accounting for its existence; and further we have instances of the disease affecting various members of the same family although separated from each other, living in different parts of the country, and in situations where no goster had previously existed. This strong predisposition may no doubt be acquired by individuals and in this manner be entailed upon their offspring - Thus in the case mentioned at page 30 - we see that the grandmother, mother and four other members of the same family, besides the subject of the case, were affected - and Doctor Crawford states that he has known a woman with goster, whose grandmother, father, paternal aunt,

and

and cousins also had it - Of 43 cases lately examined cases - by myself in one day, in 27, other members of the family were affected - among these were two remarkable instances; in the one, the tumour was congenital, and the mother, 3 sisters and two brothers were also goitrous; in the other, the disease appeared at the age of 17, and the father, mother, and four sisters were similarly affected showing the strong hereditary disposition in the two families - In fact unless we bear in mind this hereditary tendency we shall have some difficulty in accounting for some of the various alleged causes, which appear comparatively simple when we consider that they are merely excitants of the disease in a constitution previously disposed to it - Such is the case we apprehend in most or all of those which we have comprehended in the First Class which we now proceed to consider -

I. Of the General Exciting Causes. Under this head may be classed those agents liable in a greater or less degree to affect individuals in every class of society and not essentially dependant on any peculiarity of climate or country, diet, habits of life &c which come more properly under the Second Class -

Violent exertion, as the lifting and carrying of heavy burdens, particularly on the head, has been frequently  
alleged



alleged as a cause of Bronchocele - This however is open to much objection inasmuch as we see the disease affecting females chiefly, who are, comparatively speaking little exposed to the influence of such a cause - and we would expect, if such was the case, to see the Malady prevailing amongst the Fish wives of Scotland, who are known to sustain enormous weights from the forehead, by which the muscles of the neck are thrown much into action - Indeed it is not improbable that this, instead of giving rise to the disease, might have an opposite effect, by increasing the strength and development of the parts around the gland, which would thus be subjected to a certain increase of pressure - I have before me notes of two cases, the one of a lady, & the other a stout healthy Nurse maid, neither of them previously affected, nor any known predisposition, in whom the tumour was supposed to originate from the carrying and nursing of a heavy child, but I think that other causes must have been acting here and particularly because others residing in the neighbourhood were affected - I am told also that the disease is not uncommon among the frame work Knitters of Leicestershire and Nottinghamshire &c and my informant states his belief that it is from the violent, <sup>& long continued</sup> exertion required in working the machines.

Perhaps

Perhaps however the more probable mode of accounting for its prevalence among this class would be, that the confinement want of exercise and poor living to produce a debilitating effect upon the system and so allow other causes to act with greater facility - Again, vomiting and violent coughing, from straining the muscles of the neck &c and causing congestion, have been said to give rise to the disease - we are in want of authenticated cases to prove this -

Further Bronchocele has very frequently been observed to make its appearance in females, either during the time of utero gestation or soon after Parturition - I have by me several cases in proof of this - one of which I now transcribe, as it came under my own particular observation (the woman being a resident in my own village); it appears to me a very remarkable one, and shows at the same time the strong disposition to the affection in different members of the same family; the same cause giving rise to its development in all -

Sarah Taylor - Aet: 46. of a weak and nervous habit - Case.  
 Married, with a large family - First perceived a swelling of the Thyroid Gland at the age of 29, or 14 years ago, after her first confinement. States that she has two sisters similarly affected, and in each, the disease  
 also

(\*) Note - Dr. Copland states that in two cases occurring in married females under his care, unhealthy or irregular menstruation had existed during the continuance of the gonitoe, in one case for 8, in the other, for 5 years; upon its disappearance, pregnancy took place in both -

(Dict: of Practical Medicine)

The same author states further that suppression of the menses has sometimes caused its sudden appearance and rapid development -

also commenced after their first labours. The right lobe was first affected - the swelling now occupies both lobes of the Gland - is of large size - occasions but little pain, but she sometimes complains of fullness of the head giddiness &c. - I may state further that the disease has not yet shewn itself in any of the children of this female - she was originally a native of a small village about 3 miles distant from her present residence -

There seems little doubt of the correctness of the supposition that the disease is liable to be influenced in its origin and growth, by the changes which take place in the uterine system, acting probably as exciting causes - for as before shewn the tumour is subject to increase and decrease during the occurrence and intervals of the catamenial discharge in some cases. and this idea is I think borne out by the fact, that in the majority of instances the tumour makes its first appearance at the age of puberty, and also that it chiefly affects females. (\*) See note.

Cold has likewise been ascribed as an exciting cause of Gortea, but its prevalence in the tropical regions of the globe as for example Bengal Barbary &c will render this opinion fallacious -

The late Doctor Parry of Bath mentions that he

had.

had often observed Bronchocele to follow Epilepsy and other Maladies in which the blood is impelled with excessive momentum to the head, and has also remarked a frequent coincidence either as a cause or effect between enlargement of the Thyroid Gland and cardiac diseases - and another modern writer mentions three cases of this complication - Hajani also details a case where this disease was accompanied with extraordinary palpitation of the heart; but here his own remarks may be brought to bear (as quoted page 16) "that the obstruction caused by tumours situated on the trachea, to respiration, may be highly dangerous by disturbing the pulmonary circulation, rendering the pulse intermittent, and exciting a strong throbbing in the region of the heart" &c - Thus much then for the alleged general exciting causes - in all of which, and then are many others which it would be needless to mention, we repeat, there is reason for believing that some predisposition to the affection exists and that such causes only tend to its development -

II Of the Local or Endemic Causes - To this class may be referred those causes affecting, not merely individuals but whole communities according to the circumstances in which they are placed being favourable to the production

production of the disease, or otherwise - of these are diet and habits of life of a particular kind - The use of snow water and of water impregnated with calcareous and other mineral matters, and lastly, peculiarities of climate and country -

First of all, with regard to particular diet and habits of life, as a cause producing Brouchocele - Doctor Macon Good ascribes the prevalence of this disease in Derbyshire to the general use of the oat cake as an article of food among the lower orders - the disease being however comparatively rare in Scotland, and in other districts where the oat cake is I believe made use of to a far greater extent than in Derbyshire, and moreover being common in countries where no such food is ever eaten, will under this argument be unavailable - Dr. Good states further that the poorer inhabitants are only affected - this is usually not the case, and perhaps if he had used the word chiefly in place of only, the remark would have been more correct - for Brouchocele is to be found amongst the rich as well as the poor, though certainly to a less extent, which, it is probable, is owing, in some measure, to the former seeking Medical advice, immediately upon the first appearance of the complaint, having  
 greater

greater facilities for so doing - while the latter, in this, as in other cases, are too apt to allow the disease to run on to a greater length; more particularly from the general health being little or not at all affected, before applying for relief, and when this is afforded too often neglect the means necessary for its removal -

At the same time there is no doubt that the advantages of good living and clothing with regular habits, will have the effect of lessening the tendency to the development of the Malady - It has been asserted that the exposure of the neck in females is the cause of the greater prevalence of Goitre among that sex - it is however very doubtful whether this has any influence over it, and further observation is necessary before such a proposition can be received - for if such were the case - Why should not the affection be more general? -

Respecting the effect produced by the habits of life of different classes of individuals on this disease, Doctor Elliotson makes the following remarks from personal observation of the habits of goitrous persons in Switzerland - he says "it is found to prevail most where the people are badly off - It prevails in a particular valley in Switzerland most frightfully and there is been more poverty and wretchedness than

in almost any other part - The inhabitants are dirty and ill fed - In the countries where it is prevalent, the inhabitants have a dirty and brown look and appear withered, as if they were in premature old age - It seems that the causes which produce the disease, are those which poison the habit generally, and render it more liable to be affected by the causes of this particular disease".....

"My own guide told me that when the people were dirtiest and the worst fed they were the most subject to the disease" - He further states that the malady prevails more among the Catholics than the Protestants, which he conceives to arise from the latter being better off, and much more cleanly in their habits, than the former - Dr. Revere also ascribes the prevalence of botulism to the same cause and from the individuals affected living in houses built up under ledges of the rocks, and all of them very filthy, very close, very hot, and miserable habitations - He states that it is looked upon as a disease belonging to indigence and poverty, and that it may be prevented by removing children away from the confined and dirty places where it prevails, and nursing and educating them in the higher parts of the mountains - Other writers



have adopted the same views, as the above mentioned gentlemen respecting the influence of filthy habits and uncleanness of person on our Goitre and Cretinism - That these may tend to the development of the Maladies in question, where there is a predisposition to them, and where other causes are acting, may be probable - but it is to be feared that in our own country even they would prevail to a much greater extent, if bad food and want of personal cleanliness were the true causes of Goitre and Cretinism - Besides as a further objection to the above opinions, we may mention, that it is a fact now well established from various observations and researches, that Bronchocele is found much more extensively in the rural districts, than in large towns and cities, which is quite contrary to what we should expect to see, if the origin of the affection depended exclusively on filth and destitution -

Bronchocele has been supposed by some to be influenced in its origin and growth by the avocations of those affected, and it has been said, that Factory children are more disposed to the affection than those following out door pursuits - In answer however to some questions on this subject, I received

the

the following statement from Mr Payer, a medical gentleman residing at Wicks worth, who, from his attendance on the working people employed in the extensive establishment of the Messrs Arkwright, has had ample opportunities for observation. He says, "I am not aware that Bronchocele is peculiar to any employment - It is certainly not more common among factory children than others - I examined a few months ago the whole of the work people, employed at Mr Arkwright's Mills (nearly 1000) at the request of Mr Phillips, one of the Factory Commissioners, with whom I have had a good deal of correspondence on the subject of Scrophula. The result of this examination satisfied me that neither Scrophula nor Bronchocele prevailed so much among this class, <sup>of young People,</sup> as among others of the same grade, whose earnings did not enable them to be so well fed, or clothed, and who were more exposed to the inclemency of the weather."

From the time of Pliny until Mr Marsden published his history of Sumatra, the use of Snow Water was ascribed by many as a cause of Goutte - a theory which is at once overthrown by the following objections - That Bronchocele prevails to a greater or less extent in the islands of Java and Sumatra,

\* See further on this subject. D<sup>o</sup> Richardson's observations  
mentioned pages 48-49 -

in parts of South America and Africa to where snow has been never known to fall - The natives of Greenland and Lapland too, make use of scarcely any other water, both for drink and culinary purposes, and yet we have no evidence of the existence of the disease among them, indeed it is pretty well ascertained, that such is not the case - It is likewise unknown in some parts of Northern Asia and America where the rivers are exclusively supplied by the melting of snow on the mountains - Again the Swiss who drink snow water are free from Goitre, whilst those who use hard spring water are commonly affected - Further, it has been remarked that in the Alps and in other high ranges of mountains, the inhabitants of the higher regions, and those consequently living nearer to the glaciers are least liable to attacks of Goitre - In the Peak of Derbyshire, where the disease is so universally prevalent, the falls of snow, I need scarcely mention, only occur during a portion, and that often a very small one of the year - Lastly, snow water itself is naturally pure and free from those mineral impregnations so generally found in the waters of Springs and rivers -\*

The next local or Indemic cause, which we have

have to notice, is, the use of water impregnated with calcareous and other matters - For a long time this has been the opinion most generally adopted by the Profession, and has met with many supporters, and certainly the facts stated in favour of it are very strong - To detail the whole of these would far exceed the limits of a paper like the present; I therefore purpose to notice those of more particular interest, and the results of more recent observations on this subject -

The late Doctor Manson of Nottingham expresses his belief "that Gout is occasioned by something in the well or river water used by persons residing in the districts where the disease is endemic, and not by ice, or snow water, as formerly supposed" - and as a proof of the correctness of his assertion, brings forward the following statement of Doctor Richardson, who accompanied Captain Macklin in his arduous Expedition to the American Polar Regions - "Rheumatism or Gout", he says, "is a common disease at Fort Edmonton, on the banks of the Saskatchewan River - I examined several individuals affected with it, and endeavoured to obtain every information on the subject from the most authentic sources - The following facts may be relied on - The disorder

only

(\*) Franklin's Narrative of a Journey to the Shores of the Polar Sea -  
pp. 118-119 -

only attacks those who drink from the water of the river. It is indeed, in its worst state confined to the half breed women and children who reside constantly at the fort, and make use of river water, drawn in winter through a hole made in the ice - The men from being often from home on journeys through the plains, where their drink is melted snow are less affected, and if any of them exhibit during the winter, incipient symptoms of the complaint the annual voyage to the coast generally effects a cure - The natives, who confine themselves to snow water in the winter, and drink of the small rivulets which flow through the plains, in summer are exempt from attacks of the disease - A residence of a single year at Edmonton, is sufficient to consider a family Bronchoceleous - many of the goitres acquire a large size, and burnt sponge has been tried, and found to remove the disease, but drinking the water again renews it" (\*) Captain Franklin himself says, that those inhabitants who reside 60 miles nearer the source of the river than Edmonton, are said to be more severely affected than those at Edmonton - and that goitre is unknown at a distance from the river, where nothing but snow water is drunk for nine months in the year.

year; and he adds that still further from the source, than Edmonton is situated, & when the water is still turbid, the disease is unknown also. Fort Edmonton, according to the account of this gentleman, is at a distance of 130 miles from the rocks and mountains. The neighbouring plain is alluvial, and the soil calcareous, with many fragments of Magnesian lime stone. Dr Elliotson states that when in Switzerland in 1826 he was told by his guide that those who drank spring or snow water, which did not run along a bed of lime escaped the affection, as also did those who drank cascade water. He further said that the bad water usually took about a year to produce the disease; but the instant this bad water was drunk by those unaccustomed to it, they found unpleasant effects; and sometimes, he said, they were prevented by putting a bit of ice or snow to it. This account therefore agrees exactly with the statements of Captain Franklin & Doctor Richardson.

Doctor Odier of Geneva gives credit also to the theory of the production of Bronchocela by certain chemical properties in the water of the district where it abounds; and observes that the use of distilled water not only prevented the increase of the swelling, but also

tended



\* Observations on the remarkable effects of Iodine &c. Page 7.

tended to lessen its bulk - Doctor Coriudet mentions that  
 the use of hard or pump water of the lower streets of  
 Geneva brings on Goitre very speedily - \* Humboldt  
 states "that the waters drunk by the inhabitants of  
 Marignite, Honda, and Santa Fe de Bogota, where  
 Porrochoeles occur are not those of snow, but issue  
 from rocks of Granite, freestone and Lime - The  
 temperature of the waters of Santa Fe and Mompox,  
 drunk by such as have the disease, varies from 9  
 to 10 degrees" - He however further observes "that Bron-  
 =choeles are more horrid at Marignite where the  
 Springs which flow over granite are according  
 to my experiments chemically more pure" - Bally  
 and Raumbertan both shew that much is owing  
 to the water in the causation of both Cretinism and  
 goitre - M. Bally who is a native of one of the goitrous  
 districts of Switzerland says, "Porrochoele appears to  
 me to be produced by certain waters which issue from  
 the hollows of rocks, trickle along the cliffs of moun-  
 =tains or spring from the bowels of the earth. That  
 this is the case I may instance some fountains in  
 my own country, (Département du Semour au Hameau  
 de Thuet,) the use of whose waters will in 8 or 10  
 days, produce or augment goitrous swellings.  
 Such of the inhabitants of the above village as avoid  
 these

these waters are free from Goitre and Cretinism." On the  
 other hand Saussure and Foderé deny that the water is  
 concerned in the production of the deformity - The out-  
 -going ideas of the cause of Prouchocele in Derbyshire and  
 Nottinghamshire is the hardness of the water, and I may men-  
 -tion that much of the water of the former county, contains  
 lime in the form of carbonate, while that in common use  
 in the neighbourhood of Nottingham exhibits traces of Sulphate  
 of lime - Most, if not all of the Medical gentlemen, resi-  
 -ding in the goitrous districts of my own county, with  
 whom I have been in correspondence on the subject,  
 agree as to the greater prevalence of the disease among  
 the Limestone districts, and to the water exhibiting, when  
 tested slight traces of lime - The geological structure of  
 these districts, more properly expressed is, Mountain lime-  
 -stone near to its dip under the Grit stone - Mr.  
 Poyser, whose name I have formerly mentioned, and  
 to whom I am indebted for much valuable infor-  
 -mation, states however, "that the water in Wirksworth  
 comes from the Grit stone and is very soft and  
 remarkably pure - I have frequently tested it with  
 various reagents without being able to detect any  
 extraneous matter, and its density is the same  
 as distilled water, or within a fraction - The water  
 of Matlock, as you know, is hard, and coming from  
 the

the Limestone contains a good deal of calcareous earth, and the same may, I believe, be said of that of Bonsale. In Nirksworth, the disease prevails as much or nearly so as in the two places mentioned. The geological condition of the country may be considered as monotonous, consisting of Limestone Rocks containing Lead and other Minerals. "These remarks of Mr Poyers taken altogether would rather lead us to cast aside the idea of the water having any influence over the affection; he has however omitted to state, what I believe to be the case, viz that the town of Nirksworth is supplied by other water, besides that coming from the Grit; what the nature of this water is I have not been able yet to determine -

Of late years a Mr McLelland, of the Bengal Army, has published some exceedingly valuable observations and facts relating to the subject of Prouchocele and Britium as occurring in India, and which tend much to prove the great influence which the water has in the production of these diseases, in the districts where they are most prevalent - This Gentlemen's researches extended through a district of nearly 1000 square miles of wild mountainous country, intersected by deep unhealthy valleys, in the province of Nemaon - The following is a statement, in his own words, of his opinions

as to the causes of Goitre and the course of Enquiry by which he was led to form them.

"During the course of the Enquiries into the Geology of the province" he says, "I was struck with the frequency of Goitre in one portion of the district, while the other was almost exempt from the complaint, although an Equality of morals as well as physical circumstances appeared to affect the whole - The external Alpine Character of the province are the same in every part; the inhabitants all belong to the same tribes of Hindoos, and are subject to fewer irregularities in their mode of life than any other people in the world - In such a field there could be little merit in eliciting highly important facts connected with this intricate subject:-"

"That portion of the district of Kemaon which lies on the south of the Ransa river is composed of siliceous and argillaceous Rocks of the Primitive class - (Granite, hornblende slate, gneiss, mica, & clay slate - The sides of the mountains usually precipitous, covered with a thin & unproductive soil & giving support to a poor and scanty population -) In the centre of this ridge there are numerous small valleys some of them 7000 and others as low as 3000 feet above the sea, inhabited by persons, who, come to avoid the winter cold of their native mountains, and come to avail

themselves

themselves of pasture for their cattle descend into the plains, and are absent from their villages 5 months of every year" - From inquiries made among these people Mr. C. found them to be affected with Goitre in the proportion of 1 in 500 - but as they do not constantly reside in the mountains, he has excluded them from the more minute statistical details.

"The north eastern declivity of this chain of mountains is intersected by numerous deep river valleys and ravines, as well as by low mountain ridges which afford a climate more congenial to the feelings and wants of the inhabitants; who here reside constantly in their villages" - These villages amount in number to 43 and contain a population of 3700, of whom 17 only were affected with goitre, and these were exclusively adults - The various localities of the villages are as diverse as can well be imagined - some are erected on narrow ridges, others in deep valleys surrounded by abrupt and lofty mountains; others again, on rugged declivities between lofty peaks on the one side, and dark ravines, on the other into some of which the sun can scarcely penetrate. The altitudes vary from 2000 to 6000 feet above the sea level -

Putting the facts into a statistical form it appears that the whole population south of the Ramesse  
River

River, inhabiting the Primitive mountains, amounts to 7,700 of these 25 only are Goitrous or 1 in 308.

Of these 7,700,

3,700 reside in villages which are situated on rocks composed of clay state, Transition state - Siliceous sandstone and Hornblende state - Carrying the analysis still further we find that, of these 3,700,

3330 are high caste inhabitants, 114 of whom are Goitrous -

370 are low caste do - - 3 - - - are affected.

3700

17

The remaining 4000 are those who inhabit the gneiss and granite districts, and who as before mentioned reside 5 months of the year in the plains - of these, 8 only were affected, or 1 in 500 -

"Crossing the Ramesse River and entering the district of Shore, we find that one 8<sup>th</sup> of the People are affected with Goitre - Yet the whole of the inhabitants of this province are equally circumstanced with respect to religion, they intermarry, have the same customs and are affected alike by moral and political influences; and finally the tract in which the disease prevails is the richest and most fertile portion of the Province -

"The Natives themselves impute to the quality of the water a powerful influence over their health; and when it is recollected that water and farinaceous vegetables

constitute

constitute the chief diet of the Hindoos, any impurity of that fluid would produce effects more readily upon them than upon persons whose food and habits are less simple, but whether they be right or wrong, in ascribing the prevalence of Gout to the impurity of particular waters, I shall not here stop to enquire — A subject on which so many conflicting opinions exist requires to be elucidated by such facts as, from their number force and simplicity can lead to no erroneous interpretation; and in collecting these facts, the method I adopted on observing the prevalence in one great section of the district, and its absence in another, was to mark the Physical Characters by which these places were distinguished from each other — The consequence was, a perfect agreement in external aspect, altitude and climate, but a very marked difference in the Geognostic relations; and this distinction, which was even traced down to the very villages in which the disease is found, with such perfect nicety, as to enable one almost to predict "a priori", on examining the rocks of a neighbourhood, whether the inhabitants are affected with Gout or not —

Throughout the district of Shore and the neighbouring villages, it appears that the prevalence of Gout follows in a remarkable manner the situation and  
 nature



nature of the strata, the affected villages running along the limestone rock parallel to the central ridges composed of clay slate, and which are nearly or altogether exempt from the disease, except in some instances where the inhabitants are supplied with water from springs arising in the limestone rocks - This last is a very important fact in the consideration of this subject - I have endeavoured again to reduce the facts afforded by Mr. McClelland from this district to the following statistical form -

It appears in the first place that the whole population of 40 villages in which the investigations were instituted in this district amounted to 1740 - of which, 210 were goitrous - of these -

1372 were high caste inhab<sup>ts</sup> 100 being affected with Goiter.

368 — low caste — 110 — — — — —

1740

210

Of these 40 villages, 21 derived the water used by the inhabitants from rocks composed principally of clay slate and Portland sandstone - The population of these was 1045 of which 4 only were goitrous or 1 in  $261\frac{1}{4}$  - On the other hand, those villages, 19 in number, deriving their water from limestone, present a population of 695, the number of goiters being 206, or 1 in  $3\frac{1}{3}$  - a fact strongly in favour of the opinion of the disease being influenced in its origin & growth, by the quality of the water -

These

These statistics, which I have collected as well as I have been able from Mr M<sup>r</sup> Clelland's work, are I think very conclusive - but he also shows that this relation which is so striking when the grand divisions of the country are considered, is equally so when neighboring villages are examined, nay, even when different portions of the same village, or different classes of the inhabitants use the water of springs issuing from different rocks. To give a few examples -

The valley of Baribici is situated at an elevation of 4000 feet above the sea level - The eastern extremity of it is composed of clay slate, and in 5 villages containing 152 inhabitants there is not one goitre - The other extremity of the valley is partly composed of limestone and of 142 inhabitants of 6 villages here situated, 70 are affected with Goitre - and curious enough, one of these villages (Ducysons) supplied with water from the clay slate has not a single case of the disease; while Ager at a distance of only half a mile, containing 50 inhabitants has no less than 40 Goitres and 20 of these are cretous - The water used by them flows from a copper mine in the limestone & contains Carbonates of Lime & Soda &c. Again, the village of Petosapur stands on the summit of a low ridge extending into the Shore valley, throughout the whole of which Poronchole prevails to a great extent

The geological formation is clay slate with extensive deposits of limestone superimposed, copper & iron pyrites being interspersed between these and in the rifts of the limestone. W. M. C. examined the waters of 4 springs here and also of others where goitre prevails, and found them to agree nearly in character - It rushed from the earth with ebullition, was crystalline & sparkling, depositing large quantities of calc tuff around the springs - and contained carbonic acid and lime, with iron & earthy alkaline minerals in small proportion - No sulphuric acid could be detected -

Beesty is a village situated on a low group of clay-slate hills in the centre of a valley and contains 60 inhabitants, all high caste - Only one goitre was found here in an old man who was a stranger, and the tumour had diminished since his residence in the village - On the other hand, the village of Goseraong contains 10 inhabitants, 10 of whom have goitres of enormous size, and one had lately died of the disease before W. M. C. visited them - The inhabitants assured him they were generally cut off by the disease before the age of 50 - This village stands 200 feet above the level of the valley on a coarse conglomerate of calc tuff, and lofty masses of limestone rise abruptly behind it to the height of 2000 feet causing  
the

the atmosphere to be confined and hot, but in this respect it does not differ materially from other vil-  
-lages perfectly healthy -

The village of Oleil, consisting of 2 hamlets, is perfectly surrounded by limestone mountains - of 25 inhabitants 13 are goitrous; 10 of whom are victims and of these a whole family are deaf and dumb -

Further Mr M<sup>c</sup> C. gives an instance of a village con-  
-taining 120 inhabitants, who making use of water from the clay state have not a single instance of goitre among them; while in 3 others, bearing a strong resemblance in external aspect & geological structure, 22 out of 45 inhabitants are affected - The altitude, aspect, temperature, religion, morals &c of all are the same, but these 3 last are supplied with water from the limestone -

Lastly - the village of Panorah contains 40 high caste and 20 low caste inhabitants - of the former one only has goitre, while of the latter 6, or 1 in 3 1/3 are affected - Mr M<sup>c</sup> C accounts for this from the fact that the Brahmins or high caste make use of the water coming from the clay state; but as the prejudice of the Hindoos denies to the low caste the privilege of partaking of the water from the same spring, the excluded caste is found in

the

this, as in many other instances in Kennaon, to see the water coming from, what they as well as the Brahmmins know to be impure sources, viz from the limestone. The Brahmmins however are not exempt from the disease if using water from this source also -

As Mr Clelland has further shown (and in this respect his observations agree with those of Dr Elliotson in Switzerland) that a stream coming from the limestone loses in a great measure its pernicious qualities as it flows. as one example of this he mentions the wild valley of Poilpully, in which are two villages only, each containing 25 inhabitants - The first is supplied from the limestone with water from a stream falling over limestone precipices and 1-3<sup>rd</sup> of its inhabitants are almost cretins & of them being goitrous. The second village, deriving its water from the same stream but situated a mile and a half further down are only one goitre -

These then are some of the most interesting and important facts upon which this gentleman founds his opinion as to the influence of water impregnated with calcareous salts on the origin and growth of the disease in question, and he states "that in the course of his personal enquiries extending over 1000 square miles, without a view to any theory, no instance

has

\* Note. Doctor Inglis has of late years proposed a new theory being dissatisfied with the suppositions of other authors. He is of opinion that the disease is caused by the use of water which has passed over strata of magnesian limestone - His arguments however do not seem to be available and require further elucidation - For further information see "Treatise on English Bronchocoele" by James Inglis M.D. 1830.

has occurred in which goitre prevails to any extent when the villages were not situated on, or close to Limestone Rocks" - He is however averse to the opinion of hereditary predisposition, but hardly gives good reasons for his objection -

As a further proof of this opinion I may here mention that the water of certain wells in Geneva, excavated in the calcareous sandstone, but now filled up, was known to produce Goitre in a very short time in the natives and in the French soldiers quartered near them, while those who drank the water of the lake were exempt from it - (\* Note)

On the other hand in objection to this theory it may be asked Why it is that the disease is unknown in many districts where lime is found in abundance in the waters? It is certain that goitre is not seen among the poor peasantry of the Roman States where marble is deposited from the cascades of Tivoli and Termini - neither in the territory of Naples, where the rivers Sarnus and Salus loaded with lime flow slowly through a rich and healthy tract of country - The same may also be said of many parts of our own country -

These are some of the principal facts in favour of, and against the opinion of the production of Goitre

by some peculiarity in the water supplying the districts in which the affection is prevalent - that peculiarity depending upon the presence of lime and other mineral impregnations - I now pass on to the consideration of the last endemic cause of Bronchocela viz the influence of climate and country, which will occupy but a very brief space - reserving any remarks I may have to make upon the foregoing facts, until this be accomplished -

The situations said to be the most favourable to the development of the disease, are low, damp and warm valleys; the inhabitants of dry and elevated regions escaping in a great measure from its attacks - Thus Fodere, from observations made in the Maritime alps, came to the conclusion that the affection was peculiar to low & moist situations he says - "In the chief village of the valley La Roje, which is situated on high ground, there is not a Goitre to be seen; though it is very prevalent in the immediate neighbourhood which is comparatively low." - He (Fodere) found indeed that all dry situations & elevated regions whether warm or cold were exempt from the disease and he conceives that throughout all climates it takes its rise from the same cause - viz the humidity of the valleys -

Sir James



\* Notes on Climate †

† Philadelphia Journal of Medical & Physical Sciences - No 1 -

Sir James Clarke, holds the same views in many respects as the last mentioned author, and thinks it probable that if the villages situated in the low close marshy districts of the Vallais were destroyed and the inhabitants removed to elevated dry situations, Cretinism and Goiter, which he believes both to arise from the same cause would disappear\* - According to Doctor Gibbon, an American Physician, Bronchocoele is endemic in all mountainous & marshy districts of the United States, being generally prevalent in valleys at the bottom of the highest mountains in the neighbourhood of rivers, falls, lakes or of the sea or when the soil is rich & sheltered † In Canada the disease is found along the coast, and among the woods -

Dr James Johnson also is of opinion that deep valleys, damp & warm, without a free ventilation are the localities most favourable for the development of the Malady - He mentions likewise that at a certain altitude above the level of the sea Cretinism ceases to exist and that almost all the inhabitants of the higher ranges of mountains are free from the disease while those of the neighbouring valleys and lowlands are much afflicted by it - This fact, he thinks, itself will prove that Cretinism at least owes its origin to a physical rather than a moral cause

\* Some, I believe amongst the members, have supposed this to be  
the case -

\* See Med. Jurisprudence by Prof. Hault. p. 200 -

or series of causes\* - "There can be no material difference in the moral habits of peasants residing at the base and brow of the same mountain, and if the former be more subject to goitre and cretinism than the latter, it must be owing to some thing in the air they breathe, the water they drink" &c - Doctor Spix and Martius describe the valley of the Paraciba about Jacarety in the Brazil, where they found goitres common, as shrouded in mists and vapours, which descend during the night, and are again elevated by the sun in the morning, without the surrounding mountain ridges permitting a free passage to the exhalation; &c\* - D<sup>r</sup> Reuss holds the same views as the above mentioned authors, on the influence which close hot and confined situations, have on the production of Cretinism and Goitre - Further, according to Saussure and others, both these diseases, disappear at a certain height (5 or 600 toises above sea level) among the alps -

The above mentioned facts are certainly very striking and much in favour of the idea that climate tends to produce Bronchocele. All these explanations are however unsatisfactory, particularly when we call to mind the following passage from the writings of the celebrated Humboldt - "Persons affected with Bronchocele", he observes, "are met with from the Andes

to the conflux of the Cauca; in the upper part of the course of the Magdalena River (S. America); and on the high flat country of Bogota 6000 feet above the bed of the River. Now the first of these 3 regions is a thick forest, while the second and third have a soil destitute of vegetation; the first and 3<sup>rd</sup> are particularly damp; the second is peculiarly dry - In the second and third regions the winds are very tempestuous; in the first the air is stagnant -

Temperature -

First and second regions - 22 and 33 Centigrade -

In the third - - - - - 4 and 17 - - - - -

Thus we see very variation in temperature, climate, soil, and situation, and yet *Psoralea* prevailing to the same extent in all - facts which are strongly in opposition to those previously mentioned -

Again, Ramond in his observations on the Pyrenees, informs us, that *Cretinism* and *Goitre* exist among these mountains even in greater extent and degree than in the Vallais, and under circumstances of locality widely different, namely, in open well watered and well ventilated districts -

The localities in Derbyshire in which *Psoralea* most prevails are valleys through which a stream of water flows, surrounded by rocks or Hills - As

Examples

\* W<sup>th</sup> Mas Seymour Hadlee M.P.C.S. London -

As examples - the villages of Moulle, Inatlock and some parts of Beomford are thus situated, and the disease is common in these places - but again the village of Middleton is on an eminence and Bronchocele prevails there also, though perhaps to a less extent than in the above named places - I may here mention that the disease with us is confined principally though not entirely to those who are born and brought up in these localities - It is very unusual to find Bronchocele in the boarding schools in the neighbourhood, in either sex, or among servant girls or boys coming from a distance -

During the progress of this Essay, I have received from a very intelligent friend\* the following account of the disease as observed by him in Switzerland - and which, as it is both original and valuable and moreover bears strongly on that part of the subject now under consideration I venture here to insert. I give it in his own words -

"During a ramble of about two years in various parts of the Alps of Dauphiné - Savoy and Piedmont, and on the Jurassic chain overhanging the lake of Geneva, I had frequent opportunities of examining Bronchocele and the other diseases incident to a mountainous district - With respect to Goutte, in addition

addition to all that has been said and written as to the prevalence of the disease - the enormous dimensions and weight of the tumour in some cases, and the various modes of cure employed, together with the numerous speculations on the supposed causes of the affection, I think I have observed something with reference to its exact locality, which it may not altogether be uninteresting to detail -"

"In our Peak of Derbyshire, though the disease is undoubtedly more commonly met with in some parts than in others - it is yet a deformity sufficiently evident throughout the whole northern division of the county - It is truly a "Derbyshire Neck" - the appellation is not too wide - but so far as my observation goes, there is by no means the case in the Alps; there, a certain valley or mountain side may be peopled with Goitreux, while a neighbouring valley or an opposite mountain may be as free from them - In the town of Grenoble, which is situated at the very foot of the high Alps not a goitreux is to be seen, while at the hamlet of Vizille (5 miles distant from Grenoble) the whole female population is found affected - At the town of Briançon (high Alps) I never saw a Bronchocèle; while, during my excursions in the



the neighbouring mountains, I rarely passed a female peasant who was not the subject of the malady in a greater or less degree - The same was observed of the Towns of Gap, Embrun, and Bourg D'oisans in Dauphine; of Turin - Cavour - Saluzzo - Pignerotto, and Aosta in Piedmont; and of Chambery and Les Echelles in Savoie, as well as of their neighbouring mountain chains -

"Leaving the towns and confining my attention to the mountains around - I remarked that the inhabitants of the Granitic regions were always free from Goitre, while those of the Secondary and Tertiary formations were often the subjects of it - I remarked that in the latter localities, 213 metres above the level of the sea was the mean elevation at which the disease most abounded; that it was more common in the Valleys and Gorges, than on the Mountains; and that above an altitude of 6000 feet it was rarely, if ever met with - That districts watered by mineral Springs are certainly favourable to the development of Bronchocele, I am of opinion cannot be rationally disputed, although what peculiar effect mineralized water has in its production it is not easy to surmise - At the baths of

Wriage

Uriage, Vaulnavay and Allevard (Department of the Savoie) and almost every where else in the High Alps where ferruginous and saline sources abound, Goutte exists apparently in a proportionate ratio - and coupling this fact with another equally indisputable, that all these situations are on the calcareous and Tertiary strata - I am inclined to think that the old "Salt of Lime Theory" is not without some foundation" \*\*\*\*\*

"I have now only one more point to notice - viz. the existence of a fatigued state of the intellect in connection with Goutte - The narrow gorge of Vaulnavay is separated from the extensive valley of Graviandon, by a range of Alps varying from 2000 to 3000 feet in height - In the valley of Graviandon there are few Gouttes and no "Cretins", while the very reverse is the case on the other side of the chain - Indeed, Vaulnavay has received the sobriquet among the peasantry of the "Iron des Cretins", from the universal imbecility which reigns amongst its inhabitants, who, as I have already said, are all Gouttes - Now it happens that the same state of things exists at Uriage and at Allevard; the children look rickety; adolescents are knock knees, their tibiae

arch

arch forwards, and their feet turn outwards. They have a vacant stare about the eyes which tells its own tale - Their general development is stunted, as if nature required some compensation for the extra supply of vitality which is exacted and monopolized by the glandular system - I had once an opportunity of examining a boy 10 years of age who had died a "cretin" and "Gpitzereu" - All the glands in the body were more or less enlarged and the supra renal capsules, I remarked, were of a bulk proportionate to those in the fetus - The Thyroid Gland had also undergone little of its natural atrophy" &c &c -

With this very interesting communication of W<sup>r</sup>. Haden's, I conclude the account of the various alleged causes of Bronchocele - The next question is, What are the conclusions to be deduced from these statements? This is a most difficult question to answer, for on looking through them we find the opinions of the different authorities to be in many instances most conflicting, and of quite opposite character - When men of such eminence, as those authors whose names I have mentioned from time to time and whose opinions I have quoted, have failed in giving a really satisfactory account, it would be presumptuous

in a mere student to offer his opinions, even supposing he  
 has them, in any way contradictory to these -

Putting aside, however, all minor speculations re-  
 =garding the influence exerted by snow water, cold &c which  
 have been already sufficiently disproved - and attend-  
 =ing more particularly to the more weighty cause, last  
 mentioned viz certain peculiarities of the water, and of  
 climate & country - and bearing in mind at the same time  
 the fact of there being an hereditary predisposition to the  
 disease, we may, I think, without any impropriety,  
 draw from these the following inferences -

- I - That there is a certain latent cause influential  
 in preventing the prevalence of Gout in large towns  
 and cities -
- II - That the theory of the Influence of water impreg-  
 =nated with mineral matters in causing and  
 disseminating the disease is on the whole the  
 most satisfactory, but requires still further  
 elucidation and inquiry -
- III - That as the disease is seen prevailing to a great-  
 =er extent and of a worse character, near to the  
 sources of mineral springs, it is probable that  
 the water, as it flows loses a part of its pec-  
 =nious qualities -
- IV - That the disease is more general in situations

low and confined in comparison to the surrounding surface, as in valleys and gorges in mountain districts - than on the heights themselves -

V. That bad food, poor clothing, filth, and other attendants of Poverty, with damp foul air and a deficiency of free ventilation, although not capable of originating disease, still, by weakening the system may allow other causes to act with greater vigour -

VI. That Goitre and Cretinism often go hand in hand and that in certain situations where both are prevalent, they appear to be more or less associated in their intimate nature; in short, that they are, as it were, children of the same parent, with whose constitution we are as yet unacquainted -

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Still however much is required before any conclusions can amount to certainty, and it is only by a very extensive series of statistical observations at home and abroad, with a strict inquiry into the geological formation of the goitrous districts, along with correct analyses of the waters, and a knowledge of their sources, that this can be effected - The peculiarities of country and climate must also be taken into con-

\* For example. The non occurrence of Goiter in the mountainous districts and Highlands of Scotland — A correct account of the affection as it prevails to the north of the Dartmoor hills while the Southern limestone tracts are exempt from it would be a valuable addition to our knowledge —

consideration

and we have yet much to learn on this point in our own island.\* — All these however are merely hints which I throw out, in the hope that they may attract the attention of more learned members of the profession than myself, and lead them on to a closer investigation of this truly interesting, but obscure disease.

Before proceeding to the treatment of Bronchocele, it is necessary for me, in order to render this essay the more complete, briefly to advert to two points of some importance, and which perhaps I should have noticed somewhat earlier — these are — The supposed connexion of Goitre with Scrophula; and the existence of the disease among the lower animals.

Goitre was long looked upon by many of the older authors, and indeed by some practitioners of more recent times, as a truly scrophulous affection — there is but little doubt however, that this opinion is altogether erroneous, and that it has in all probability arisen from the obscure nature of the disease and the want of a correct knowledge of its pathology — That Bronchocele is very commonly combined with Scrophula in the same individual is not to be doubted; indeed, as the same diathesis prevails in both affections it is very

usual

usual to see scrofulous disease in other glands coexist-  
 -but with enlargement of the Thyroid - At the same  
 time it is highly improbable that such enlargement  
 is of a scrofulous nature; for as we have already men-  
 -tioned, regarding the appearances under the microscope,  
 the contents of the enlarged cells of the Gland were  
 found to be organized nucleated particles, nothing  
 like tuberculous deposit being indicated - Besides  
 this, we have not the disease running the course  
 of true scrofulous affections, for, as before shown  
 there is very little tendency in the swelling to take  
 on inflammatory action, or its results, suppuration  
 and ulceration - indeed, we have no case recorded,  
 in this country at least, when such has occurred  
 spontaneously, and when it has taken place, it  
 could generally be referred to some direct injury  
 or a blow &c. - again we have the tumour exist-  
 -ing for many years, nay, even the whole life of  
 the individual without affecting the general health  
 or producing any constitutional derangement; the  
 ill effects occasioned by its presence, when these  
 occur, being purely mechanical -

Probably therefore, the mistake has arisen from  
 the frequent occurrence of the affection in young  
 children, and especially those of the female sex,

of a



\* An account of the Bronchoceli of Nepal & By the late M. G.  
Murray Principal of the Calcutta Medical College,  
(See Transactions of the Medical & Physical Society of  
Calcutta Vol vi - 1833. - )

Scrofulous habit; then, from the general laxity of fibre and absence of tone throughout the system being more liable to its attacks — M<sup>r</sup>. Braundley (\*) is of opinion that this want of tonicity, combined with some defect in the Lymphatic system connected with a strumous habit of body is the predisposing cause of the disease, and the same view is still more strongly advocated by M<sup>r</sup>. McClelland —

Within the last few years a somewhat strange and novel doctrine has been upheld by Escherich a Bavarian Physician — viz. the incompatibility of the coexistence of Goitre with Tuberculous diseases, as Phthisis &c — This gentleman regards the endeavour to remove Goitre in subjects who would otherwise be constitutionally predisposed to consumption as a wicked attempt. He states that for 4 years he has had under his care a woman with a cavern in the upper lobe of the right lung, and pectoralogy with habitual cough and expectoration; yet this patient has remained in a stationary condition during the whole of the above period, which he considers due to the conjoint presence of a large goitre, and he adds that he never knew a patient affected with the latter disease to die of Phthisis — Other Physicians in the mountainous regions of the

\* Med. Correspond. Blatt. bayernische -

\* Delivered in the University of London 1831-32.

the Gypol and of Styria have made similar statements.\*)

Regarding the Existence of Goitre among the lower animals; Mr Youatt in his lectures on Veterinary Medicine \* states "that he has in two or three instances seen some enlargement of the Thyroid Gland in the colt and in the calf - In the sheep it is far more frequent" -

"In the swine and dog however we have the most frequent opportunities of observing this disease. The first is not indeed often submitted to medical treatment; but you cannot have failed to observe in young pigs neglected half fed and rickety, enlargements of a considerable size on each side of the upper part of the neck"

"In the dog it is almost daily forced upon our notice - If a spaniel, or a pug puppy is mangy, not bellied, rickety, or deformed in the joints, he seldom fails to have some enlargement of the Thyroid Gland; the spaniel and the Pug are most subject to this disease" - Mr Youatt further states that in many cases this enlargement of the Thyroid Gland is plainly connected with a general debilitated state of the constitution & more particularly with a disposition to rickets, and that he has rarely seen a puppy who has had a severe attack of the mange & especially if this was

followed

\* Calcutta Transactions Vol. vii

followed  
 by the distemper, that did not soon exhibit symptoms of  
 cutaneous or goitre. He also ascribes as a cause of these  
 diseases in animals - poor food, and filth - and mentions  
 that he has never been able to trace it to any par-  
 ticular food whether solid or liquid, although it is  
 certainly the frequent result of want of nutriment -  
 "Two or three friends of whom I particularly inquired, have  
 told me that it is not all all prevalent in those parts  
 of Dindygshire where the goitre is oftentimes seen" -  
 He further states it to be periodical in the dog, and  
 that he is quite assured that it is hereditary in these  
 animals -

W. M. Bellard states that congenital swellings of the  
 neck and sometimes of other parts are observed in the  
 animals of goitrous districts in Senegal - Doctor  
 Campbell has described 22 cases of this description  
 occurring in Nipaul - and in 17 of these the tumours were  
 composed of cells containing a glairy fluid - in 5 it  
 had a glandular structure - he has also known the  
 disease to occur in the young and healthy goats  
 and sheep brought into the goitrous districts from  
 parts of India where goitre is not known.\*

I have myself seen two or three instances of enlarge-  
 ment of the Thyroid gland occurring in dogs of the  
 Spanish breed - and I am informed that in some

of the

of the  
 \* Gouty districts of Derbyshire particularly in the  
 neighbourhood of Micklethorpe, the cattle drinking the  
 water from certain Springs, have their glandular  
 system affected in a peculiar manner —

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## The Treatment of Bronchocele

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Notwithstanding the complexity of the disease and of the  
 causes giving rise to it, and the imperfect knowledge  
 which as yet we possess of the functions of the organs  
 affected by it; and although there is scarcely any  
 'malady throughout the whole catalogue of "ills which  
 human flesh is heir to" upon which so great a variety  
 of remedies has been tried and till recent times so  
 unsuccessfully, yet at the present day the Treatment  
 although in a great measure empirical, is neverthe-  
 less comparatively simple and satisfactory —

This may be divided into Medical and Surgical,  
 of which the former is of the greatest importance  
 as; the means generally employed for the removal  
 of the disorder; the latter being an extreme mea-  
 sure, a "desperate resort", only to be had recourse  
 to when all others fail, and a fatal result  
 would otherwise be inevitable —

\* as recommended by Mr Benjamin Bell -



I Of the Medical Treatment which may be considered as consisting of Local and Constitutional -

Of Local Measures, or the External application of remedies in order to promote the absorption of the Humour - Formerly the means employed to effect this, consisted chiefly of dry frictions, or frictions assisted by various stimulating lotions liniments and unguents; affusions of sea or cold water &c - More lately the repeated application of leeches has been much adopted and in many instances found extremely useful, in the early or congestive stage of the disease, in retarding the growth and diminishing the bulk of the tumour - A succession of Blisters (\*) have been observed to have the same effect though in a less degree; and both of these means are found of considerable service when there is much difficulty in breathing produced by the pressure of the swelling on the surrounding parts - or when there is much throbbing shewing a degree of vascular excitement - The most efficacious, however, of all local means, and the one most commonly in vogue in a majority of the English & Continental Hospitals is the application of an ointment containing Iodine in some form (generally as Iodide of Potassium) aided by friction - Other stimulating substances have been

been recommended, as the Oleum Camphoratum, the  
 Unguentum Mercuriale - Lotions of Muriac. of Ammoniac  
 and the like, but these are all now quite supersede-  
 -ded by the Iodine ointment - Of the good effects  
 of this application we have undoubted proofs from  
 the observations and statements of various authors.  
 Doctor Coindet of Geneva, Professor Pirera of Padua  
 and the late Doctor Hauser of Nottingham have all  
 made use of this ointment very extensively, and with  
 the best results - During a period of nearly 5 years  
 that I was a dresser at the Derby County Hospital  
 a great number of cases of Bronchocela came under  
 my observation - Here the common mode employed  
 in the way of treatment was the application of the  
 ointment of Iodide of Potassium, aided by friction,  
 and I may assert with confidence that this alone  
 was almost invariably successful, when the tumour  
 had not existed for a great length of time, & more  
 particularly when soft and compressible, the patient  
 being at the same time young, and using diligently  
 by the means recommended - In old standing and  
 inveterate cases this treatment was combined  
 with the internal exhibition of Iodine - of which  
 we shall speak hereafter - The ointment may  
 be of a strength to hurt the patient, for it is found  
 that

that in persons with soft and delicate skins a strong application is apt to cause great irritation, which is objectionable from preventing the regular use of the remedy; while on the other hand in patients whose skins are harsh and thick, a very powerful ointment may not produce any impression - The formulae employed by Doctor Coindet is the following -

R<sub>x</sub> Potass. Hydrind. ʒi

Adipis ppt. ʒij M<sub>o</sub>.

One drachm of which was directed to be well rubbed into the tumour night and morning - Professor Berce's ointment is of greater strength - Doctor Manson made use of a liniment composed of

Tinct. Iodine ʒi

Liniment Saponis ʒ. ʒi

The form of ointment in general use at the Derbyshire Hospital consisted of a drachm of the salt to an ounce of axunge - being a 3<sup>rd</sup> stronger than that employed by Coindet - and this was directed to be used twice or thrice daily - It is the custom with some practitioners to add Iodine also to the above ointment Others again make use of a still more complicated preparation adding the Unguentum Mercuriale - Prof. Berce, in addition to the preparation with the Iodide of Potassium, occasionally employed an ointment composed

\* I may also state that a Doctor Campbell has found friction with  
Castor oil occasionally successful in removing Bronchocle among  
the natives of Kipaul. see *India's Journal of Medicine* 1897-

of one drachm of pure Iodine to an ounce of Lard -  
 All these last named preparations are however attended  
 with the disadvantage of staining the skin, and  
 I am not aware that they are so much more efficacious  
 in dissolving the swelling, as those who advocate  
 their use, have represented them to be; and moreover  
 they are very liable to cause much irritation -

Perhaps the most effectual mode of applying the Iodide  
 of Potass ointment is directly to the cutis vera, or  
 by the endemic method, the cuticle having  
 been previously removed by the application of a  
 blister - simple friction with the ointment is however  
 the plan usually adopted and indeed seems to be  
 all that is sufficient in ordinary cases of the disease.  
 I may mention that some practitioners have prefer-  
 red the application of the Tincture of Iodine, by  
 means of a camel's hair brush, but this like some  
 of the other modes already mentioned is apt to irritate  
 the skin, particularly if thin & delicate, and is  
 like wise objectionable from its staining and disfiguring  
 the patient - (\*) Electricity and Galvanism  
 have both been employed for the cure of Goiter, and  
 it has been said, in the hands of some, with suc-  
 cess - but I am aware of several cases in which  
 they failed altogether although a fair and patient  
 trial

\*See Lectures on Principles & Practice of Medicine delivered at Kings

trial was afforded them - Lastly, simple and steady support, with a degree of pressure, as far as the parts will allow, will be found of great use - The constant wearing of neckcloths, some what tight has been said sometimes, in the lower orders not otherwise accustomed to their use, to have checked the disease, when resorted to early; and Italian Physicians ascribe the want of this support to the neck as one of the causes of the greater frequency of Goitre in the female - Again, Valentini supposes the disease to be more common in women than in men, simply because the former more frequently have the neck uncovered - It has also been affirmed that young females who have taken the veil, in Catholic countries, have lost their goitres in consequence of the change they made in their costume - and a Physician in Guatimala asserts that the same infirmity has sensibly diminished among the men of that part of the world since cravats became fashionable there - We then as it may, pressure is an agent which although not at present much employed, will I am of opinion be found a very powerful and efficacious one, either alone or in combination with other means - Doctor Watson\* suggests the covering of an inci-

=print

College London 1841.

\* Distilled water. According to Prof. Odier of Geneva this has appeared, when made use of, to prevent the increase of the swelling, and even lessen it.



spicant Mouchocle, continually with flannel to check its growth and gradually to cause its subsidence" - Bouillaud also mentions the same plan among the curative indications -

Such then are the principal local measures to be adopted - we now go on to the consideration of the general or Constitutional Treatment of Mouchocle; or the internal administration of Medicines supposed to have a specific effect on the disease, together with some form of regimen, generally of the tonic kind, suited to the particular habit of the patient under treatment -

Of Internal Remedies, formerly supposed to have some specific action in causing the removal of Gritty swellings, we find a long catalogue - Of these we may mention Camphor combined with Digitalis - Various Preparations of Mercury, Mercurials of Linnæ and Paracelsus - egg shells - Turb. hachhorn - bean toads (!) - Cicuta - belladonna - The use of tea or distilled water - Preparations of Iron &c &c and many others - For a great length of time Burnt Sponges held a conspicuous place as a favorite Remedy in Mouchocle for which, it was indeed thought a specific - This medicine, although its efficacy in many cases was undeniable, was yet found

to be

\* See Essay on the Effects of Iodine - p. 2. (1824) -

† Encyclopedic of Practical Medicine -

to be very partial and uncertain in its results - Doctor  
 W. Gairdner ascribes this to the great amount of adul-  
 teration with charcoal, which the drug was subjected  
 to by Chevreton, and states as an undeniable proof  
 of this, the fact that the preparation was sold at  
 a less price than unburnt sponge could be bought  
 for - In this manner Dr. Gairdner explains the ineffi-  
 cacy of this medicine in the hands of British prac-  
 titioners, whilst its virtues are so palpable and evident  
 at Geneva, that not only Physicians, but also the  
 inhabitants, are convinced of their reality. (\*) When Mr  
 Davis of Arlesford, in the 13<sup>th</sup> volume of the Medical  
 and Physical Journal, relates an instance in which  
 no less than two pounds of burnt sponge had been taken  
 without effect - This remedy was usually administer-  
 ed in the form of Electuary on account of its bulk, or  
 in Troches which were directed to be placed under  
 the tongue and allowed to dissolve gradually -  
 Mercurial preparations were generally exhibited in  
 attenuated doses, with laxatives, at the same time;  
 and it is stated by Doctor Beauford (†) that these  
 occasionally had the effect of removing the swelling  
 after the burnt sponge had entirely failed. In  
 Mr Davis's case, above mentioned, the tumour  
 entirely disappeared in 10 days under a course

\* See Dissertation on the use of sea water 5<sup>th</sup> Ed: p. 90-

of Mercury for some other ailment. — The "vegetable  
 Althieps" prepared by incinerating the *Fucus vesiculosus* —  
 -sus — a marine plant — has also been recommended in the  
 treatment of the disease and Doctor Russell (\*) states  
 that for this purpose it far exceeds burnt sponge  
 in virtue — Since however the discovery has been  
 made, that the active properties of these substan-  
 -ces depend altogether upon the Iodine contained  
 in them, they have altogether fallen into disuse,  
 and at the present time Iodine is the great  
 and it may be said the only specific remedy  
 employed internally for the cure of Bronchocle —  
 It has been disputed whether the merit of this dis-  
 -covery is due to Doctor Bouquet of Geneva, or to Doctor  
 Staub of Hofwyl — Without entering into this question  
 on the present occasion we may merely state that  
 whoever may claim the merit of the discovery, there  
 is little doubt that the credit of its introduction  
 into practice for the cure of Bronchocle may be  
 fairly given to Doctor Bouquet —

Of all the Medicines yet proposed for the treat-  
 -ment of the disease this has been by far the most  
 efficacious and successful — It is not necessary  
 to bring forward single examples in proof of this,  
 as the following facts show far better the results  
 of the

\* Transactions of Med. & Physical Society of Calcutta already referred to

† Dict. Pract. Medicine —

© See also cases of Goiter cured by the Quinates of Iodine and the Hypoiodate of Potash — by M. M. Hufeland & Haase  
Report of the Polyclinical Institution of Berlin 1820-1-

‡ Hospital Facts and Observations. p. 121.

of the employment of this remedy in the hands of various authors and practitioners - Thus, Bayle gives a summary of the cases published by Coste, Manson, Armeizer and Baum, from which it appears that of 364 patients affected with Goitre and treated with Iodine 274 were cured - of the 120 cases reported by Doctor Manson 87 were cured, 10 much relieved and only two or three discharged without relief - Doctor Corvidek was successful in about the same proportion of cases - Of 116 cases of all kinds treated by M<sup>r</sup> Bramley (\*) only 3 or 4 occurred in which the patients were not either cured or so much relieved as to show that perseverance in the use of the Remedy would have been ultimately successful - According to Doctor Copland (†) from observations on several cases of the disease which have come before him since the introduction of Iodine into practice, "there has not been one which has not either been cured or remarkably relieved by it" (©) All this, therefore, is strong evidence in favour of the efficacy of Iodine, but then, on the other hand its use in the hands of other Practitioners has not been attended with the same happy results - Thus Doctor Wardley cured only nine and relieved six out of 30 cases - (\*) Doctor Pereira also states that "he has several times seen

Iodine

\* Elements of Materia Medica & Therapeutics - p. 241 -

† India Journal of Medicine - 1837 -

‡ Dispensatory - Article "Indice" -



Iodine given in conjunction with Iodide of Potassium, fail in curing "Prochocele" (\*). Doctor Campbell likewise mentions that he has seldom been able to remove the disease with Iodine † and Dupuytren makes a similar observation in his clinical lectures. How are these variable results to be accounted for? — When we remember that the term Prochocele Græcæ Delphinae Beck &c may be, and are no doubt, applied to very various conditions of the Gland, we can have no difficulty in imagining that although in a majority of cases Iodine will be serviceable, yet that there are some in which it would be useless or even injurious — For instance, we should hardly expect much benefit to result from its employment in those cases in which the Gland was the seat of steatomatous earthy or bony deposits —

We have mentioned on a former occasion that those tumours of short standing and which are soft and compressible are the most easy of removal; and Professor Christison states that Iodine is most serviceable in the early congestive stage, or in the middle stage of gelatiniform effusion; and that in the final stage of induration of the Thyroid Gland it is of little benefit ‡. In those cases, reported by Mr Bramley, above mentioned, in which the treatment was only partially successful the disease was of long duration

\* Dr. W. Rickwood relates an instance in which he succeeded in reducing a goitreous Humour in a female 70 years of age -  
See London Medical and Physical Journal. 1823 -

And of cartilaginous hardness, and the patients old—  
 I have however seen several instances in which the  
 tumour, although existing for many years, in fact nearly  
 the whole life of the individual affected, and of almost  
 I may say, bony hardness, has given way to a great  
 extent to the internal administration of Iodine along  
 with external frictions as before described. \* It is however  
 not unreasonable to suppose that in cases where  
 the tumour had existed long, and at the same time  
 much indurated, the cure would be protracted, and  
 perhaps impossible; neither is it improbable that  
 the supposed ill success in the use of Iodine, in many  
 cases of the disease, has depended rather upon  
 a want of perseverance in, than inefficiency of, the  
 remedy— Doctor Copland accounts for it in a different  
 manner and thinks that when this remedy fails it  
 has been given "in too large and irritating doses, or  
 in an improper form, and without due attention  
 having been paid to certain morbid and constitu-  
 tional relations of the disease during the treatment"—

Iodine has been administered in various ways  
 for the cure of Bronchocele, some practitioners pre-  
 ferring the simple alcoholic solution of the substance,  
 others combining it with the Iodide of Potassium and  
 others again making use of the last named preparation

alone - The combination of the Iodine with the Iodide of Potassium is considered by Coindet as the safest and most efficacious preparation for internal use, and from the observations of other writers this seems to be pretty well established - The formula recommended by Coindet is the following -

℞. Iodine ꝑ. x  
Potassa Iodid: ꝑ. xxxvi -  
Aqua Distilat: ℥i. Stue.

In doses of 5 minims three times a day gradually increased - He also made use of an ethereal or alcoholic solution containing 40 grains of Iodine in an ounce of Spirit, the dose being from 10 to 20 minims -

Doctor Meunier employed a less powerful Tincture containing only 24 grains of Pure Iodine in an ounce of Al: col; and this he usually administered in doses of from 15 to 30 drops - three times a day in distilled water - Dr. Gardner considered the Tincture as the most objectionable form and preferred the simple solution of Iodide of Potassium in distilled water to any other preparation -

℞. Potassa Iodid: ℥ss  
Aqua Distilat: ℥i dose from ꝑ. x to ꝑ. xx three times a day - Again Prof. Meier gave the substance itself in the form of Pills

prepared

<sup>preparations</sup>  
 with powder of liquorice &c. — At the Derbyshire Hospital  
 the Alcoholic Tincture of the simple substance, or the Compound  
 Tincture of the London Pharmacopœia were the forms generally  
 employed. — and in many cases the Iodide of Potassium in  
 any Menstruum was found to produce every desired effect.  
 Whatever may be the form in which Iodine is admin-  
 -istered, care must be taken in its exhibition to avoid  
 combining it with any substance liable to cause de-  
 -composition. Its effects too upon the system must  
 be strictly watched, as these vary much in differ-  
 -ent individuals, and therefore the doses must  
 be regulated according to circumstances, and the  
 constitution &c of the patient; for the same quantity  
 which may produce little or no effect on some indi-  
 -viduals, may in others give rise to alarming symp-  
 -toms — It is not to the present purpose, neither is  
 it necessary to debate upon the severe constitu-  
 -tional effects which have occasionally been produced  
 by over doses of Iodine — Suffice it to say that in  
 some cases the Emaciation produced by the improper  
 use of this medicine has been rapid and extreme  
 It has also given rise to tumors, resembling much  
 those of chlorea — also to sensations of faintness and  
 sinking and to nervous palpitations &c, in short  
 to a combination of symptoms to which the  
 term

\* Page. 555.

\* Essay on the effects of Iodine -

† Les Reflexions sur l'emploi de l'iode 1824 et  
Medico-Chirurgical Review VOL. VI. p 229 -

term "Iodism" has been applied, and for an excellent  
 account of which I beg leave to refer the reader to  
 Professor Christies valuable Dispensatory\*—Wasting  
 of the Mammary in women and of the testicles in  
 males has been stated by some authors to have  
 been observed even when Iodine has been cauti-  
 -ously administered; but others have denied this—  
 So great indeed it is said even the savages com-  
 -mitted by the improper use of this medicine in the  
 Pays de Vaud that the Government of that canton  
 issued an ~~order~~ injunction against its sale except  
 under the signature and responsibility of a Physician\*  
 Iodine is contra indicated, according to Doctor Koller of  
 Pruslaw who himself had the disease 10 years, where  
 there is a disposition to congestion in the head or  
 other internal parts; also in cases where there  
 is diarrhoea, dyspepsia, or hepatic disorder present  
 or when there is a disposition to hydrocephalus &<sup>†</sup>  
 For the prevention of all bad effects from the remedy  
 it is an excellent rule to commence with very  
 small doses, and increase them gradually so as  
 never to exceed the minimum quantity required  
 for the removal of the disorder; and there is  
 little doubt that more benefit will result from  
 a quiet and steady perseverance with small  
 doses

Now, than by pushing the remedy at once to its full extent, as is the practice with some.

During the course of treatment the bowels are to be preserved in a proper state by the use of alteratives and mild sweats - and in females, I need scarcely say, the regularity of the Catamenial discharge is indispensable, from the influence which this has been observed to exert of the disease in some cases as stated on a former occasion - The general health and tone of the system are also to be carefully preserved, and when the disease is combined, as it often is, with Scrophula or with much debility, the tonic regimen is strongly indicated; and much benefit has accrued in cases of this description from the use of the compounds of Iron and Iodine, more particularly in the form of the *Syrupus Ferri Iodidi* of the Edinburgh Pharmacopœia - If the swelling on the other hand is tender to the touch, with any indications of inflammatory action and combined with a plethoric condition of the system the action of the remedies has been observed to be much increased by moderate and perhaps repeated blood letting, but cases requiring this are rarely to be met with -

The period of time required for the removal

of a



\* See Lectures on the Theory and Practice of Medicine  
delivered at the London University -

of a goitrous tumour by the internal use of Iodine varies much, of course, according to the size & state and duration of the disease, and the constitution of the individual affected - Prof. Christison states that the good effects sometimes shew themselves in 14 or 17 days, commonly within three weeks, but often not until 5 weeks of uninterrupted treatment; and that they are most manifest when some of the Physiological phenomena, shewing the action of the medicine on the system, are produced - Doctor Elliotson\* says "that with respect to the length of time during which this remedy may be taken, I have been obliged in Bronchocele to give Iodine a whole year before the disease was cured - being that the disease was lessened, I persevered and have gone on for 12 months & indeed above that time - I think in one case 14 or 16 months before the disease went away" - Again as an instance of a rapid cure - Mr Bramly gives one case in which Iodine was given in the form of the Juice, and produced great and alarming constitutional disturbances, but the tumour was dissolved in six days, during two of which the medicine was not given -

We have so far mentioned the use of Iodine and its preparations, locally and constitutionally, in a separate manner - This is not however to be understood that by this, the two modes are not to be made use of conjointly - on the other hand the best effects are seen by combining the two together, and in this manner, as before mentioned, the most in-deteraite and old standing cases may be treated with success - At the same time when there is any probability of the disease giving way to external applications alone, these are to be preferred, as then the danger of constitutional derangement from the use of Iodine is avoided - These then are the principal measures to be resorted to by the Physician for the removal of Goutyous Tumours and are those now almost universally adopted - and indeed are the only means to be relied on, and it is therefore hardly necessary to occupy space by describing others, of the many modes proposed - Before however leaving this part of the subject it is perhaps as well to state that Doctor Gibbon of Baltimore (United States) has found the Extract of Cornium, "when well prepared and taken Diligently, the patient not above 20 years of age, and the tumour spongy and not of long standing, to be

\* *Elements of the Theory and Practice of Medicine*  
5<sup>th</sup> Edition - 1839 - p. 730 -

\* *Nosologie Naturelle - tom. I. p. 473 -*

be very useful. — Doctor George Gregory likewise observes that "some benefit has been derived in Bronchocele from the use of other medicines of a debilitant quality, more particularly the liquor potance and the carbonate of soda in conjunction with small doses of calomel, and such gentle laxatives as regulate the functions of the bowels without weakening the system"\*

As Bronchocele is produced without our being as yet able to trace with any degree of accuracy its causes, so will in some cases suddenly and unexpectedly disappear, without any assignable cause or reason, even after resisting all approved remedies. Coindet mentions a case of a goitre which was excessively developed during the pregnancy of a young female, twelve hours after her confinement it had totally disappeared. — Further, change of residence will often have the effect of causing the disease to disappear when all external and internal remedies have totally failed — Thus, Alibert states that he has known many ladies, in whom the tumour has subsided after a residence of some time in Paris. — Lastly, as the disease, even after having been totally removed by the use of remedies, is exceedingly liable to recur,

M. Parshol - Use of chalybeate water said  
to prevent disease

removal from the supposed exciting cause, when this can be accomplished, is proper and useful. Thus Boissier relates the circumstance of a regiment of young recruits, who were almost to a man attacked with considerable enlargement of the Thyroid Gland shortly after their arrival at Geneva, where they all drank water out of the same pump - On their quarters being changed, the gland soon regained its natural size in every instance.

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II Of the Surgical Treatment - When the use of Medicines and the different measures which we have lately considered, prove ineffectual for the removal of Monocle, and the tumour is of such a size, or enlarges so rapidly as to threaten the death of the individual affected, by pressure on important parts, producing apoplexy suffocation &c. - certain operations have been proposed and resorted to by the Surgeon, in order to afford relief, and to rescue the unfortunate patient from the impending danger - These principally consist in the insertion of Setons - the Ligature of the Thyroidal Arteries, and the removal of the Tumour by the Knife or by Ligature &c.

\* Lib: vii - Cap. 13 -

† See Mery in Journal de Médecine - t. 24 - p. 75 -  
also Simæus Cas. p 203

† See Leveillé Nouvelle Doctrine Chirurg -

o Siebold, Stamml. Chir. Beob. 6. 2 p 229 -



and as all are more or less dangerous in their execution and uncertain in their results, they should never be had recourse to unless there be absolute necessity for so doing, and a fatal result otherwise inevitable - Before however proceeding to describe these, which it will be only necessary to do in a brief manner, it may be stated that the method adopted in the time of Celsus, and recommended by that author<sup>(\*)</sup> for the discussion of gonorrhoeal swellings, was the application of caustics, a dangerous and painful as well as tedious mode of cure, but which nevertheless has been followed by practitioners of more recent date and in some cases with success.† -

Accident has sometimes furnished useful suggestions in the practice of surgery - Bronchoceles have occasionally ulcerated from the effects of blows and other injuries and the result has been sometimes the dispersion of all or, or of a greater part of the swelling - Thus Volpi records a case where the tumour inflamed in consequence of a blow, suppurated and sloughed, so as entirely to disappear.† and a similar fact is mentioned by Zipp.<sup>(o)</sup>

Again Gonorrhoeas have been in some instances removed by the part having been accidentally and severely burnt - An interesting case is also detailed by Doctor A. J.

Thomson

\* *Medico Chirurgical Transactions Vol. II-*

Thomson, when the Empirical application of a quick-  
lime plaster produced tremendous sloughing, so much  
 so indeed, as to cause fear of the patient sinking,  
 but which almost completely removed the disease!\*

Spontaneous suppuration and ulceration of the Enlar-  
 ged gland, although rare, has in some cases occur-  
 red, causing a gradual subsidence of the swelling:

Petit, Heister, and Schmucker all make mention of  
 instances of this description - The beneficial results  
 of such accidents have led to an imitation of the  
 process by which these were effected, by the  
 introduction of setons into the substance of the  
 tumour so as to cause inflammation and sup-  
 -puration -

This practice was first brought under the notice  
 of the profession by Doctor Quadri of Naples in  
 the year 1810, but had been proposed and even prac-  
 -tised many years previously, having been recommended  
 by Fodere and others - In the 10<sup>th</sup> volume of the Medi-  
 -co Chirurgical Transactions of London an account  
 of a number of cases treated with seton by Dr. Quadri,  
 is given by Doctor Somerville - Nine cases are recor-  
 -ded, in all of which the operation produced fa-  
 -vourable results, with the exception of one which  
 was followed by ulceration and sloughing and  
 the

the death of the patient. The tumour in this case was exceedingly hard small and deeply seated. In some of the cases one seton had the desired effect in others two were required, and Dr Quadri stated that he has passed a seton sixteen times in as many different directions without any untoward accident. He (Dr Q.) infers from these cases - I That it is not dangerous to perforate a Bronchocele with a trocar pointed needle, carried deep into the gland, provided it be not brought near the cartilage - II That trifling inconvenience only is produced by the consecutive inflammation - III That it is expedient to retain the seton in the tumour for a considerable length of time, in order to keep up the suppuration until a cure is accomplished, as well as to prevent the formation of sinusses, which happened in one case - IV That the beneficial effect of suppuration rarely extends throughout the whole substance of the gland but in general only destroys that portion of it contiguous to the perforation - For the purpose of causing greater irritation in some cases Dr Quadri introduced portions of the root of the Black Hellebore - In the 11<sup>th</sup> volume of the same Transactions Mr. Copland Hutchinson records 5 cases treated in the same manner by different individuals

-viduals

\* Percy and Dupuytren have also employed setons in  
Bunchoete with success -

† See London Medical Repository - No 99 - 1822.

\* See Principles of Surgery by Professor Sympson - 3<sup>rd</sup> Ed. - 1842

individuals, the results being satisfactory in all. One of  
 these cases occurred in the practice of Mr James of Exe-  
 ter. it was as just stated, successful, but the cure was  
 very protracted there being expectation of pusulent  
 matter and lymph, a great degree of orthopnea - sup-  
 pressed voice as in laryngitis and threatening death  
 until the stone was removed. \* Other practitioners  
 however have not met with the same success.  
 for instance - in a case by Mr Gunning of St Georges  
 Hospital this practice was followed, by slough-  
 ing of the tumour and death of the patient - The  
 plan also proved inefficient in two cases under  
 Doctor Kennedy of Glasgow. † Fatal cases also  
 have been observed by Prof. Schelius of Heidelberg  
 and others in consequence of the centre of the tu-  
 mour entering into a profuse suppuration, while  
 the rigidity of the parietes prevented their con-  
 traction, so as to diminish the size of the cavity,  
 and the good effects of the practice have been  
 at best but of partial extent. (‡) The hæmorrhage  
 as might be expected from the enlarged state of the  
 vessels, is in general profuse after the operation  
 and in some cases has proved fatal as stated  
 by Mr Sam<sup>l</sup> Cooper. - Dangerous inflammation  
 of the trachea and surrounding important parts

is also

\* Setons only useful in the Cystic form

\* Setons will not cure the hardened forms of Bronchocoele which Dupuytren calls "scirrhus"; but are most useful in hypertrophy of the gland - cysts & Hydatid formations - (Hooper's Medical Dictionary) -

\* The late Doctor William Hunter has mentioned a case also which was cured by incision made into the diseased gland -

is also liable to Suppuration - Doctor Hedemus of Dresden ~~also~~ informs us that he has seen a patient die of Tetanus after the operation - looking therefore at the but very partial success of this practice and the many and great dangers attending it the Surgeon should give the matter his most serious consideration before attempting it, and should only have recourse to it when symptoms urgently demand it - \*

Several cases are on record in which Mouchoccele has been observed to disappear after the infliction of a wound, either accidental or intentional - Mr. Copland Hutchinson says that he has been informed that it is a common practice in Denmark to make incisions into the substance of the diseased gland in Mouchoccele and that the operation frequently succeeds in curing the disease (\*). This probable however that this mode of practice is neither less dangerous nor more satisfactory in its results than the method with seton, besides which it is more painful -

The next operation we have briefly to advert to is that of placing ligatures around the superior Thyroideal arteries, and in this way cutting off part of the supply of blood from the tumour -

Yhis



\* Neue Heilart des Kröpfes & 1817. auch London Medical  
Repository. October 1822.

† See Lancet. November 14. 1835-6

This operation was first adopted and performed by Sir Phil:  
 -laine Blizard, though previously proposed by others  
 and has twice been repeatedly performed on this  
 continent, and several times in Great Britain -  
 Sir William Blizard's case proved fatal, the  
 patient dying from Haemorrhage in the course of  
 a week - Mr. Coates of Salisbury also tied  
 these arteries in the case of a young woman  
 with a large growth - the patient was much  
 relieved for a time, and the case was reported  
 as a successful one - but the tumour gradually  
 returned, and ultimately caused death by suffo-  
 -cation - Mr. Coates states that he has not repeated  
 the operation in any other case, nor should he be  
 disposed to do so, from the result in this instance -  
 The following gentlemen have also performed the  
 operation - Professor Walther of Landshut, in  
 two instances with partial success\* - Prof. Schelius  
 of Heidelberg four times successfully† - Sir Benj:  
 Brodie in one case without effect - Mr. Parle  
 of Bartholomew's Hospital in one case also, the  
 operation being followed with considerable dimi-  
 -nution of the tumour - Mr. Rickham of Man-  
 -chester tied one of the arteries mentioned, with much  
 immediate, but no ultimate benefit - The tumour

gradually

\* For the more minute particulars of these operations  
I beg leave to refer my readers to the Encyclopaedia  
of Practical Medicine Vol. I Article "Bronchoceli"  
and to Cooper's Surgical Dictionary - &c &c -

gradually diminished for about 6 weeks and then (no doubt from the collateral circulation being established) it slowly enlarged again till of the same size as before the operation (\*) - Altogether then the practice of tying the Thyroidal arteries for the cure of Strumivex may be looked upon as unsatisfactory and not deserving of adoption - Professor Lymie makes the following remarks upon it - "The operation has been sometimes found extremely difficult, owing to the displacement and overlapping of the vessels by the tumour - it has even proved fatal, by giving rise to extensive ulceration - it has rarely or never effected an entire removal of the swelling - and has generally induced only a very partial absorption" - (See Principles of Surgery) -

The next operation; that of Excision of the diseased Gland, is still more hazardous than the preceding - from the importance of the parts, the nerves bloodvessels &c, in the vicinity - The arteries also which supply the gland are as before stated, usually much enlarged above their natural condition, and the hæmorrhage therefore is likely to be very profuse and cannot be commanded by pressure - In spite of all these difficulties and dangers, however,

however, some operators have been bold enough to undertake the task of excising the diseased growth; and although success has resulted in some instances yet the fatality, which has generally attended the operation, is such as would deter any prudent surgeon from attempting it. — Prof. Lymce states his objections to it in the following words. — "The deep situation, muscular coverings, firm connectives and large blood vessels of Mouchocete forbid excision; and the attempts which have been made with this view afford a sufficient warning against their repetition, by the fatal issue that has almost invariably, and often immediately, followed them" — Excision of the Thyroid Gland is an operation of very early origin. Celsus as before seen, mentions the use of caustics, but at the same time recommends excision as the most expeditious means of cure. Albucasis tells a story of an ignorant operator who in attempting to remove a goitrous tumour wounded the arteries of the neck and so killed his patient — Fodéri mentions a case when a barber cut away a tumour of this description from his wife, who recovered.\* That the operation is of long standing among the Hindoos, and that it is still practiced, is probable

probable, for Mr J. Baillie Haier states that he was informed, in his tour through the Himalaya mountains that Goitre, which prevails in the valley, then was sometimes cured, when surg. measures were taken, and that these consisted in extirpation of the part by the knife - He also adds that he saw some persons with the scars from the operation on their throats and that in these cases the cure was complete.\*

Hedenus of Dresden has been the most fortunate operator of modern times, having performed the excision no less than 6 times with success - Pögel and Theden have likewise met with favourable results in each of their operations - Desault was also successful in removing half of a Mucous-celous tumour - Prof. Graefe of Berlin removed the tumour at two different periods, taking up 50 arteries in both operations; the patient recovered - Doctor Clarke mentions a successful case also - On the other hand - Mr Gock relates two instances in which he attempted excision of the tumour - in one the hemorrhage was so profuse that he was obliged to desist before the operation was half finished - the patient died in less than a week from hemorrhage - the other nearly terminated fatally also the patient life being preserved

\* For further particulars see Gooch's Medical and  
Surgical Observations - page 136

† Journal de Chirurgie - B i . p. 120. Journal of York Med. vol ii . p 380.

preserved by constant pressure on the bleeding vessels,  
 night and day, for nearly a week (\*). Dupuytren also  
 removed a large Branchiole that caused dangerous  
 pressure upon the trachea & the whole gland was  
 taken away, and the four thyroid arteries and many  
 veins secured. Very little blood was lost, but the  
 woman died soon after the operation. It is pro-  
 -bable that in this instance some of the important  
 nerves were injured - Klein performed the operation  
 on a boy 11 years of age; the patient dying upon  
 the table† and lastly in a case by M. Major death  
 resulted from hæmorrhage - - These accounts of  
 the various operations are only of consequence as  
 a warning against attempting this very danger-  
 -ous operation - and surgeons are now so impressed  
 with the disastrous results attending it, that Excision  
 of the Thyroid Gland in Branchiole is now, and with  
 good reason, almost entirely exploded from Prac-  
 -tice -

Ligature of the gland has been practised with  
 more success, and on the whole appears more fea-  
 -sible than the operation of Excision - Thus  
 Prof. Lyme states that he adopted this measure  
 in the case of a lady who had a lobe of the Thy-  
 -roid enlarged into a round tumour with such



a narrow neck, as to appear altogether insulated" -  
 Mr Lister also employed ligatures with success in the  
 case of a little girl aged 13 who was admitted into  
 University College Hospital with a tumour of 2 years  
 standing, about the size of an orange, and which  
 the friends of the patient wished to have removed  
 on account of the disfigurement which it caused -  
 Mr Lister performed the operation by making an in-  
 -cision over the tumour, dissecting the integuments  
 & away so as to expose the base of the morbid  
 growth - He then passed ligatures at the base of  
 the tumour, in the same manner as he employs  
 them in excise tumours and fairly strangulated  
 the diseased growth - Considerable haemorrhage follow-  
 -ed the operation, which was suppressed by cold  
 applications - The case progressed favourably, and  
 the little patient was discharged a month after  
 the operation - (For the particulars of this case see  
 Lancet. Feb. 6. 1840-41.) As the tumour was soft  
 in this instance and caused little or no inconvenience  
 might it not have given way to iodine? -

Two cases of goitre have also been successfully  
 treated with ligatures by Mon: J. Bach of Stras-  
 -bourg - In both instances few or no ill effects  
 followed the performance of the operation and

both

Case.

\* For the details of these cases consult

Gazette Medicale de Paris - Jan 2, 1861  
or Edin. Med & Surgical Journal Vol. 56. p 292.

Combination of Knife & Ligature -  
preferable mode of operation - only  
transient in Central Intermittent, produces  
dangerous effects on Trachea -

both patients were discharged cured a month after.\*  
 M. Bach considers that all goitres are not curable by  
 operation - When the enlargement of the Thyroid Body  
 depends on the presence of cysts in its substance, or  
 when it is simply enlarged, as in simple goitre, or  
 even when it presents a scirrhous induration,  
 provided in all these cases the adhesions are  
 not too extensive, or the base too broad M. Bach  
 thinks may be operated on - see -

Such then is a summary of the principal operations  
 which have been at different times proposed and  
 adopted for the removal of Goitrous tumours.  
 Upon the whole, looking at the success which have  
 attended them, and also at the opposite results, by  
 death of the patient, failure in the operation, and  
 the recurrence of the disease, looking at them, we  
 repeat, and comparing them together, the average  
 results of none, save the last mentioned, have  
 been sufficiently good to warrant their repeti-  
 tion, excepting in cases when the patient's life  
 as before said, is in imminent danger, or his  
 or her life rendered miserable by the existence  
 of the swelling -

I have now only one other point to refer to, before  
 closing this subject - It is the use of Acupuncture  
 in those

in those cases of Bronchocele when the tumour is of a cystic kind, the cells containing fluid being of large size - This is a mode of practice not generally followed as it is but little known; but I am assured by a friend, a medical gentleman in large practice in Warwickshire, that it is a method from which he has obtained very favourable and satisfactory results since he has adopted it -

Poussier and others have also described a species of bronchocele, already noticed, in which the swelling is in a great measure composed of a single cyst, occupying a part of the whole of the gland - The late Doctor Mours in his lectures at the University mentioned a case of this description, which had come under his own observation, and which was partially cured by a seton - In these cases it has been proposed to tap the cyst with a trocar, evacuate the contents, and inject the cavity with some astringent liquid so as to produce permanent adhesion of the walls of the cavity, as in Hydrocele - This operation was performed in one case with perfect success, by the late Sir Astley Cooper - and in another case where the tumour extended under the clavicle the cure was accom-

- finished

by making an opening and introducing a ~~sponge~~ tent of lint from day to day - An account of several cases of this form of Brouchocele will be found in the *Lancet* for December 15. 1838, reported by Doctor Selwyn of Cheltenham - in which that gentleman was able to effect a cure in every instance, by evacuating the fluid in the first instance with a Trocar and canula, and after that passing a few threads of silk through the tumour to keep up irritation, and so produce adhesion - He (Doctor Selwyn) remarks, that "the period required for the cure is various, according to the bulk of the wen, the state of the constitution, disposition to healing, and other obvious circumstances" - He adds that he has treated at least a dozen cases in this manner with invariable success, and that in some of the cases he had to contend with complications from which the constitution was seriously suffering -

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We have now gone through the whole of the different forms of Treatment, both medical and surgical which are worthy of notice, & which have been proposed and adopted for the cure of Brouchocele - By comparing the results of both

both, no question can I think be raised against the superiority of the former, over the latter, both as regards safety and efficiency - As a general rule then, we may lay down the principle - that in all cases let the preference be given to the use of medicinal agents, employed either externally, or internally, or <sup>these</sup> conjointly - and with respect to the surgical treatment - so long as the disease is merely a deformity - so long as it does not interfere with any of the important functions of the body, or produce serious discomfort - does not distress the respiration by pressing upon the trachea, nor impede deglutition by pressing upon the oesophagus, nor derange to any great degree the circulation through the head, by pressure ~~on~~ upon the great vessels of the neck, nor encumber nor inconvenience the patient by its weight - in short if the many and various morbid symptoms, before stated, consequent upon the presence of a cyst of considerable size, are absent, we are not justified in recommending or performing any surgical operation what ever for the removal or diminution of a Bronchocele -

Conclusion

Very good

### Conclusion

I have now only to state, that I have endeavoured to give a brief, but as far as it goes a correct account of the disease, forming the subject of this essay, as regards its history, progress, causes, and Treatment. I am aware that I may have omitted many facts of importance, and perhaps have introduced others which might have been better absent; but the subject is in itself, one of great extent and not easily reduced within the limits of a paper, such as the present one - the great difficulty being, not in the collecting of matter, but in the selection of those facts of the greatest importance and interest. In conclusion I have only further to apologise for the imperfections and errors of this dissertation, and trust that for these, my present inexperience in the profession - along with severe indisposition during a greater part of the time occupied in the writing of it, will form a sufficient excuse.

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Edinburgh. March 24<sup>th</sup>  
1844

William Peach

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