On Cretinism.

by

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1855.
Cretinism and Idiocy

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"Causa laceret, vis et moriscina."

"Hinweg, hinweg mit diesen Gespenstern! Zeige die Blume mir doch, zeig mir ein menschliches Leben!"

Gott.</p>

There is no condition of life utterly hopeless; and whatever this is mind, there is no imprisonment from which it may not be freed."

"Lives of great men all remind us;
We can make our lives sublime,
And, if we cannot be a poet,
Yet, we shall be in the poem of time."

Footprints on the sands of time:
Footprints that perhaps another
Sailing on life’s ocean main,
A clouds, shipwrecked, drowned.

Yet shall not he be in vain;
Let no one be idle now;
With a heart for any fate;
Still achieve, still pursue;
Lead to labors and to war.

Longfellow."
On Cuvierism.

As greatly as the surface of our world is diversified by the appearances of Continents and Seas, Mountains and Valleys, Rivers and Lakes, so greatly a very slight survey will serve to show, the inhabitants populating in it, vary their physical and mental requirements. Those diversities, which may be enumerated as complexion, height, the activity of the mind, and more particularly the configurations of the head and the cast of features, are found to be confined to certain localities. This naturally leads to the conclusion that such appearances are characteristic of different nations descended from different races.

From this in modern times has arisen a new science entitled Ethnology,
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of the physical history of man, which science, while yet in its infancy, endeavors to classify those changes which we meet with, and attempts to discover the early origin of the human race. Ethnologists are entirely agreed that all the different appearances which we meet with in man, and the varieties produced from one common stock, in the same manner as we find in the lower animals the infinite varieties of the dog and of the pig, are merely new conditions accommodated to circumstances, which, if allowed to run wild and thus get rid of the influencing circumstances, would return to the original stock and thus prove their descent from it. How many such great varieties of the human form there are it is to be distinguished, it would be difficult in the present state of the science to fell, but there are five chief headings found by Blumenbach, viz. the Caucasian, Mongolian, Ethiopian, American and Malay. Each of these may be subdivided
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into other varieties, into nations and families; each possessing their distinct peculiarities—peculiarities, however, not important enough to be considered as distinctive of a race.

Education, Manners and Customs, Diet and Climate have certainly a very great and undeniable influence on the structure of the human body. It is from these and similar external influences that we have to deduce the many varieties which we encounter. This variety is peculiarly striking when we compare the inhabitants of distant and civilized land, with one another, when we find that in one land the strong peculiarities of another are not to be traced, the less so, the greater the distance be that they lie from one another. But this distinctive barrier between lands is not so marked the nearer they approach one another, and on the nearest approaches the distinctions seem to melt into one another and gradually to
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vanish. From the North Pole to South of the Equator, we find the human race change indeed very materially; but easy as it is to view the marked differences existing between a (appraise) a Greenlander, yet we should find it a very difficult task specifically to distinguish the steps by which the mixture between the two are gradually blended into one another. We find the not the mere complexion of our own country, (was in) the imperceptible steps from nation to nation through the yellow, red, and brown combinations to the glossy black of the Negro. This imperceptible transition depends no doubt on the perpetually changing and gradually following one another external influences. At the poles we possess the lowest degree of natural temperature; this becomes in insensible degrees higher as we travel towards the Equator, till we reach at home which we know as the Temperate Zone, and
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from this to a drier and warmer climate.
be determined air, until we arrive at the
highest degree of temperature in the Tor
ridic Zone. This change of temperature
is decidedly marked and must then have
considerable influence in itself on the
inhabitants, and besides from its in-
fluencing the animal and vegetable world
of course alters their mode of life and
life in general, which alterations are no
doubt those which originally caused the
great varieties of the human race des-
sended from one stock as we believe it
to be. But still more striking change
occur when there is no such change of
latitude, when we find that other causes
alter the soil, air, climate, and provisi-
ons, for example, the changes affected by
mountain chains, as in the Cordilleras,
southern and the West coast, towards the
Pacific ocean, the people are fair while
on the other side, brown and cephaloidea,
like the other American races, the former
being protected by the mountains, and the Cattes exposed to the hot burning sands.

On a smaller scale but in a more marked manner, changes occur in the human race in mountainous districts. Nor is this merely due to the effects of external influences on our frame within a small district observable as in these. Mountain men form a class distinct from those of the low countries, and we see in a marked manner in Scotland, and indeed in all hilly countries. But even among the inhabitants of the mountains themselves the variety is great. As we find that at the top of high mountain chain nothing exists but fields of snow and masses of ice, which the sun of centuries has never melted; that some thousands of feet below a few lichens begin to cloth the bare rocks forming the commencement of vegetation; that then by the influence of those lichens and the atmosphere the rock becomes disintegrated, and a fine
Introductory - Mountainines -

...and is inundated in which a hardy
fixage of Gentians makes its appear-
ance; that this sand and the decaying
flowers is washed down and affords nour-
ishment for another and more delicate
species inhabiting the higher Alpine alp,
and that descending still, we meet with
shrubs and large herbs, and trees; so we
find changes in the form of man at
the different elevations, equally marked as
those of the vegetation by which they are
surrounded.

In those highest Alpine meadows
immediately bordering upon the region of
snow, where the little Gentians and the Sto-
renailla raise their heads among the
scanty herbages, men, houndsmen and shep-
herds, a strong and hardy race are to be
found. But here is no fit place for the
residence of man. As Autumn draws on
they must leave their temporary abodes
and go deeper into the valleys, when as
they say in Switzerland "Die Alpe ist"
Mountaineers abode. The hills are covered up. Deeper down in the valleys where the Rhododendron marks the vegetation, we find two or three houses collected together forming a village where these men live, perched as in eagle nests, upon the cliffs, behind some trifling protection from the thundering avalanches, and hidden a great part of the year by mist. Of such villages are many in Savoy, Tyrol, Grisons and the Valais. The inhabitants of these high quarters are remarkable for their bodily size, their activity, ingenuity and mental abilities, strengthened and sharpened by the cold and wind.

We now dip deeper into the valley, where the rivers are larger, the air milder and not so clear, and here we have a richly wooded vegetation, and gradually the healthy appearance and bodily strength of the inhabitants seem to give way to that in the deepest valleys by the
valleys. 

rivers' sides, as for example, by the Rhone in Lower Pallars, we find sluggishness, weakness, enfeeblement and various diseases to be characteristic of the people.

Of these diseases, a soft, projecting, elastic bunion occupying the front of the neck, called Bronchocele or Goitre is the commonest and is indeed almost characteristic of some of the subalpine districts of Switzerland, in fact and the whole of the South of Europe.

For this complaint many causes have been assigned, such as the estraining occasioned by the carrying of heavy weights on the head; the congestion of the brain and neck attendant on much climbing of hills; the constant drinking of snow water and melted ice; or the confined state of the atmosphere in the valleys; and many more. Such opinions have all their parts.

Quarters both in facts and reasons, and have all objections. We find, for instance, in the valleys of the Rhine, for example, near Bonn, near St. Goar, near Rüdesheim,
Goitre

and on the Moselle, where goitre is frequent, that the people carry weights on their heads, but the disease is commoner far in the valleys of the Valais, where the burdens are borne on the back. The inhabitants of the Upper Rhine, no doubt, deriving their water from that stream, to drink melted snow and ice, and have goitres, but the same remarks does not apply to the neighbourhood of Troyes, to the All valley near Bona or to Derbyshire, where it is also very common. The popular belief in many places lays the blame on the waters and we find, more especially in Stypria, wells from which the inhabitants used to drink, or having by any accident drunk out of them, they used to an antidotal well to counteract the bad effects. Whatever the first well may contain, we always find the second to abound in iodine, Nature's specific for the complaint. Captain C. Germain, born in his travels in the Himalayas.
...-Göste--

says that "although the terracottas can get nothing but snow for some months in the year, they are not so subject to gout as the people who live in the damp grounds in the forests and the forest of the hills, where there can be no snow water." Again in many of the countries mentioned, in Tyrol, in Switzerland, in the Rhine and in Derbyshire, where gout is very abundant, it is always found coupled with a peculiar formation of the valleys. These are, generally speaking, narrow and much enclosed, and forming series of amphitheatres, with two, and often with one exit. Here the air is not affected by many ordinary winds, the shore is almost always calm, and there is but little motion or current in the lower atmosphere. This was held by some to account for it, but it is also at once but beside by the fact that there are many such valleys, as for example, in Scotland, where gout is rare or unknown, and beside
that the disease occurs abundantly in plains, as in the plains of India, where there are no hills whatever. Some again have imputed the disease to low dews, but this is answered by the objection that low living is found in every country and climate, and in its worst degree, without any finding such a result, from it. The most probable hypothesis is that which regards the origin of the complaint as being connected with the geological structure of the country in which it occurs. This idea has been maintained by many authors, and is now the generally adopted one, but as we shall afterwards find, it is insufficient, and not applicable in all cases, although when taken along with other facts, it must be regarded as the best explanation. Others have attributed the disease to the want of saline and bromine in the water, but this may be viewed as a branch of the former hypothesis.

But this, though at the same
Cocainism

some alluded to it, is somewhat apart from my subject, but I will return to it in consideration of the causes of the idea, the highest degree of evil to which the inhabitants of the lower valleys are subject. This is Cocainism. By the word "Cocain" we understand a being deformed and disfigured, and abortive of man, deformed by a pale leaden color of the face, by a flaccidity of the flesh, an incurable madness, and extraordinary amount of laziness and inactivity, an inability to speak or utter articulate sounds, and generally with very large goiters, a circumstance which has led to a much misunderstood connection of the two complaints. It may be looked upon as being the highest degree of idiozy, although it differs from it in having a vitiated state of the body in conjunction with the loss of the faculties of the mind. Thus it is composed of two distinct elements, the one idiocy, the other bad habit of body.
The derivation of the name is obscure. Mr. Grey in the Dictionnaire des Sciences Médicales derives it from Civédiens, because he says, the individuals affected with this malady (and called also Eugides) are humble and are revered as very precious serpents in the valleys of the Alps. He adds, however, that from the same cause, I am not inclined to frame his derivation, but incline rather to uphold the following. The inhabitants of the countries in which they are found, invariably add them and call them as poor unfortunate creatures. The term "Civédiens Géshing" is universal where the German language exists. This term I found to have come probably from the Canton Wallis, where they are the kind of a "Creïsin" and "Néaduer", and indeed the word "Civédiens" is frequently applied by the Germans also. From this and may conjecture that the word "Creïsin" is derived from the Latin "Créadrur", and so con-
Derivation of name. Synonyms.

Meeting links between the two is afforded us by the Romans who, that extraordinary language of the Greeks, the neared step to ancient Latin now existing, in which the name is "Crediva" having exactly the meaning of the German "Ge-

schöpf". Thus we form Creatura - Crediva - Cretin.

The name "Cretin" has been adopted in the English and German languages but there are other provincial names by which they are known, all having a similar meaning and derived from some peculiar feature in their appearance. Thus for example in Switzerland, they are called "Tocken"; "Tosten" in Styria; "Totteln" in many parts of Austria; "Talcken" in the Tyrol; "Totteln", in Salzburg; "Fexen" in Wurttemberg; and "Talchen" in various other countries, the last word being an

imitation of the sound of the voice.

In the discussion of the facts
Geographical distribution

In addition to this abortion of man, I
purpose saying a few words first, with
respect to their geographical distribution,
secondly, as their appearance and the
advantages, thirdly, as the cause of the
disease, and fourthly, as the mode of
alleviating it.

And first as regards the geographical
distribution.

I have already said that the region
in which Chagas is found is rather
the subalpine, and than the Alpine,
and the places themselves are for the
most part dense of disease in the highest
degree disagreeable to live in, and often
a time, despite the beauty and attractions
of their situation, dreadful to behold, and
the filth, want and destitution with
which they abound. Where found among
the utmost gorges of an Alpine chain, a
river reaching as flattened valley, slowly
permeates it, and overflowing its banks,
ends up to exhalations into the atmosphere.
Geographical Distribution.

And renders the whole soil stony, and the air humid, and where this air is shut in all sides by high rocks and mountains at the foot of which villages are built, full of dirt and uncleanness, houses closely packed together, and the people poor and but ill supplied with the very necessaries of life, where the winter snow almost fills up the valley, and the summer sun, hot and dry, burns up the surface of the earth, there do we find the Cebrias. Such is the case in Syria, in the Candon Villains, and on the Sardinian side of the Great St. Bernard, where they exist in almost incredible numbers. It is difficult to say anything in allusion to the distribution of Cebrias, without at the same time, considering that of Brachiocele. The latter has a connexion with the formed thought and understanding, and this few generally occur together. When Cebrias is very abundant, their goose never fails. But the reverse is not
- Geographical Distribution -
the case. Bronchocèle often exists where
there are no Cretins. The endemic disease
of Cretinism is confined to a few spots on
the globe, while Bronchocèle is endemic
in many countries. But where Cretinism
is endemic, almost all Cretins have goiters,
and generally large ones. There are Cretins
indeed in Switzerland without goiters, but
they are rare. Watson, in his "Practice of
Physic" mentions that when both parents
are goitrous for two generations in success,
the offspring of the third generation is a
debilis. And if this is true, I cannot say,
but it is certain, that when Cretinism is
found to have been new endemically in any
globe, Bronchocèle is also found to have
been its forerunner. They must then have
some cause in common, or they act in com-
binaction. The disease of Cretinism occurs
very abundantly in the Alps. Upper Alps
being abundantly its head quarters. From
this point it disappears suddenly to the
north, and southward toward Salzkammergut.
— Geographical Distribution. —

and (where it is said to exist, though I have found no trace of it although abundant goitre) and Salzburg, decreasing gradually till it reaches the broad plain of Bavaria, when it ceases almost completely. It is found there and nowhere in the basin of Salzburg they are occasional. It occurs in some parts of the Tyrol, where goitre is universally common, and also from northern provinces of Austria, Lombardy, in case of two have been recorded. In Savoy the disease is extremely common, was much that in Abbas, St. Pierre and Morges there seems to be as case in almost every one of the diseased and Goethe's other families. It occurs also in the Pyrenees, where it appears to be somewhat anomalous, as according to Ramond it was found in the open well-watered and well-ventilated valley.” In the hilly parts of China, in the Himalayan Mountains, and in other parts of Asia its occurrence is uncommon. Sir George Bannister mentions
- Geographical Distribution -

the occurrence of the disease in Chinese Tartary. And Mr. Marshall in his history of Serenissimo (1787) mentions having seen it on an island in that island. But it is in the Alps of Switzerland that it has been most observed, not perhaps, because it is really more prevalent there, but because there have been most observers. And its distribution is general but definite. Mr. de Saussure mentions in the "Voyages en Alpes" that he found the disease of

for the greatest frequency in the Vallée d'Aoste, which reaches from the foot of Mt. Blanc, to the Plains of Piedmont.

The Rhone, rising in the glaciers near the Furco, at the head of the Casdor Valley, runs almost directly southward through a valley, which is actually enclosed by the steepest hills, and in general between three miles (English) and one and a half miles, at the end of which it flows into the Lake of Geneva. At the very mouth of this valley at Villeneuve, near Chillon,
Distribution in the Alps.

Just where the river enters with its broad and almost stagnant mouth into the lake we seem to recognize a new country. For already here we find the people with a pale dirty yellow complexion and with large nostrils. But these people, although stupid and dull, yet retain some sense and are not Cordis. But as we ascend the river a few miles distant at St. Hilaire and Bex, we find real Cordis, as regards intellectual powers, little removed from beast. When and higher in the valley they increase and at Martigny are more abundant still. But some little distance higher on the St. Bernard at Liddes and Bany we find no farther trace remaining. For the Neolithic period of bombast in Savoy they are occasionally found but rarely in Montreaux, Talinches and Bonneville. This circumscrupled system seems to be the great theatre of its distribution in Switzerland; although found in many spots over the rest of the country I have encountered no example on the
Distribution in the Alps—

Greatest wheedles in the Bernese Oberland, but have little doubt from the inquiries I made about him, that he was brought from Valtellina for begging purposes. In Bellinzona, on the North Arm of the Lago Maggiore, examples occur. In the Grisons, I believe, they are not at all uncommon, though most affected to a very great degree, occurring chiefly on the borders of the Canton with that of Glarus, and the valleys of the Rhine. In Canton Argouin (Argovie) it is
not infrequent, and on the whole in the entire population of the Swiss Confederation 2, 188, 000, or less than 20,000 persons are calculated to suffer in a month or less from echinosis. These, according to a report published lately at Genoa entitled "Raccolta delle Relazioni C. concernenti le Stabilimenti dell'Uscrib'edere," are thus distributed—

In the Canton Valtellina there is 1 person in every 75 per

District of Bordon (first Band) 27
Canton Uri 1 83
Canton Argouin 1 167
Distribution in Europe.

In the Canton Griesen there is 1 Credin in 266 Inhabitants; and in that of Glarus there is 1 in 375. Returning to the examination of the rest of Europe we find that the disease is endemic in various parts of Rhenish Prussia. An island named Niederwörth, in the Rhine 47 miles and a half below Cologne is a remarkable example. On this small island no fewer than 40 among 750 inhabitants were found. In the vicinity of the Lake of Lauer, near Bonn, there are many in all stages and in one of the villages of that district, in 300 inhabitants there are 22 Credins and Pohds. In the Grand Duchy of Baden, the report of the sanitary commission of 1847 mentioned the occurrence of 490 Credins chiefly in the Black Forest and the Odenwald. As regards Scandinavia the royal reports on Credinism give us the following results. The population of the country is 4,123,740 of whom about the half live in the city district, where Credinism is endemic.
Distribution in Europe.

And we have 70,840 cattles, besides many half cattles, of which 35,000 are in Savoy, 14,100 in Mauvieu, and 2,180 in the Valley of Aosta. But Dr. Guggenbirk considers that this report is not complete, that many of the districts were not completely searched, and he agrees with Dr. Echlin of General in calculating the number of 10,000 and upwards. In Bavaria, according to Poy, Vickson, in lower Franconia in half a million of inhabitants there are at least 200 cattles. For the high lands of Bavaria the disease is still more common through not statistically reported. In Austria the disease is very abundant. According to Dr. Schamburger, along the banks of the Danube in upper Austria, the disease is universal that whole families consist only of cattles and half cattles, and to such an extent that in villages of from four to five thousand inhabitants not one man was found capable of bearing arms. On examination 6,000 cattles of the world
Distribution in Europe.

kind red found in Steiermark. According to Prof. Langen in the different provinces of Austria the number of Coedins stands thus:

In Judenburg 1 in 53 inhabitants.

" Brüch 1 " 74 "

" Graty 1 " 150 "

" Mainburg 1 " 374 "

" Lilly 1 " 516 "

In Wurttemberg it is calculated there are about 5000 affected with the disease in the kingdom. In Denmark too a considerable number of Coedins exist among the 2000 Idols of the population. In Norway there are also 2000 Idols, but even among the mountains bearing the strongest resemblance to those of Switzerland bodily deformity is by no means so prevalent. In several parts of France Coedins are also mentioned as occurring, as in the department of Borges de. When a statistical inquiry is directed to the subject I have no doubt that among the many
Distribution

districts of England, Scotland, and more particularly of America, as in Massachusetts, where there is an idiosyncrasy almost of every 20th inhabitant. Many cretins will be found, and from general observation it will add to the geographical charts, the occurrence of cretinism, near Edinburgh and in the highlands of Scotland.

Now in nearly all those places where I have mentioned cretinism as occurring, goitre abounds, and there exists among the Alps and elsewhere where almost all the inhabitants are goitrous, and aged not one cretin exists. I have frequently heard of a valley, though I am not prepared to say where it is, where all the inhabitants are goitrous, and when a traveller, he hears the people stand at him, and stroke their chins, and when among themselves is bent without this ornament they laugh at him, and call him "goose neck" and yet neither...
description

and amongst them. Districts and found to be the
where are Cretins without goiter but not
commonly.

And now that we have considered
the distribution of these unfortunate beings
it is time to inquire into their peculiar
ficiarities. What and whence are they?

I was walking one Autumn day
down the valley of the Rhone on the
road between Four and Marbrigny, when
approaching the little village of Riddles.
My attention was attracted by a somber
thing. I could hardly tell what creature
or burrowing out the foot of a wall on
which the sun was beating with a
tongue. I went up to it and found
something like a human being, but that
was the only vestige of humanity, and
that very shade was almost unrecognizable. His being was so frail. I examed him with care and interest, as
he was the first I had seen, and it
meanwhile, looked quite unconscious.
in the warm sun. And a mournful sigh it was to see the detachment of the dismembered human form. With his extremities drawn up, as a hedgehog would, and closely bunched on his round fat belly, and one arm just over his face like a dog with flies at his ears, he lay there and groaned with a sound and quiet breath. The expression of his face was a blank, as if expression there was, I saw companion to nothing but a glimmering of melancholy which, however, disappeared the moment his fine large eyes were opened. But large and fine as those eyes were, they had such an fixed stare, and such a complete want of idea, that I unconsciously compare them to wax, which they much resembled, for when he opened them, they seemed to fall rather than be thrown upon me, and remained in the same position all the while I looked at him. I spoke to him in German and French, but he seemed quite unconscious of my
Credin of the Ballairs.

voice, but only pulled his legs together, and kept his eyes as before. I then spoke to him loudly in the habit of the count.

At this he turned himself as if it were familiar, and shaking his great distended head, and great goitre, began not to a sort of unearthly chatter, as premonstrating as horrible, and ending in a howl, he rose from his position. He struck me now that he was blind, and I had little doubt of it from his mode of walking since he seemed to guide his way along the wall side. And this walking or rather crawling, for it was accomplished as much by the hands as the feet, exhibited the whole proportions of his frame. He seemed to be much below the usual size, and all the limbs were bent and distorted, and the great goitre hung down like a cow's rider; and that he had the most striking part of his appearance was his abdomen, which was as disproportioned as the head of a foetus.
He seemed to have no idea of my presence and I had thought he answered me, but my hand had been mistaken, for in a minute or two he sat down again by the wall, and drew himself up into a ball. He had wound with the wind to a rounded head of the well, and that was all the movement of which he was capable, this only bend seemed to be feeling. I was now satisfied, and turning away, asked the villages if he had been long ill? "Yes since childhood," was the reply. "How long would that be ago?" "Fifteen or sixteen years." "He would die soon," I supposed. "Maybe or not. Some blend of them old energy," said my informant, who seemed to think the conversation highly uninteresting and ready to resume it, so I went on to Mandrigny. Here and in the neighborhood of the St. Bernard, as well as near Monte Rosa, and in other parts of Switzerland and the mountainous countries of the south of Europe, and in the borders of the
Aberdeen at Interslacken, I had opportunities of seeing many others, but none struck me with such an indefinable horror as did this, the first one of the Wallachs. So much for one. Let us look at some other seeds. Mention of these beings is made by various authors, who have all come to the belief similar results.

The oldest mention of the disease that we have is in the works of Wolfgang Hörer, an Austrian physician, who was afterwards physician to the court of Vienna, published in 1675, containing his observations in the Steyrnian mountains. Since his time many authors have paid attention to the subject and noticed its occurrence and peculiarities in many different countries.

The German J. G. Kohl in his "Himder Tage auf Reisen" and Weber in his great work on Germany have both made allusion to the subject. The former Kohl describes them as they occur in Styria, and gives them the name of Tothelns, as they are there called, also
of Tches or they are known in Christianity. He describes them as being very abundant about Groitz, where the valleys are narrow, the climate rare, and the food meagre. Inhabiting 3000 cubi, "With forms covering men," he says, "with dull listless eyes, with bent legs and twisted necks, many have three or four adobe dwellings at their entrance. These misshapen abnormalities drag themselves everywhere through the streets. It is the boulder-dropping and laming of humanity that is to be found anywhere on the earth. For the body is as deformed as the soul is debased, and the understanding as blind as the feeling prevented. These wretched creatures are for the most part, malicious, revengeful and cruel. They exhibit where they eat as much occasion and entirely brutal appetite, as indeed all their senses. Insensitiveness is manifested in a most brutal and disgusting way. Like the brutes they have generally as keen scent, but their hearing is seldom acute. Their growth Ishlayson

...and they are mostly of small stature. This is a small kind of nature to these unfortunate for which we ought to be thankful. For if these unsightly shapes were allowed to attain a large and full development, the sight would be altogether intolerable." So says the German philosopher.

Weber, a more practical traveller, almost reiterates these statements, and ends by saying that these Croods are midway between man and beast as California and the New Hollanders are.

We may compare with these descriptions the most powerful and given by Benchold Beaupré in his "Dissertation sur les Croods." "Who," he asks, "is this melancholy being who bears the human form in its lowest and most repulsive expression? See a head of unvarnished face and size, a squat and bloated figure with a stupid look, with a thick, projecting eyelid,
and a flat nose. His face is of a leaden hue, his skin is dirty, flabby, covered with fetters, and his thick tongue hangs down over his moist, livid lips. His mouth always open and full of saliva, chews jet, which is going to decay. His chest is narrow, his back curved, his breasts asthmatic. I see, instead of arms and legs, but his limbs are short, misshapen, bandyly, without power and without utility. His knees are thick, and inclined downwards, the feet flat. The hump which droops listlessly on the breast, the belly resembles a bag, and the integuments are so loose that they cannot restrain the intestines in the cavity. This loathsome idiotic being has no hand, no leg, no mouth, and only now and then utters a hoarse, wild, inarticulate sound. notwithstanding his greetings, he is evidently unable to support life. One passion alone seems sometimes to cause him from this moral insensibility, this is the sexual instinct in its indescribable form.
...Beauharnais...

sight we should be inclined to place this being for a gigantic polygynus, something in imitation of a man, for it scarcely more
its crests with the painful heaving of a bloat; and yet it is the monarch of the earth, and detached and degraded. It is a

M. Adolphe in his "Traité des Goitères et
du Catéchisme," gives us also the most able account we possess. He states thus:—

"Goitres often show in the earliest infancy what they are destined to become: they
have sometimes in their first years incipient
and goitre; a humped swollen condensation
their hands and head are large and out of
proportion to the rest of their bodies; they
evidence insensibility to atmospheric im-
pressions; and habitual state of debilitated
blood; difficulty in sucking as if strong
weakness of the innert connected even
with the first sounds; very slow and very
imperfect development of the faculty of
articulating sounds; often they are only
Development of the Disease

capable of learning the pronounced vowels without command.

Koehl, in his Thuringian travels, says that he found the first symptoms of Cretinism to be a dullness of the eyes; and that experienced persons can tell by the look of a child's eye, whether it is or is not to be idiotic. As Cretins grow older they become even more awkward and clumsy in their movements, and are sometimes at the age of ten, too lazy to swallow their food, which has to be pushed down their throats! Cretins are, however, not always boys. The disease has been known to make its appearance even as late as the period of eight years old. A case of this kind is mentioned by Dr. Koehl. This lad had been till his eighteenth year quite healthy, and was attending school with boys of his own age, and had made considerable advancement in his studies. Suddenly, however, the dullness and shades of the eye made its appearance.
Characteristics -

Their features assumed a rigid and stupid look; his legs bent inwards and became crooked; his gait became clumsy and slow; his memory and his desire of knowledge vanished; and his mind was blunted in all directions. Still at last he became a perfect forest, and almost a mere creature, without feeling, without thought, and yet living and yet of man.

Resuming the account given by Dr. Friel, we find that "these Cretins are obstructed with a reasoning madness. Temper, which is only sustained by maternal kindness. They show no disproportion and smallness of head to the rest of the body; their heads are flattened at the summit and at the temples, and the baldness of the occiput is left projecting than natural; their eyes are small, sometimes deeply set, at others prominent; their lips fixed and stupid; their cheeks are flat; their fingers thin and long with small articulations; the soles of their feet..."
flat and sometimes bent; their feet often turn either inward or outward; puberty comes very slowly with enormous size of the genital organs. Obscene and inordinate propensities. It is not until this epoch that Coelans generally walk about; their locomotion is yet very limited, and only excited by the desire of getting their food, or of warming themselves in the chimney, or in the rays of the sun. His litter is to the Coelin the term of his longest and most fatiguing journeys, and to it he comes bot- thinning with his arms hanging down and his body reeling about. For seeking his object he goes forward without stumbling against or obstacles; he can make no other condition that with which he is familiar. When he has attained his full stature, which is from thirteen to sixteen decimeters, the Coelin's skin becomes brown. His sensibility continues obscure; he is indifferent to cold or heat, or even to blows and wounds, he is generally deaf and dumb.
the strongest and most revolting odours can affect him. I have seen "condines Fodéré, a
Cédrin, eat with avidity raw onions and even charcoal, which proves that the organ of
Gare is gross or imperfect. While more or less rigid and strict, which are modes of
discernment and intelligence, the organs of which must be very limited or very im-
perfect. The affection of Cédrins seem to be still more dull; they have often no sort of
gratitude for the good offices rendered to them; they show scarcely any sensibility
at the sight of their relations; and without written pain nor pleasure in respect to
their physical wants. Such is the physical general life of the Cédrins during a
long career, far reduced to a sort of regular and automatic existence. They arrive
without difficulty at an extreme age."

Regarding this latter statement, there is a considerable difference of opinion and it
seems on the whole more probable that their life is short. The assertion made
Length of Life

with regard to the longevity of (creatures of the human race generally,) is contradicted by many authorities, but still Kuhl assumes his readers think the vital force, although diminishing as age advances, yet retains, for the Cebrenia life to a great age, and many of them drag out their unhappy existence for 70 years or more, as he says, "as causing to themselves, and are exposed to creation." But Weber expressly contradicts this statement and winds up some remarks on Cebrenia by saying that it would be wrong to wish them an old age, and better far to kill them out of mercy as some barbarians do. And he adds, "dass größte Segen des Himmels ist indessen der, dass diese traumaige Geschöpfe selbst alt werden." The greatest blessing of heaven is just this that these unfortunate creatures seldom grow old. And such as remarks would not have been made by one observer such as Weber without considerable examination of the subject. I have seen a case as close thirty, but only one, and it would
seen that they generally die about that age.

Many descriptions to the same purpose might be added from different authors, but it is unnecessary as they all lead to certain similarity, and only tend to show the reduced > [illegible] physical and mental, to which these beings are reduced.

I may add a few words on the description of the skull of a certain which I had an opportunity of examining in Berlin. It was only at the base of the skull that any unnatural appearance is observable, the summit and sides of the examination not suffering their normal appearance, with the exception of the temples being slightly flattened. From the lower curved line of the occipital bone instead of as generally is the case, the bone gradually ascending and sloping backwards, it goes at once straight and producing a flattened appearance of the back of the head, so that the occipital projection lies straight above the posterior
Anatomy.

From the foramen of the occipital on the side bones this foraumen looks backwards rather than forwards, and at the articulation with the ethmoid, the basilar process is bent to such a degree as almost to form a right angle. The occipital protuberance was much enlarged. This peculian change in the formation of the bones gave an striking appearance to the lateral aspect of the skull's base, and on looking into the interior I found an equally curious change in the formation. I observed that the basilar process was curved upon itself, and the posterior fossa of the skull, behind the lateral sinuses so small that it could scarcely contain a third of its proper mass. These lateral sinuses too were much wider and larger and the ground for them much deeper than in the normal skull, and that also owing to the peculiarity of the shape of the basilar process their course was longer. That the Forbin skull is larger in proportion than the average head of the same age.
Size of Cranium.

As shown in the following Tables. In the first five cases and from Dr. Guggenburg's statement, the sixth is from an objection in the Medical collection of the Boston College. The first measurement is the circumference of the head above the superciliary ridges, passing through the most prominent point of the occiput; the second over the top of the head from the root of the nose to the occipital protuberance; the third also over the top of the head, transversely, from one ear to the other.

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>1st measure</th>
<th>2nd</th>
<th>3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marie S.</td>
<td>2 years</td>
<td>16 inches</td>
<td>13 ½&quot;</td>
<td>10 ½&quot;</td>
</tr>
<tr>
<td>Claudine S.</td>
<td>2 years</td>
<td>18</td>
<td>14 ½&quot;</td>
<td>12 ½&quot;</td>
</tr>
<tr>
<td>John F.</td>
<td>3 years</td>
<td>20 ½&quot;</td>
<td>16</td>
<td>9 ¼&quot;</td>
</tr>
<tr>
<td>Eliz. Z.</td>
<td>3 years</td>
<td>19 ¼&quot;</td>
<td>13 ½&quot;</td>
<td>12 ¾&quot;</td>
</tr>
<tr>
<td>Madal D.</td>
<td>5 years</td>
<td>20 ¾&quot;</td>
<td>14 ¾&quot;</td>
<td>10</td>
</tr>
<tr>
<td>hearing of Paulus Aged</td>
<td>20 ½&quot;</td>
<td>13</td>
<td>11 ¼&quot;</td>
<td></td>
</tr>
</tbody>
</table>

For reference to this Table I may mention that the law laid down by Dr. Gall was that when the first and second measurement of the head are below 17 and 11 inches.
Skulls of Idiots

There is always greater or less stupidity, that when the first measured from 11 to 13 inches and the second 8 or 9, the condition can be little above idiocy. We can compare the above table with the two subjoined from the American Journal of Science, the first giving the measurements of the skulls of idiots, the second that of the normal skull, from which we can observe that the skull of the Cretin is by no means so deformed as that of the true idiot, whence renders the greater success which has been experienced in the treatment of the former.

Table II. Idiots.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Age</th>
<th>1st. M.</th>
<th>2nd. M.</th>
<th>3rd. M.</th>
<th>Where found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>25 yrs</td>
<td>15 3/4</td>
<td>13 3/8</td>
<td>10 1/2</td>
<td>Freshwater kid. Cold</td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
<td>15</td>
<td>10</td>
<td>10</td>
<td>&quot;</td>
</tr>
<tr>
<td>&quot;</td>
<td>60</td>
<td>18</td>
<td>11</td>
<td>10</td>
<td>&quot;</td>
</tr>
<tr>
<td>Male</td>
<td>adult</td>
<td>18</td>
<td>10</td>
<td>10 3/4</td>
<td>&quot;</td>
</tr>
<tr>
<td>&quot;</td>
<td>&quot;</td>
<td>18</td>
<td>11</td>
<td>11</td>
<td>&quot;</td>
</tr>
<tr>
<td>Female</td>
<td>&quot;</td>
<td>18</td>
<td>10 3/4</td>
<td>10 1/2</td>
<td>&quot;</td>
</tr>
<tr>
<td>&quot;</td>
<td>&quot;</td>
<td>18 1/2</td>
<td>10</td>
<td>11</td>
<td>&quot;</td>
</tr>
<tr>
<td>&quot;</td>
<td>&quot;</td>
<td>18 1/2</td>
<td>10 1/2</td>
<td>10</td>
<td>&quot;</td>
</tr>
</tbody>
</table>
### Table III: Normal Skulls.

<table>
<thead>
<tr>
<th>Subject</th>
<th>1st Meas.</th>
<th>2nd</th>
<th>3rd</th>
<th>Where from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Skull</td>
<td>21 inches</td>
<td>12 1/2 inches</td>
<td>12 1/2 inches</td>
<td>Boston Medical College</td>
</tr>
<tr>
<td>Child. 30</td>
<td>21 1/2&quot;</td>
<td>12 &quot;</td>
<td>12 &quot;</td>
<td>Boston Nat. Hist. Soc.</td>
</tr>
<tr>
<td>Child 5 yrs</td>
<td>18 1/2 &quot;</td>
<td>12 &quot;</td>
<td>12 &quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>&quot; 4</td>
<td>18 1/4 &quot;</td>
<td>11 1/2 &quot;</td>
<td>12 1/4 &quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>&quot; 3</td>
<td>18 &quot;</td>
<td>11 1/4 &quot;</td>
<td>12 &quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>&quot; 2</td>
<td>17 1/2 &quot;</td>
<td>12 &quot;</td>
<td>12 3/4 &quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>&quot; 1</td>
<td>17 1/2 &quot;</td>
<td>11 1/4 &quot;</td>
<td>12 1/4 &quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>at birth</td>
<td>12 1/2 &quot;</td>
<td>8 &quot;</td>
<td>8 &quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Postnatal</td>
<td>13 1/2 &quot;</td>
<td>8 &quot;</td>
<td>8 1/2 &quot;</td>
<td>Medical College</td>
</tr>
</tbody>
</table>
The other most marked circumstances which have been observed and recorded by Glucksmann in his "Medical Psychology," and frequent atrophy and occasional hypertrophy of the brain, effusion of water, cerebral formations, fungus and hydatids have been found in the cavity of the cranium. The cortical substance often exceeds its normal quantity and both it and the medullary are often softened. The falx cerebri has been found empty of blood, the cerebellum softening, the cerebrum, the convolutions of the latter and the lamellae of the former diminished in number. On examination with the microscope nothing abnormal has been detected, but the blood is thinner than in the normal state. The lungs are frequently small, flaccid, and full of tubercles, with frequent adhesions to the pleura, the bronchial and mesenteric glands are indurated, the heart slightly atrophied, and the chest and abdomen filled with serous exudations.

As regards the hypertrophy of the brain
Pathological Appearance.

Dr. Collin [sic] of Geneva, as false hypertrophy as the most probable cause of the disease, as he says, this organ may undergo a kind of vesicular expansion, without any actual peritoneal effusion, which diminishes and flattens the convolutions, in other words, hypertrophy with dilation. In this dilating stage the cranium becomes atrophied, the sutures separated and the fontanelles widened. When it is over, the brain again subsides and the bones become disproportionately hypertrophic, thus accounting for the thickening of the skull observed in Credins of advanced age.

Thus then I have endeavored to give all the peculiarities which we can trace in the form of Credins. It is now our duty to ask, what disease is Credins and its what analogous? Those to which we find it nearest allied are as regards the mind, Idiotism; and in relation to the body, Pidrett. By Idiotism, we understand a state in which the mental
'Idiots, Rickets.'

Faculties have been wanting since birth, or have not been manifested at the time when they are usually developed. (Rickards on Insanity.) Rickets is a disease attacking the skeleton, during the early years of life. Concerning it Stanley ('On the Bones') says that in some instances it begins immediately after birth. It rarely, however, appears before the fifth or sixth month, and the most frequent appearance of it is between eight and twenty-four months. It may seldom commence after infancy. And the same words apply to Cretinism; while the descriptions of the diseases and the phenomena attending each are very similar. The bones are incompletely formed and developed; they are bent, deformed and distorted; the helvis is small and flattened; the long bones crooked, and the head small from the want of growth in the bones of the face, producing cause also the head or cranium appears larger than normal. The features in Rickets are strongly marked and diseased.
Characteristics of Poliomyelitis.

But the intelligence is often very great, in which point the difference is marked. We may then consider the disease of Poliomyelitis to be highly developed Rickets accompanied with Idiobrosis. We may indeed look upon Poliomyelitis as a variety, and the highest degree of Idiobrosis, or degeneration of all the faculties of the body and the mind. Its peculiarities consist in certain characteristics accompanying the general appearances of Poliomyelitis. These peculiarities according to Fehl-bollebenis, and the following: 1. When it is epidemic, goitre is a swollen growth of the body, it being coarse, dwarfish and ugly. Therapeutically, that is, not only as applied to the i.e., as it generally understood by this term, but the effective sight in general with balance of the membrane, and weakness of the nerves. 2. A deaf and dumb state, not acquired through disease, but congenital, and arising from a rudimentary in early youth. All other phenomena and those of Idiobrosis in general. Maffei in his Untersuchung über clea
Cerebrismus and Idiotism.

Cerebrismus looked upon the want of hearing and speaking as the two most marked signs of the malady.

Dr. Guggenbühl divides Cerebrismus into several classes or stages of the disease. He defines it to be a disease of the cerebral system causing a want of development of the speech and receptive faculties, and considers that if this disease of body be removed, the malady of the mind will be more easily overcome, than in those cases in which the body is in full vigour and the mind idiotic. To prove this he cites in his work two cases, the subjects of which were brothers, treated in the Asylum of the Poor, the one a Cerebrin, the other an Idiot.

A. B. old admission 9 years old, had a round microcephalic head, lean attenuated body, long slender arms, universal relaxation of the muscles, mentally shrinking walls, and knees bent forward like monkeys. His face plainly showed the state of his mind; the tongue was thick and knotty, swollen at the front, the teeth incised, badly formed irregular:
The lips were puffy, the lower lip hanging down, the constant running of saliva from the mouth, and bad breath. He chewed hard substances with difficulty; the corners of the mouth was flaccid in consequence of seraphinum flaccidum, the tongue retreating, the uvula flattened; the eyes projecting; the colour of the face pale, lymphatic; hearing and the senses generally impaired. The condition of his mind was foreboding that of his body; his ideas of everything was indistinct and confused; his speech and inscrutable "Lallen" of broken inarticulate sounds; he was besides as very curious and unbearable being, was strongly drawn to striking and scratching and had no general predominance of the "peschans inferior.

His development was lowered highly reasonable; with the advancement of his bodily health, his mental life went rapidly forward, the boy learned to read and write, became tolerable adept in Geography and Natural History, and after three years wrote very pretty letters to his parents, and was
...Creptinism and Delirium... able to make himself understood in conversation.

His brother, E. B., on admission 7 years old, was born with a fully developed body. But in 4 weeks he was seized with convulsions and congestions of the head, the former being irregularly repeated every three weeks. Meanwhile his body flourished, and always retained the normal growths for his age but the mental development was deficient in so far that he had never learned to speak or write. He was constantly amused himself by playing with strings, and was from time to time excited to tears and shrieks, all of which came in his way. His body was thoroughly strong, his eyes had a lively glance, and his face was so beautiful and regularly formed, that many visitors imagined him to be a healthy boy.

The circumference of the head showed no deformity, the first measurement was 14 1/2 inches and the third 12 1/2. The convulsions better ended the use of Ether and the Preisner's heaven. Care...
Classification of Cases

But the mental state remained almost as bad as ever, with innumerable difficulties he was brought to be able to speak a few words, to be sedentary and cleanly, and to give into eating stones and dirt.

The Classes into which Dr. Guggenheim divides Cereins are four. 1. Those in which the body was much emaciated, and the limbs paralyzed. These he terms the Atrophied Cereins and he believes that in them the spinal cord is chiefly affected. Of them he gives an example (his first report) in the case of a girl who entered his establishment at the age of six months, having, since the fourth month of her existence, had a wasting of the whole system, as completely disturbed digestive apparatus, and as very irregular structure of the head and its branches. Pursuing his line of treatment with her, in the space of twelve months she underwent a complete metamorphosis, and has eighteen months after the time she left the hospital she gained completely the power of speech.

2. Those affected to a great degree with...
Classification of Caebins —

(molluscs ophiuroids), independent of the damage
to the muscular and nervous systems, and
in consequence with bent limbs — the Pickel
Caebins. As an example of this one of his
cases recorded is that of a girl, whose father
had a tendency to melancholia, born in a
country disposed to Caebium. In her first
years her development was arrested by fevers
and sickness. On entering the Aberdover at the
age of eighteen months she was slightly par-
alytic, with a narrow forehead, giving no
appearance of intelligence, not even ob-
seving external objects. In about eight more
she commenced to think and to walk, her
intellectual and moral faculties developed
themselves as the heat increased in volume.
After a residence of four years she left the
hospice in excellent health.

3. These are chronic Hydrocephalus, with
wasting of the nervous system, absence of moral
and intellectual faculties, various symptoms
of paralysis, and almost approaching the
fourth grade — the Hydrocephalic Caebins. As
Classification of Cases.

Examples of these he gives in the case of a girl born of delicate parents, with an anxiety of a particular tendency. In early infancy this girl, whose brain was previously deformed, was attacked with cramps, coughs, hooping cough, and chokings, all very slowly recovered from a violent attack of fever, with increasing diminution of the power of speaking and walking.

On entering the establishment, when four years old, the disproportion of the head to the face and the rest of the body was very noticeable, the sensory functions were in general inactive, but a general feebleness more particularly of the muscles was very marked. She could not speak, walk, nor even eat, while she understood several words and short phrases.

The elements of judgement, feeling and will existed, but they were almost distinguished, and her character was capricious and melancholy. This patient was also cured in the establishment.

4. Those in which the worst symptoms are found, and which prove most intracable.
Cretinism & Rickets

Etiological Cretinism. The same if not all the above conditions existed together.

It seems probable that in many the idiocy is the consequence of the Rickets state of the bones of the skull. A careful examination of cases of Cretinism made in the Canton Vallais, shows according to Dr. Guggeri-Guertl's account (1st Report) that at least a half of them commence with Rachitic softening of the bones. I find since writing the above; Astrid M. D. in the Dictionnaire des Sciences Medicales mentions an old work by a Dr. Ackermann who attributes the entire cause of Cretinism to a cachectic state of the body inducing pachydermal Rickets of the cranial bones and causing them to press on the nerves at their origin, producing the phenomena of idiocy. Taking the appearance of the skull and the above facts into consideration I am fully inclined to agree with his opinion and consider it as accounting for the secondary phenomena of Cretinism, the idiocy, but we have yet to discover why this idiocy exists should be induced and what remedies to
Life of the Caledonian.

[Text not legible due to handwriting]
Life of the Cuckoo—

It is owing to this belief, and the constant mention of the British traveller abroad, that we possess no particular account of them in our language, and it is merely here and there that we find a notice of a few lines made of them. But there is still great room for practical examination and scientific investigation of these beings who in many parts of the Swiss Alps, slightly off the beaten track and to be found in hundreds.

As in Scotland we look upon witches as a kind of ballyhoo superstitions, so in Syria in Switzerland, and in the other countries in which they occur, the Cuckoos are looked upon as a species of ballyhoo individuals, sacred beings as the gods are whose collection is cast for the benefit of the community; and consequently any injury offered to them is sure to be highly resented. This arises from a natural feeling which is shown more or less by all nations, as we see for example in our own country, and in the high restraints laid by the Turks to ride to. The cause of it...
is the total helplessness of the beings who need all the care which can be bestowed on them, and because the uneducated common people seem to feel that these beings are suffering such dreadful, mysterious, and apparently undeserved afflictions not for themselves so much as for the sakes of the family to which they belong. And it is in relation to this that the philosophizing German Rohl remarks: "That in almost all nations, in a certain sanctity halo is invisibly allowed to encircle the heads of those who are buổi in mind; for what men cannot explain by any second cause, they invariably report the first "blind cause" cause; besides that in the common and normal condition of the mind, there is often left to remain as of one actual connection with a higher spiritual world, than in the extraordinary and the "normal." The priests too in those countries, in which they are found contribute largely and, doubtless, directly to the maintenance of this superstition, by which means these..."
Life of the Cretins

unfortunates are continually well attended to, and never treated with the scorn and contempt which their fellows sometimes might otherwise express towards them; and even the careleft and the wanton are defend from unkindly injuring them by the fear of incurring the displeasure of their holy fathers. This I have several times remarked and frequently heard the wish of by travellers.

In return for this kind treatment the Cretins give little or nothing to his benefactors. He possesses no feelings of generosity or love, so in many cases, unconscious even of the solicitude to his parents, and of his own of that excess of love which so another so often exhibits to an unfortunate child; his thoughts, if any, he possesses, are all concentrated in self, and beyond eating lying on the bed and sleeping he seems to have no desire and with, until perhaps and important function which it may be well to notice here. Dr. Bally when describing the huge goiters they to the toseous hoops adds that their sexual organs
have also as great development, and the individuals are much inclined to marry these "cows, although the prettier females have not many charms" i.e. that they marry and are capable of reproduction as well known facts, and the offspring they produce are invariably creatures similar to themselves. Although for the first year of their life, they present nothing suggestive in their appearance, yet before they reach the close of that year, they swell and get of a dully color; then the antelates show that they are dullest, they never learn to break or perform any other mental act, and in the fourth or fifth year they and beings like the present state, with enormous goities, rickety limbs and idiotic in the extreme. It is known not only the children of Cebina that become so. In those valleys all seem subject to the disease and none escape from it. But some women seem to be free than others, for we find that strong, healthy and sound organized parents have pleasant children in
their families, and also that those with an
obligation to goitre seem more susceptible to the
complaint than those who have none. Mr
Richard mentions that the women of the
Wallada and more of the old before children-
when married to Savoyards than
those married to Frenchmen. The cause of this
is that while nearly all the women of the
Wallada and embattled, yet the Frenchmen
are diligent. Candy mountaineers, steady and
active, while the men of Savoy are lazy,
drunken, and debauched. Parents afflicted
with goitre as a common disease in the
Wallada often have before offspring, and
when one is born in a family, other indivi-
duals of the same family are liable to be
affected. These facts show it to be to some
extent a congenital disease, depending on
some cause acting on the people of the
countries.

We have now before us the third head
of our dissertation. What and whence is
the cause of the disease? And this is the
Cause. Early Opinions.

question on which so much has been argued
and debated, and so little is certain.

The cause or causes have long been supposed
to be the same as those giving origin to

gout, but on examining the subject we
find that they are distinct, although we
find that where gout is endemic the po-
ison is more or less affected with it.

The earliest opinion was that the origin
of the two diseases was the habitual use
of warm waters in the valleys where they are.

But this opinion has been long since upheld
by Mr. de Sausmarez, who was the first to
observe that Carcinosis was peculiar only to
certain parts of the mountains, in certain
valleys, and on the lower parts of the rage.

And in the higher parts of the mountain,
it is unlikely that the inhabitants did
less consume water than in the warmer
valleys, and yet we find that those people

Pacemakers are so strong and healthy, and
stonger even than those of the lowest
valleys, and it is only in the middle
Snow Water

elevations that the abundance of disease in general and of this disease in particular is noticeable. Again we find that the
Venezuelans in kindness drink nothing but snow water; and yet we do not find
that they are afflicted with this disease although their provisions and mode of life
are very similar to those of other mountainous countries.

But notwithstanding, as regards goiter
this original opinion is probably the correct
one, although other causes may originate
the disease, and as regards goiter (Calciova),
it may be looked at as one of the causes.
And indeed that Snow Water in particular
has anything to do with it, but Water,
being the holding some peculiar substance
in solution or whatever some one. Mr.
Kohl mentions that in Africa the native
had explanation of goiter and Calciova,
leads to credit the bland and the water,
and forever the pleasingly will show drinking
from many springs, and will travel for
Waters

to find another, as they say, in water, and of those they have condemned arise from idly, goitres and Cretinism. Thus and find them. Fontaine in France, he says, as well as of fine delicious waters, but the evil of them if it becomes goitrous, or if young at heart. Other springs he mentions as being more clearly suspected to cure the evil indicated the first. For these mineral substitutions, as he calls them, there is absolutely good ground. The recent researches of Dr. Mauvoisin and Remondet (see Annales Medico-Psychologiques) in the department of Vosges in France have brought them to the opinion that the diseases are induced by a want of Sodine and Bromine in the water and sulfuric idance of Lime and Magnesia. And other long been as well known fact, that these mineral springs both in South America and Europe, which have acquired celebrity as capable of producing goitres are found to contain Sodine, which seems to be a specific remedy for the disease, as shown...
- Water -

by the number of cases accomplished by its use in India and elsewhere.

Nor although Cholera and Gout are distinct diseases, yet so as it is widely supposed that their cause is the same, and as most undoubtedly caused as the same in some degree, we cannot consider their causes of cholera, without at the same time generally the causes be of Gout. The opinion, that which has lately gained so much ground is that Water is the cause of gout, being mingled with certain mineral substances, drawn from the geological structures through which it passes; and that this is assisted by how diet, drink, bad living, confined air be. The opinions which connected the disease with the use of snow probably arose from the fact of its occurring in Alpine countries. But in some places we find that the people drink jungly water and there this jungly water is blamed as the cause of the disease. This fact then unites the two causes into one, which is Water.
in all valleys and all countries people drink water, and yet it is only in some valleys and countries that goiter and colicisms are found. If the cause were as the water it cannot be from some chemical substance in the water, held by it in solution. This indeed is probably Sulfate of Carbonate of Lime, or some other salts of Lime, which and those occurring in what is generally known as hard water. This opinion is strongly corroborated by many facts. For instance we find it in the neighborhood of Colón, Bronchocele is very frequent, and there is vulgarly ascribed to the water, which is as hard water. As Christofóro Gennaro mentions as a fact that the use of the hard water in that town is said to induce goiter, and Dr. Bailey says that he knows springs and waters in Switzerland, the drinking of which is said to bring on the same, while there are other springs of a different water used by people who have goiter or colicims. Besides at Ema.
Hand Water.

And in the Polar Seas, where both Goitre and Cretinisms occur, the former very abundantly, as mentioned by Dr. Richardson, the yellow travellers of Franklin, it seems that the disease only attacks those who drink the Saskatchewan River, the water of which is hard. Also in the Valtairs, in Coud in Savoy, the water drinks by the inhabitants is hard, and almost all hard, and it is there that we find the greatest amount of these complaints. Also in the neighbourhood of Yssel in Brabant, and near Whitechapel in the villages, of which Bettiouin, the Gipsy capital, may be cited as an example, many cases of goitre and of similar ills. In this country, the water drinks by the people is all hard.

Now if we examine the geological structures of these countries, and find that they all abundantly contain lime. In great strata of Limestone and Magnesian Limestone occupies a great portion of the Isle, the whole of the Lysons, and Island
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and the cantons of Schwyz, Uri, and Unterwalden, occupying the greater part of
the shores of the lake of Luzern, then
gressing South West, including Brugg and its lake and that of Thun, the Mountain
Faults, Scheidegg, and Stockhorn, the
passes of Gemmi and Zweisimmen, the
villes of Locle, Thun, and Lenz, Mount
Ganier and Verz, where it reaches the
Lake of Genoa along which it courses,
stretching nearly as far south as Cham-
ron, and including Chaux and Bonaville.

Another great belt of Limestone may be
said to ascend the Rhone from Brigg
as far as the Fardez in one direction
and Chavos and the Pass of Suisse in
another. Now it no go hard in sup-
port of this time in Water theory, that
this is precisely that district in Suisse
land and its adjoining territories in
which formus and fellums are most abond
and is another impressive fact that
in the two strata of Granite and
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Gneiss which interrupts the great limestone strata fields, namely the Bernese Oberland and the St. Gotthard. Goiters are rare, and Cretins do probably not exist, certainly not as indigenous. But still we find such places as Martigny, Andermatt, and Geneva, the first two of which are on granite and move on the limestone, are also liable to goitre and in the case of Martigny it is great amount. But the difficulty here is easily solved. The inhabitants of Martigny drink the harder lime limnograde water of the Rhone, which has all its course with the exception of this course followed the lime district. Those of Andermatt are supplied equally as much by the Reuss, rushing down from the Faroke, as from the stream running from the lake of Lucern over the summit of the Gotthard and the people of Geneva are well supplied with lime in the waters of their lake. The great limestone rocks at close in Savoy
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form one of the most striking features in the landscape, and between Belme
and Mayland in the same neighbourhood where there are many Belmes, there are
also many phenomena respecting the lime-
s tone rocks which served to impress them
on my memory, such as stalactite caves,
ails with wonderful echoes, and the cele-
brated Cascade d'Arpheas, mentioned so
particularly by Goethe in his Swiss letters
in connexion with the layers of limestone.

Dr. Richardson too in his account of
Edmonton remarks that the soil is cal-
careous and contains many fragments
of Magnesian Limestone, and with regard
to England Dr. Inglis (see his Treatise
on English Bronchocele, 1838) says that
Magnesian limestone is always present
with disease. "Take," he says, "that ridge
of magnesian limestone running from York
to South through the centre of Yorkshire,
and margining the shires of Derby and
Nottingham. All along that line we
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have goitre whereas on diverging to either side the disease is found to diminish. The towns situated on this ridge are Rotherham, Chesterfield, Doncaster, Rotherham, Tickton, Pontefract, Alberford, Wetherby, Knarsdale, Boroughbridge and Ripon.

After this the magnesian limestone disappears in the county of Durham, and continues its course almost due North from Darlington to South Shields, where at Tynemouth it meets the sea. In many of these spots I found goitre and convulsions; in others I should suppose it to exist, except where we approach within the limits of the sea where the most action would be counteracted as we found from P. Richardson's statement that the disease itself is removed by a sea voyage. In the vicinity of Lynd in Peebleshire in the middle of the limestone rocks, cases of goitre are not uncommon.
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and the same may be remarked in other parts of the country.

Dr. Mottard mentions the case of a so-called goitre well near St. Julien in Charvienne, the water of which increased the trees in the vicinity with lime, the soil of which produced goitre in a couple of months, and he mentions five young men who had voluntarily drunk its water and produced goitre in order to be free from military service.

These facts then prove to us that the water is in reality a very principal cause of and the only one of evidential goitre, and also that it is unstable that bals of lime and the deleterious substance contained in it, and these remarks receive a remarkable confirmation from the researches of Mr. McClelland in India.

(Some enquiries in the province of K= remains relative to geology; including an inquiry into the causes of goitre, 1835) from which we can glean many interesting
and confirming facts for the above
theory. He pursued the strictest and most
accurate system of inquiry through so
very large extent of country, and came him-
self to the conclusion that gout was
caused by the geological structure rather
than by any other cause, for he found that
while there was a perfect agreement in
the external aspect, altitude and climate
ology of certain places, yet their geolo-
gical relations were different, and this
distinction he traced to the very villages
in which the disease (Bouchoula) was
found with perfect success, so that he
and almost as prior predict from the
examinations of the rocks of a district,
whether the inhabitants were gouties or
not. Thereon further inquiries he found
that every village in a neighborhood was
and equally affected, and more, others
left, some to the full half of the inhabit-
ant, others gout; and this not owing
to an epidemic or transitory cause, but
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It was so then, had always been, and
would always continue to be. He then,
ascending his engines, found that in many
parts of the district he examined, Portland,
Agra, Bentilly etc. where Clay plates, Blin
Blende Slate and Silicious Limestone occurred
gypse was very rare or did not exist at
all, its occurrence having been found in
a population of 1,708 souls and the Ramsay
mount, of whom 25 or 1 in 308 were affec
ted with gypse. Then again along the
district of Shrew and the neighbouring
villages, the prevalence of gypse follows
in a marked manner the distribution of
the strata, the affected districts running
along the limestone rocks parallel to
the central ridges composed of clay plates,
and which are nearly altogether exempt
from disease except where the rivers sup
porting their springs descend from limestone
rocks. This, McClelland showed, striking
as it is when looking over the county in
a large scale is equally so when smaller
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Portions of country are separably examined, and even different parts of one village, or when different casets of the heeded (somes of Braburnse) used different springs for their supply of water. The waters of this district and of many others were girtie abundantly immersed nearly agreed in character. They are in great number, and of a temperature corresponding to the mean temperature of the place. The water of each conicle (and the rocks with glacialion, crystalline and sparkling, and deposits loads of calcuuff). In the employment of chemical tests, no Sulphuric Acid was detected, but Carbonic Acid and Lime with a little Dihy and earthy alkaline minerals. Such districts are remarkable for the number of sick in them and the prevalence of fever and bowel complaints in marked. From the accurate tables which he gives us, we find that the prevalence of girtie is abadically proved to be common and it affects a large proportion of the
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inhabitants, and where transitional limestone, limestone, and magnesium limestone occur, while, on the other hand, where the strata are composed of granite, gneiss, sandstone, clay-slate and the like, giottos are rare or unknown. Further, that where they were found in the latter districts, it was generally ascertained that the persons afflicted with them had generally got them in some other locality; and that, although no village be built on limestone rocks, it may be free from the complaint provided its waters be derived from other rocks; and when built on granite or clay slate may be grottos of supplied with water by limestone rocks. One of the cases mentioned by Mr. McEldred is peculiarly interesting. The village is Doda at the foot of the Junga mountains. The inhabitants of this village are all strong, well-fed, and have but little toll and yet a remarkable difference is seen in the three cases. Of the first the Brah-

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There are about 20 springs, all free from gritty; of the second, the Raj
	quets, partly rain number. Two thirds are

treated to a greater or less degree, and of
the third castes the不应, there are forb

by, all of which are very small. This case
from the substratum, perhaps left to the
any. But we find that the strung super-

shelves the village boils up among the
wells in the quantity of forty gallons a
minute and agglomerates the sand and
gravel by which it is surrounded by the
deposition of calcaneous bluff. Now the
former inhabitants of the village aware
probably of the injurious effects of this
water, brought water by an aqueduct, pan
adjoining (or clay plate) source, by which the
Brahmins were supplied and the Rajputs
who are allowed to intermarry with
them. But the aqueduct having gone out
of repair, and there not having been

enough of water for both, except during
the rainy season, the Rajputs had
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to drink the water oozing, which the Domes were always compelled to do. I may mention now the instance of another valley, also tending strongly to prove the theory. The valley of Yasibito is about 4,000 feet above the level of the sea. Its eastern extremity is composed of clay slate, and here in five villages with 152 inhabitants not a case of yotte is found. The Western end is chiefly of limestone, and here of 192 inhabitants in six villages, 70 have yotte, but one of the villages, Bazzang, supplied with water from clay slate, has not a single case, while Ages, not half a mile distant, where the inhabitants areo water issuing from an old cistern in limestone, containing no sulphates, but abundance of carbonate of lime and carbonate of soda, in a population of 50 no fewer than 40 had yotte, of whom 20 were bedris. Two other villages, Ditel and Guoragto may be mentioned here. As the former is situated in a Pleasing
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amphitheatre of limestone rocks, of 25
inhabitants, 13 have goitre, of whom
10 are Cretins. And of these as whole fam-
cily are deaf and dumb, they seem also
deficient in sight and insensible to the
passions of joy and fear. In the village,
partly built upon clayslate and partly
upon a calcareous conglomerate, contain-
ing blocks of serpentine, of 25 inhabitants.
10 have goitre, and 20 suffer and two sons
are cretins, the two sons being deaf and
dumb. He does not here refer allude to
other causes which may have given rise
to the Cretins. The result of Mr. Park-
Culland's researches may be thus summed
up thus:

In the adobe of granite and greens of the
whole population 1/50 had goitre and
no cretins were found. On Mica and
clayslate (hornblende slate) were written
goiters and Cretins. On Clayslate 1 in
230 had goitre, no Cretins. For the
transition series 1 in 240 had goitre.
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as Coedins. Old Sandstone, no Goitre and no Coedins. Old Line 1 in 3 had Goitre and one in 12 was a Coedin.

I might go on enumerating similar cases, but it is unnecessary as the facts already stated sufficiently show that the great cause of endemic Goitre is lime contained in the water depending on the geological structure of the soil, and that Coedins is hereditary in some degree influenced by the same cause, although not always so. But this, although in the majority of cases, it suffices to show the cause of Goitre is yet not enough for solving the question of its cause either in all cases. For instance in Edinburgh, where soft water is most universally employed by the inhabitants, endemic cases are more rare, as well as in other parts of the country where the conditions required by the lime theory are not to be met with. Such cases must to be regarded as anomalous and therefore...
Sporadic Goitre

...as yet undiscovered causes.

There is again another kind of bronchocele which attends cases of anaemia arising from functional derangement of the heart, in which, among other symptoms, there is a peculiar pulsating pulse, or an irises marked hollow of the eyeball, giving to the eye the appearance called white eyed, and the thyroid gland is much enlarged. The cause of this disease, which Dr. Beagle has described in the Monthly Medical Journal six or seven years, and of which Dr. Christian mentions he has had three examples in his practice, is very obscure; but we have here another instance of goitre with which geological formation has no connection. This case of goitre I have named Cardiogenous Bronchocele.

There are yet other instances in which the line therapy is inapplicable as showing the cause of bronchocele. Cases now and then, but very rarely occur, in...
Congenital Goitre.

which goitre is congenital. I can find no author allude to this in any of the works I have consulted, with one exception. In those countries where goitre is most abundant we do not find that the children are born with the affection, but that it develops itself as they grow older. I do not remember having, in Switzerland or elsewhere, noticed a child in arms with the disease, although frequently I have observed large goitres on children of three or four years old, for example near Hinze and Sion in the Canton Wallis. The exception to which I alluded above is a case mentioned by Mr. Ferrus in his article "Goitre" in the "Dictionnaire de Médecine" where he mentions that Mr. Gugy of Bellinzona told him that Mr. Godelle, physician to the hospital of Locarno, preserved the body of an infant, which had only survived a few hours, having come into the world with a goitre, his mother being affected with the same malady. Here we have a
Congenital Goitre -

real case of congenital goitre with probable transmission from the mother. The
she got the disease we are not informed but she may have got it in a district
where it was endemic, which however could not have been (the case in the fol-
lowing instance, which occurred within the
present year). In the month of January
last Professor Simpson brought into the
world a child with a large swelling occur-
ning (the whole bulk of the thyroid
gland, having the true appearance and
character of goitre. The child lived for a
short time and then died, choked by the
pressure of the tumour on the trachea. It
was kept alive for some time by the intro-
duction of a flexible catheter into its
throat. In this case the disease could
not have been derived from the parents,
for neither were they affected with it.
Themselves, nor were they recently exposed
to any of what we have already considered
as the predisposing causes of goitre, as they
Consul and Mrs. Gartie had been travelling for some time in various places. Dr. heal of this city also mentioned a case at a recent scientific meeting, which had occurred to him in his private practice, in which the child was not only born with a large gaiter, but was alive at breech delivery and more or less months old. (reference in this case was the time theory applicable.)

There is still another kind of Gaiter, of which, however, I have found notice only in French works, which occur among the Weavers of France, and is unlike their mode of work and to the Lemanara-Rons arising from steeped flax.

I would them considered these and five distinct classes of Bermudez which are to be used, arising (notably from different causes) and presenting the same phenomena. Of these the case of the first is tolerably well established, those of the second and third doubtful and th
Classification of Goitre
of the two last unknown. These classes are:
1. Endemic Bronchocoele, caused by the water
   being strongly and constantly contamined.
2. Weaver's Bronchocoele, caused by the mode
   of work and emanations of worked flax.
3. Cardiogenic Bronchocoele, arising from a
   functional derangement of the heart.
4. Congenital Goitre, when an infant
   is born with the disease, cause unknown.
5. Iatrogenic Bronchocoele, when an individual
   not residing in, or coming from a locality
   where the disease is endemic, is attacked
   by it, and where the cause of the second
   and third classes are not applicable, may
   also ensue.

It is not my intention here to discuss
particularly the method of cure employed
in Bronchocoele, but as it is so very frequent as complication of thyroidism, we
must consider the cure of the former before
attacking that of the latter.

We find them that there are three
stages in which goitre is cured with
- Stages of Goitre: Treatment -

1st. Where there is simple congestion.

2nd. Where there is gelatinous jelly-like deposit; and

3rd. Where there is deposit of crumbly matter, hard and gritty to the feel. These stages must be considered in the treatment.

In sporadic cases we may commence our treatment at once, but in those countries or localities where the disease is endemic, we must first remove our patients from the infected spot and then commence treatment.

The remedy which has acquired the greatest reputation, and indeed, that of a specific for goitre is Iodine, which certainly possesses an extraordinary influence over the disease. We are indebted to Dr. Cordet of Geneva for the first introduction of the remedy, which is besides, the natural one, occurring in great abundance in those wells which are resorted to by patients for the purpose of curing the disease. It is remarkable to this, that Iodine does not act so well when
Medical Treatment. Jodine.

Small goitres as when those which have attained considerable size; besides it must be borne in mind that it is in the coagulated and gelatinous stages that it is of advantage, as in the third it seems of little value. It is best used by administering small doses of the ignited Jodine Composition of the Edinburgh Pharmacopeia. It seems to produce no effect upon the thyroid until the state of Jodine as produced, when generally the bronchocele begins to diminish and gradually disappears. Out of 120 cases Dr. Manser cured 87 and greatly relieved 10 more by this means. M. C. G. had equally good fortune, and in the Himalayas Mr. Bramley under unfavourable circumstances cured 57 out of 116 and brought 34 more into a fair way of recovery. Jodine is also used in the form of an ointment, Urguentum Jodinis Compositionis, to be rubbed on the thyroid night and morn and some practitioners have found this
Medically Surgical Treatment.

It is of great service. In former times the advice of brand, mace, powder, and given as a cure; this was before the introduction of the use of iodine by Mr. Cindre, but was merely another mode of administering the same drug, hydrochloric acid of soda, phosphate of lime, chloride of barium, mercurial bichloride, local and general excitement, produced by means of rubbing with dry brooms, beeswax, water, digitale, hyoscyamus, belladonna, camphor, volatile oils, and the use of baths of sulphuric and chalybeate waters, having been recommended and employed.

Such are the chief medical methods of treatment. Various surgical means are also recommended and employed. Among these we have extraction of the entire gland, the introduction of a tube into the substance, thereby exciting suppuration by which the gland is broken down and destroyed, and
Surgical Treatment

thirdly: the tying of the arteries by which it is supplied with its blood. These operations are not, however, advisable. Their general results may be thus stated. All of them have at times succeeded; all are dangerous to life and hard to perform; and the second and third have failed to remove the disease, although the patient escaped with life. Now we are more justified in letting the tumour alone than in performing any of the above operations, except where the tumour itself threatens life by pressing on the trachea, oesophagus, or great vessels of the neck. Puncturing the cyst of the gland has also been occasionally tried with advantage.

We have considered the chief phenomena regarding bronchocelle, so we return to what is more immediately and subject the cause of Coedibism. We have considered briefly fully the first cause and found that it is in some degree defendable in the
Kornham in joh. Sukamida r.
Causes of Coeliacism. Goitre

gentle nature of the soil. But such an explanation, although sufficient for
lack for the cause of Endemic Goitre as
by no means enough to account for the
Invalence of Coeliacism in some districts.
We have, for instance, countries where
Coeliacism and Idiocy occur to a high de-
gree but where there is no lime formation.
There must then be other causes for Idiocy
and Goitre.

Some have stated Goitre to be the cause
of the disease, but this cannot be the
case, and only because we find the dis-
case to be unknown where almost every
inhabitant is goitrous, but also because
there are Coelias occasionally found without
any concomitant bronchitis. Indeed and
Curling has recorded in the Medico Chir
urgical Transactions two instances of
the entire absence of the Thyroid gland
in Idiots, of which bodies are only one
by exaggerated fund. And Mr. Cruicksha-
so far as the remarks that the worst
forms of celiacs never had goitre at all, and he calculated the mortality of the celiacs in inverse ratio to the size of the goitre.

Others have supposed celiacs to be caused by extreme indigence and poverty. This however cannot be considered to be good, as we find indigence and poverty existing in an extreme degree even in the heart of our largest cities, without producing any such effects. It is interesting to stress in this relation to this that the first writer on celiacs, Hûf, formerly attended to, also included the disease to the indolence of the inhabitants, and the gross diet on which they were forced to feed.

Others again have attributed the disease to humid exhalations and unwholesome atmosphere in those countries where it abounds. This idea was originally promulgated by M. de Lavoisier in his "Voyage en Alpes", published in 1788. He observed that no celiacs were found in the highest
villages, in those situated five or six hundred fives above the level of the
Aiturneand. This was confirmed by Dr. Price
who travelled a long time in the high Alps
without encountering a single Cochin. In the
valleys, it was found that the families
residing in the highest elevations enjoyed
most perfect health, that it was only on
descending that one found Cochins; that on
descending still lower they multiplied, well
and reaching the plains, they again disab-
sewed. And all these inhabitants, those of
the mountains, the valleys and the plains,
dwells of the same water, that of melted
glaciers, without any Cochinism being found
among the first and last. From this fact
Lancereau concluded that the water had no-
thing to do with the production of the dis-
ase. He also did not think that large,
bad nourishment, drunkenness and debauchery
could be numbered as causes of Cochinism, be-
cause the effects of those influences did not
produce the disease in the plains, where
they were equally as much to be met with as in the valleys. He considered that
fetidness should be attributed to heated, stagnant, suffocating and corrupted air, and
those resident in the valleys were constantly to inhale it, and he further observed that it
was in the villages most exposed to the rays of the mid-day sun, that the most eunuchoid
Creoles. He further observed that those children which did not become Creoles before 10 or
12 years of age, were fed the most hard-earned food it afterwards, that the children of those who
fix their residence in and infected hard-bon-
scame as subject to it as those of the indi-
censious inhabitants, and that in those villages
most infected, the whole of the inhabitants
had generally "an mauvais teint" which
is exhibited in the whole appearance of
their bodies. It Lachaise remarked of the
inhabitants of similar districts that they
had a strong disposition to chronic \textit{atrophic}
anaemia; that they were generally red and blan-
eled. This I have also observed in many
I fancied Air—

bands of the country. It was assumed then, that the cohesion of the Alps to the warm and fragrant air arising from the rivers. Dr. Morel, chief physician to the hospital of Nantesville, considers cohesion to be caused by the reception of a deleterious miasma into the constitution, either from the state of the atmosphere, or from some substance taken into the economy, perhaps magnesian limestone; although, he adds, it cannot be proved to be peculiar to a limestone district. He considers also that the absence of iodine may have some effect, as in his analyses of the waters of various goitrous and exothyroid countries, he found carbonate of lime, chloride of lime, potassa, nitrate of ammonia, sulphate of lime, silicic, magnesia, and other matters, but never iodine.

But I believe there is no one cause so sufficient to account for the disease, that it arises from a multitude of evil causes; and on this account I am inclined to agree.
Combination of Causes

with the supposition of Mr. de Rambuteau, which he promulgated in a memoir addressed to the Minister of the Interior in 1813, during the time that he was prefect of the department of the Jura (and the Canton Valais). He called attention to the fact that the Rhine runs between two chains of glaciers and lofty mountains, and by various minor valleys, all of which contain torrentious streams, which empty themselves into the Rhine, which slowly and sluggishly runs down the broad valley; that sometimes these streams overrun their banks and overwhelm the plains, leaving as they retire, matters which they have brought. And with them which contribute to residential air all around perceptible even by travellers passing through the country; that in narrow valleys opposed to these exhalations, the villages abounding in Cedars and abRead, exhaled besides for four months of the year to the rays of the burning sun, reflected and concentrated by the
Combination of Causes.

Treated rocks. To these causes he adds the use of the waters, descending from the mountains and thickly charged with particles of lime during their course; the indolence and laziness of the inhabitants; the want of education, physical or moral; the inclosure of the houses; the bad nourishment, drunkenness and debauchery. He does not think that the waters of the glaciers contain themselves possess bad influences because the inhabitants breathe and drink of them without bad effects. He further presumed that an analysis of the air in these districts would show that it is deprived of a large portion of its oxygen and charged with carbonic acid and other deleterious gases. He concludes that it is not a hereditary disease, but strange coming to the country from a perfectly healthy and hard-pressed childhood and when a Cretin is once born in a family, those who follow are generally Cretins too. Besides when Cretins intermarry with healthy people they always...
much more liable than others to have fallen Offspring, although as formerly mentioned, those of bad constitution are more liable to makeuly Contract than those of healthy one.

Mr. Pecile in his Traite de Cretesisme also rejects the idea of the influence of water and rather holds the cause to be the humid, warm and concentrated air which is created in those mountain valleys. We must then consider this as an important cause, and as we shall afterwards see in the consideration of the last branches of the subject, being the irrigation and the formation of deep roads and modes of easy moving about from place to place and the like have done much to increase the number of these unfortunate beings in the Canton Valais, we must then, I think, be compelled to look upon humid exhalations and bad food as equally important and cause of the malady as limestone or other rock formations.

I have now to mention the probability of the disease arising from the confinement
of the air in the valleys, not taking the exhalations into consideration, an an existing cause. This has also as relation to the Rock formations, and may assist us in arriving at the true cause of the disease, but we cannot look on it as one cause and view it as simply in co-operation with others.

Every geologist has observed that certain rocks give rise to certain formations of valleys and that in the various valleys we find that different meteorological and other influences predominate. From this fact then we are at liberty to conjecture that the disease arises in some valleys and not in others from the peculiar formation of the hills by which they are surrounded, from the manner in which the air circulates through them. Producing in some cases, currents which remove the noxious vapours arising from the streams, which vapours exert a deleterious influence on the inhabitants of those valleys; while in others, from the want of these currents
those influences remain. This doctrine cannot be referred mostly to one country alone, but to all mountainous countries for in all these or both do we find that disease and idiocy abound. In the highlands of Scotland and Wales, and in the mountainous parts of the South of Scotland in such enclosed valleys are almost invariably found idiots. In most of our valleys the other conditions mentioned as causing Christians do not exist, such as, lime formulas, snow, water, indolence and excessive heat, but we have the blind and valleys, the Dumfermills, and the bad nourishment and the intermarriage of relatives just as in the Swiss and German mountains. And who has travelled much in the highlands of Scotland without observing the immense number of deformed idiots with which one meets? And what are these deformed idiots? To all intents and purposes they are serpents which according to the definition given above are beings possessed of deformed bodies and fabulous minds, incapable
Coelium in Scotland

Of performing any mental and even more than a very confused proportion of physical office of any. We find in Scotland beings entirely destitute of ideas, perceptions and thought, crooked, lamed, bent, often doubled, frequently blind, deaf and dumb. And what are these but Coelims? They bear no difference to many of the Coelims of Balsano and Vigni, and from majority of the Coelims of those countries are distinguished merely by the want of the sight. I have lately visited one of these beings in the immediate neighborhood of this town, at Braid, which may be compared with that of the Coelms formerly given us with one of the cases given by St. Huguenibühl and the likeness will be at once observed to be complete.

John — resides in a small cottage on the roadside in a small valley of the Braird Hills about four miles from Edinburgh. Although called "the boy" by his parents, he is at present 34 years of age and in a neglected state of helplessness. When born he was according to the mother,
Coelionism in Scotland

whose only child he is, by no means a large child, though delivered by instruments, and presented no unhealthy appearances for the first year or more of his life, beyond a certain perfection in sucking (which I have before mentioned as a peculiarity of young Coelions.) But at the time when other children begin to walk and move, he became stupid and dull and could not walk on account of weakness of the legs. He lay on the sofa or this piece in his own corner where he has lain almost ever since, and lies now, being never been able to stand or walk. When sent his appearance is very peculiar as the spine is bent almost at a right angle, the left ulnus pressing on the cartilage of the chest. The back seems about the nor-

mal length, but the legs are small, thick bent and atrophied. The arms are long but thin drooping and emaciated. His face (presents a vacant stare), although he seems to have a slight degree of intellect, confined however to the understanding of
questions relating to food and (the like. He can answer these questions by sounds like "e" and "m" and besides can call attention to his words by a third sound "me" which is all he is capable of, and the full extent of his intellectual powers. Now as slight paralytic affection of the cheeks, he cannot retain the saliva which continually runs from his mouth, his tongue being also generally motionless. Besides this he has no dicky habits, and gives every of the calls of nature. The accident is flat

ioned pretty much the same as I have mentioned (head of the Swiss order to be), but otherwise the skull is normal. His abdomen is round and fat, and he possesses a hairy head and moustache. His life is quiet and uneventful. He seems to lead no desires and his wants are well attended to, while he is the darling of his friends, for whom he has also a certain affection. This is the only family resident in the valley, but I doubt that there is liberty to sper
that more residents would live more such idiots. However several generations have lived in this house. The patient was born where the sea was, and therefore I consider the disease to be rather referable to the shade of the valley and certain exhalations arising in it than to any other cause. The most of the water used is hard and frequently other water is obtained and used. This habit may be classed with Dr. Guzgenohl's cinginal of Cebria, combining the palsy with the atmosphere. I omitted to mention it in it as he seems very deaf and the nevus corneus is curiously disturbed.

I knew also of a similar case which died some time ago in a little village at North Queensferry in Fifeshire. The patient was a girl who was a perfect idiot in mind, and deformed in body as much as one could think more than the poor "boy" at Braid. She lay all day without consciousness and scarcely motion "rolled up" as to the shoe, in a corner of the common room.
There is also a being of much the same description living in the town of Choppa in Greswold, in Denbighshire. For the last 27 years of his life, he has been accounted of Bodal deformity, been obliged to wear a woman's gown and the dress of man could not be made to fit him, and to be banded into a chair for support. He is highly idiotic, mournful and alludwise.
Cutilianas in Scotland did not move to perform even the necessaries of life, never spoke, ate unless anything he did mechanical away, and made no attempt at recognizing or looking at anything he did and was regarded as a whole, and and most award how old she was when she died. Her residence was also in small enclosed valley where her parents had lived for 12 years.

I have been informed by a lady of several must deformed and blind idiots living near Shirling in the neighborhood of St Ninian and Innishtown. These are, I doubt and similar beings, and I feel sure that all the inquiry and examination would convince others as fully as I and convinced that these unfortunate beings in no wise differ from the in the case of the Alps and Pyrenees and that similar causes and resulting of both.

Now that an hospital for the relief of idiots similar to that of St Gugnenzibib of Interlachin has been established
Credinism in Scotland.

near Dundee, it would be well that an investigation into the prevalence of Credinism and Goitre in Scotland should be made, and the system of cure found so successful at the Aberdeens be adopted here.

I find from the book of Mr. Marshall on the distribution of disease (in the Edinburgh Medical and Surgical Journal) that he mentions the occurrence of Credinism in Scotland in the following words: - "I have heard that Credinism and Goitre are prevalent in a sheltered village on the coast of the island of Arrad. The village alluded to is, probably, that of Shiskin where I understand there are many idiots and deformed persons, but not having visited that part of the island, can form no opinion on the subject.

Another probable cause of Credinism in the Alps of Switzerland and Scotland perhaps. Too little considered is the rate of marriage of relatives. We know well from Medical Statistics that this a
Intermarriage of Relatives. -

A fruitful source of disease and of profligacy. Of this I may cite a few examples. Dr. Bone in his report on profligacy read to the Boston Medical Society, mentions that out of 359 cases of idiotic children, 17 were known to be the children of parents nearly related by blood and had all particulars been known, he doubted not more could have been added. This makes (as far as these few cases go) the proportion of idiots arising from this cause 1/10 of the whole, and if we considered how few such marriages there are and in the great mass, the proportion becomes of more importance. Further in his report he says (see Report of the Massachusetts Hospital for Idiots) in allusion to 17 such intermarriages, "Most of the parents were intemperate or morose, some were both the one and the other, so of course there were other causes to increase the chances of infirmity, besides that of intermarriage. Therefore
- Intermarriage of Relatives.

born into them 95 children, of whom 44 were idiots, 12 others were acrophuluses and many, one was deaf and one was a dwarf. In other families, in some cases all the children were either idiots or acrophuluses and many. In one family of 8 children, 3 were idiots.

We know that intermarriage of our relatives in Scotland and Switzerland is not uncommon, and that among them idiots and sufferers are common. The island of Jersey also is notorious as an example of this.

I have been informed by an American lady who has spent her lifetime in India, tending to relieve the suffering of lunatics, and in abridging their complaints, that the original French settlers in Canada who have always lived alone and held little communication and no intermarriages with others than their own body, are now a proud, strong, unified race, that idiots are very common among them, and that all are remarkably
Intermarriage of relatives. Stupid, dull and unintelligent.

Further we know that the little fishing village of Newhaven near Edinburgh is inhabited by a peculiar people who came to this country, probably from Denmark, and who retain to this day many peculiar customs, dresses, names, laws and to a slight degree, language.

These people are different from all the surrounding individuals, and mix but little with the people of the neighboring farms and villages except in trading. These people then, do not intermarry with any one but those of their own clan, and gradually the race is degenerating, and while retaining their original peculiarities are yet debilitated and consumptive, and have many "daff" people among them, and, I have been informed, also idiots.

In case of the previously mentioned island of Nodworth near Colborne, there are so many Coldins exist, the inhabitants hold no connection (with)
close air alone, and constantly in the
same apartment with another. The cause of
so much Cerebrism and Head, has however been
also attributed to the frequent overabundance
of portions of the island by the River
and consequent dampy exhalations.

Thermosthenia has also been men-
tioned as a cause of Cerebrism, but to
this I would add, and emphasize, con-
sidering how few, if any, become Cerebrics
after the age of puberty.

I have now left to consider
the idea of this subject, namely, what
is the treatment to be adopted for the
case of such beings or the eradication
of their state?

It is evident, since we have
found the disease to be a physical
malady, wherein there is an imperfect
development of the brain and of the use
of the body, that we must commence
our treatment of Cure by improving the
bodily health, the physical constitution.
We must strengthen and invigorate the system, and then only can we tend to benefit the brain, which is at fault. This restoration of the body we must induce by the acknowledged therapeutic agents, firstly, the removal of the habits from the places in which the mind is found, giving them habits of goodness, good food, exercise, bathing, and occupation, comfort and enjoyment, and any medicines that may be required by them, such as Cod Liver Oil, Tincture of Iodine, mineral waters, etc. and when we have succeeded in bringing the body to a certain degree of health, we can commence treating on the mind, which may gradually be improved. Of course in such a mode of treatment the youth of the patient is highly important. But although a similar mode of treatment was proposed by Fodéré in his work published in 1800 and by Wester in 1802, who recommended the cords to be removed from their atmospheres, and be
allowed the breath of newer air; and although Reeves in 1809 asserted that the
removal of Hydroin children to the hights of Alba would probably contribute much to
wards bettering their condition; although
Mr. Baily in 1813 stated in the Dictionnaire
des Sciences Pittoiresque that the obvious mode
of curing the disease would be the employ-
ment of general remedies for the dyspepsia,
flush air, good nourishment, exercise, care
and affection, and the use of tonics and
stimulants; though Wenzel had himself
been experienced in this cure; and though
Dr. Abercrombie, in his thesis, "De fer-
= titudine Alpina;" recommended its adop-
tion in these words: — "Ubi, teneris
sedate, Insolubilis in Fabricatione ob-
servatur, eadem, quamolens expeditum,
Temporario roborantium medicamentum, et
frigatamqueuseum praeceps obviendi
mentis impetratistis occurrerit?"; yet
we do not find any attempt made
systematically to employ these measures.
Amelioration.

the appearance of Dr. Guggenbuhl in 1839.

It is interesting to observe that both M. Rombeau and M. Fodéré, while opposing the idea of cholera being caused by sewer water and laying the blame rather on the influence of bad air and humid exhalations, assumed that at the close of the last century the number of cholera in the Canton Wallonie diminished to a very great degree. The former attributed this amelioration to the embanking of the Rhone and the draining of the marshes which so much abound on the banks, to the clearance of the land which produced an abundant vegetation, and the consequent change in the character of the inhabitants, who became more industrious and active and left given to idleness and drunkenness. The latter attributed this improvement to the opening of the Great Road of the Limbourg, and consequent more easy communication with other countries, the people being thus more induced to better themselves, and to raise their children higher up the
Amelioration.

mountains, and by example of others to fall into industrious and commercial habits. Mr. Fenyes too believed that this road improved the condition of the (revises by omitting them)

to travel and not to lead a life of perceptive action, each being employed in its construction as far as his intellect would permit, and being in consequence better by the change of air and climate, the exercise of body and what mind he had. The same idea was of opinion that the excessive tenderness and compassion, the infinite regards which the families of these unfortunate bastards paid them, seemed rather to harden than ameliorate them, as it contributed to increase their indulgence, ignorance and stupidity.

From such and similar observations it was that Dr. Guggenbühl formed the idea of establishing an abode for (revises)

and placed for their relief and care.

Dr. Guggenbühl was born in the little village of Reichen in Canton Zurich, and of the Protestant faith. He was travelling.
Dr. Guggenbühl.
among the lofty Alps in the year 1836, when he was first struck with the appearance of these unfortunate beings, and longed to be able to do something for their relief. And having once formed this idea, the noble and unselfish mind of this great philanthropist resolved on it, and set at once to devoting all the powers of the mind, the strength of his body, the energy of his heart, and the resources of his worldly fortune to the cause he had in hand, and had hitherto been in vain. For two years after this he dwelt in a small village called Ternp in the canton of Glarus where he devoted his whole time to the cause and studied deeply and thoroughly the condition of the Cretins. As J. Twining says (See Time Account of Sardinia, 1843) "the idea weighed on him more and more heavily that this numerous and degraded class of beings who filled the valleys were left to sink deeper in their misery without any effort being made to help them." And this impression was once
Firstly fixed on him by a second bond made in another of the mountainous parts of Switzerland. And how as he examined the literature on this subject which 2 centuries had bequeathed together, when he read the numerous treatises of La Crevosse, Potier, Ackermann, Wenzel, lysander, etc., etc. and found that in spite of all this writing not one human soul had been saved, and no practical improvement commenced then it became clear to him that learned inquiry was but one element, the second and principal was action, the personal sacrifices and love which Howard and Fry gave to the prisoners, Clarkson, Wilberforce and Burford to the slaves, Egege to the blinded Greenlanders, and what alone could serve for the accomplishment of their great aim, the most difficulties proposed in medicine, the restoration of Bedrins to the Jews and conditions of these. From this period Dr Guggenbühl looked upon the healing and protection of sick as the great duty of his life, which he
was to accomplish at any sacrifice. "I know not," says Dr. Alexander in his Switzerland and Swiss Churches, "that the history of philanthropy contains a finer instance of benevolence than that of Dr. Guggenbühl. * * * Is such devoted and self-denying philanthropy it is impossible to pay too high a meed of praise."

It was now that Dr. Guggenbühl brought the subject before the Swiss Association for the advancement of science, and asked their aid and support in forming an establishment for the treatment of Credins. This was granted to him and the government of the Canton of Berne presented him with 600 Swiss francs for the commencement of the undertaking.

Knowing as he did that the principal advantage was to be derived from change and purity of atmosphere as he found that the Credins, when young, were imbued by being elevated on mountains, he resolved that his institution should be at as high an elevation as possible, and the patients at
The Altenberg.

where his experiments were to be conducted, should be as young as possible. With this view then in the year 1840 he bought the hill called the Altenberg near Interlaken in Canton Berne and erected his laboratory upon it. Near the summit of this mountain at a height of 1500 feet above the valley and about 4000 above the see, higher up the Tedimina lake occurs, the cottages forming the establishment were erected. From on all sides on the southern slope of the hill, some hundreds feet from the summit about 20 acres of land surrounding it belong to the institution. Here, the soil is tolerably fruitful, potatoes and other common vegetables do well & the hay, surrounded by grass is good. The soil is everywhere clayey mountain limestone. The ruling WInds are the South and South West and, more rarely the North West. In summer the weather is generally very beautiful and warm besides the great heat of the Village of Intulacher. The Winter begins in November and the snow remains lying till April, when the spring


The Alpstein

commences, and sends the summer time appears, and quickly all standing water is completely dried up, and exhilarations yield an end to. The view from this mountain is one of the most inconceivably beautiful in Switzerland, and when the fine morning and illuminates the whole it is perhaps unequalled. Far below at our feet lie the two blazed lakes of Thun and Brienz, with little craft alight, along the bound of their waters, right left bound by lofty mountain ranges and fierce crags, between the commencement of the green valley, with the little village and buildings marking its course, and the whole valley filled with green fields and splendid trees. Towards the southwest, there is the view the valley of Lütschine, leading to Lauterbrunnen and Grindelwald, and the heart of the Bernese Oberland, and bounded by gigantic precipitous mountains some clothed with a rich verdure, others sleek, bare, and craggy, and here in after left between the nearest mountains is
afforded a view of the magnificent Jungfrau, the queen of mountains, with her faithful and beautiful companion the Eiger, and the Monk and the two rugged peaks of the Nederhorn, pointing upwards to the clear blue heaven, contrasting so splendidly with the purity of their own perpetual snow. The scene of grandeur and beauty in the scene is almost unrivalled. No one can gaze on such a scene without emotion, and it makes even on the blunted minds of the young patients a strong impression as they open to a conscious sense of their existence. This effect Dr. Guggible has frequently remarked. In such a neighbourhood all the phenomena of nature such as the rising and setting of the sun and moon, tempests, thunderstorms, rainbows and the like are in great perfection and Dr. Guggible has found them of infinite value in awaking the sleeping soul. The houses are built of wood as it is a bad conductor of heat and gives little opportunity for damping, which is much to be avoided in the treatment of
The Abendberg.

The disease. There are about 20 rooms, among which are three large halls, a bathroom and a hall for gymnastic exercises to be employed in winter. All the rooms can be heated and the bedchambers are supplied with ventilators. The kitchen has an iron kitchen range and a basin for supplying the baths. Two fountains supply them with a pure excellent drinking water which can be collected in two reservoirs. The mildness which Professor Stey and others have shown its exist in many wards of the Alpine world during the first half of winter is also prevalent at the Abendberg, and the winter is not so cold here as at the foot of the mountains. It is gazed that in eleven years the flowers bloomed again and their meadow in December. While the valley below was covered with fog and clouds and the household the residents enjoyed the most lovely sunshine. In winter too the cold is seldom under 0 of Reaumur (32° Fahr.) and in April as soon as the snow is gone the spring flowers (Galantiss, Gentiana, Camus).
The Alenbeins
appearance, and vegetation proceed with astonishing rapidity.

Such trees as the oak closely related to the Guggenbills for the establishment of the first Cushing Hospital, the first institution having the avowed principle of relieving their miserable condition. This process of cure has been described by many authors who have visited the spot, and all unite in bearing testimony to his perseverance and success. As Dr. Coldstream says (Monthly Medical Journal) "That success taken along with the boldness of the conception, which contemplated nothing less than the cure of a malady hitherto deemed incurable, and that in an hospital situated at an elevation of 4000 feet on the slope of the Alps has doubtless had a powerful effect in directing the attention of philanthropists of Europe and America to the possibilities of attempting the amelioration the conditions of the sufferers, and it must be acknowledged that civilized humanity owes a large debt of gratitude to the man, who almost
single-handed, and an estate of difficulties of no ordinary magnitude have done so much to prove that there is no condition of life so utterly hopeless; and that wherever there is mind, there is no accomplishment from which it may not be forced." Among the authors who have described the place we find Dr. Rowe of Massachusetts, Prof. Trowles and Valentine of Bern; Dr. Gros of Geneva; Dr. Bosch of Wurtemburg; Dr. Vizanite of Vienna; Dr. Buch of Hamburg; Dr. Berg of Carlsruhe; Dr. Huchenratt of Amsterdam; Dr. Fremin of London; Dr. Wells of Reading; Dr. Mowle of Mareville; Count Sanderseine; Dr. Marshall; Dr. Pappe and Dr. and Mrs. Wall of London; Dr. Hume, Tamer of Alstonbrugh; Dr. Fiske of London; Dr. Colstrom of Edinburgh; Chevers, the American naturalist; Prof. Holst of Christians; Dr. Telfor of Irvin; Dr. A. Berg of Philar; Dr. Nicass of Auckland; Prof. Lenn of Marseilles and many others. Thus one hand (that learned of all Europe giving their testimony to the efficiency of those means which Dr. Guggenbille has adopted;
Mode of Treatment

At his institution, and despite distressing pictures and ill-advised doubts, it has remained and will remain, a fitting monument for the philanthropic and noble founder.

Seeing then that so much has been said on the subject, a very slight survey of his mode of treatment will be sufficient for my present purpose.

Having considered the causes of delirium and having found it to be chiefly dependent on bad air, bad food, unhealthy origin etc., and having found the symptoms to be atrophy and weakness of the muscles, complete loss of observation and mind, no memory, extraordinary appetite, coldness, laziness, dirty skin, and bad breath, with convulsions and distortions of the frame, and first duty in the process of cure is to remove these causes and improve the corporeal symptoms. The sooner then that children are removed from the deleterious causes and brought to each and institution, the more hope is there of recovery. Under all circumstances
Mode of Treatment. Corporal.

The cure proceeds slowly, and complete cure can only be looked for when the children remain in the institution and the first appearance of the malady, and when they remain there till the completion of their development and education, until about the age of puberty. But even when complete cure is not obtained, yet always some improvement is noticeable, order and cleanliness are at least taken as a certain mechanical education is enforced. The means of cure as employed by the Elders and these. The first necessary is a pure, dry, and unconfined atmosphere, at a certain elevation from the sea. Next it is necessary to have an abundant supply of water for drinking, washing and bathing. The drinking water must be fresh, clear, and sparkling, must be of a good taste, and not hard. Cleaning, constant washing and bathing are indispen-
sable. Cold baths are found at first to be more harmful than good, and consequently hot baths are had recourse to, and douches on the neck and chest herbs particularly when
Cerebral Treatment.

Any deformity exists. The action of the skin is further excited by brushing and friction with aromatic oils, or with fluids which are rubbed into the back and extremities morning and evening. For the same purpose magnetism and electro-magnetism are largely employed. Further, the system is altered by the internal use of salts of metals which act on the nervous system, and of tonic. Coffee is found to be the most valuable. Children are easily chilled, and almost always have cold hands and feet. On this account they must be warmly clothed, best in wool.

Exercise in the open air is indispensable, which is provided for at the Alpenberg in the free space before the house, or in various places in the Hall. The younger children who cannot walk and the weak-legged are dragged about in chairs or placed against bricks where they can stand or lie still and fear of falling. When the legs can be used they are encouraged to walk a few steps alone (often longer distances, often up a slope, and,
Cerebral Treatment. Diet.

Lastly, new steps. This done they are encour-
gaged in the use of the various simple gym-
astic exercises, leaping, hanging by the
arms, swinging &c. It is astonishing to
see the pleasure which by degrees they take
in these exercises and the pride they show
of the mastery of any degree. Often
the steps of improvement are few and far,
very far, between, and it is here as much
as in the instruction of the mind that the
practise of the teachers is tried. The instruc-
tions which the children receive must be
masticating and abundant. In the Asbury
they get Milk, Rice, Bread, Mashing with
except potatoes, and White bread. And the
Diet roll is the following. Breakfast. A
little more cheese or thinning of goad milk
and white bread. Dinner. Milk and rice
Soup, or meat Broths, vegetables, peal, beef,
or mutton, very tender and cut small.
In the afternoon tea of herbs with milk
bread or fruit. Supper. Milk soups,
Mead soups, or egg soup.
Medical Treatment.

The patient has always a large appetite which is larger in proportion to the degree of their illness. Fresh water is given in abundance in addition to the milk. But along with the diet, the medical treatment must be attended to; for the development and formation of the system depend on healthy digestion and the formation of good blood. This purpose is attained partly by means which excite the digestive organs, and partly by those which remove quickly the undigested parts without weakening the system. The first effects are obtained by the use of aromatic bitters, among which a tea of thistles is found to be invaluable, and the formation of healthy blood is found to be best assisted by the use of iron, in the form of a mixture of the nitrate or of the lactate and carbonate of iron. Animal organs too are invaluable, and one of the means for enriching nourishment is the cod liver oil which is largely employed, more especially when the patients have
Medical Treatment.

Glandular swellings, runnings, skin diseases, caries of bones, inflammation of the eyes or similar diseases. The second purpose is accomplished by remedies which act upon the skin, kidney and alimentary canal. For acting on the skin baths are used, and exercise in the open air. To excite the action of the kidney a decoction of violets has been found the most valuable. Frequently dissolved in an accompaniment to the disease, in which case the diet must be dry and the secretion by the skin encouraged. In this case also pine bark in powder or in the form of the brick has been found the best substance for restoring and keeping up the tone of the stomach. Sometimes too grappling is employed to excite the lax and convulsive state of the muscles of the intestinal canal and to call the cramp-like movements into action.

In such a manner the body is exercised which having been done to a certain degree on one or both the development of the mind is attended to. This is the more difficult.
Mental Treatment.

Fash, as the mind exists in most cases as a mere germ, hardly discernible although present. But this germ can increase and do so as quickly as the bodily form imbrunes, and the more the latter imbrunes, the more the former asserts its existence, but the progress for the end of the former is longer than for that of the latter.

The first symptoms of intellect which is shown is the sense of feeling, at first, in a distinct, but afterward gradually intensifying, the child becomes conscious of its existence, it is agreeably or disagreeably affected, it enjoys comfort and rejects annoyances. This is the first step, and (though it may sometimes be delayed when gained), the other steps follow rapidly. The mind being now shown its education must be commenced. This must first be done by observing and gaining its affections. After the children have one first coming to the institution as strong longing for home, the characteristic "heimzweb" (homesickness) of the Swiss. This is
Mental Treatment.

conquered generally in a couple of days by attention to their wants, when they are pleased and grateful and feel a liking for their benefactors. The young child is at first sly, sulky and selfish. But when this love is obtained, he is open, friendly and generous. Love them as a sailorman in the treatment, and love must be shown by the superintendent alone, but by all around, so that the child may gain confidence. Thus far advanced, future progress becomes easier. Here, however, great caution is required of the exercise of the power must be very gradual, lest if too much be attempted the child loses confidence, and then will do nothing. In such cases punishment must be had recourse to, but with this again, one cannot be too careless. Corrected punishment should almost never be attempted, but the best way is to de-vice them of some little pleasure, such as playing in the garden and the like.

The first real prise of instruction
Mental Treatment.

is the learning to speak. For this purpose it is necessary to awaken the dull sense of hearing which the child possesses, and for this purpose the sound must be loud or no impression will be made. A variety of bells and speaking trumpets are employed. The sound being impressed on the mind, the child is caused to imitate it by the formation of the lips and tongue, and constantly to repeat it, and thus by a long continuance of this process it gets through the letters. These letters are next put in their hands carved in wood, and as Dr. Howe of Boston taught Laura Bridgman, so they learn to form words from these letters and to associate objects with the words, gradually of course, first associating the sound of the letter with its form, that of the word with the combinations of letters and so on. Sometimes it is impossible even in this way to impress the mind, and then the child is taken into a dark room, and shown on
Mental Treatment

the wall, the forms of things and letters written with chalk, which seldom fails in fixing them on the memory. At last, the child learns to speak and understand, to read and to write. It is a gradual process, but steadily increased generally as pure and as sound as the child can speak and understand, however imperfectly, its attention is directed to the existence of a Deity, an All-powerful God, the Maker of all things and its Father. It is an observation made on the attending that the religious sentiments are very early awakened, and much deeper engrained than in the case of healthy children. Next, the phenomena of nature share their attention, and then they acquire the knowledge of things around them, trees, plants, trees, and especially, tadpoles. Then, they learn to distinguish colours, forms, substances and time. The sense of taste is exercised by sweet, sour, bitter and innocuous substances. Smell is similarly
Mental Culture.

Painted, and for these two purposes plants are chiefly employed. Almost all Ceylons are fond of Music and indeed feel infinite pleasure in it. Playing it is exercised by means of bells, singing and instrumental music, especially the organ, large pictures with bright colors and found invaluable. Then they learn to read and write, gradually but surely.

Arithmetic is taught by the counting frame, and is generally easily acquired as most children show an aptitude for it.

After this comes the mechanical instruction, commencing in the girls with sewing, and in the boys with gardening and the like, but rising to much higher branches, few many become practical farmers.

The mingling of the children in different stages of development is practically found to be of immense value, as it excites them to aim and rise in the various arts.

It is in this manner that Mr. Guggenheim conducts his establishment, and
Illustrative Cases

has now carried on the treatment with infinite success for fifteen years. We desire that for the cure should be at the establishment and less than three years to be his treatment justified, though some may require five or six years residence. So successful has been his treatment that out of the numbers he has had, one third have left imperfect cured. I will give a few of his later cases, as examples of the cures which he now daily accomplishes.

Case I. (Translating from Dr. Gugzenhülle's last Report.) A. K., a boy, on admission, four years old, has healthy parents, the father a strong young Dane, the mother a healthy Frenchwoman. In the mother's family there was first noticed in the average generation, without being attributable to any certain cause. The boy was born normally but at the elapse of a very short time showed as very large unsymmetrical head, in which the right lateral bone projected half an inch over the left. At three years old, he
Cases of A. R.

could walk as little, but still as admission
was constantly falling. His body was soft
and flabby, his belly large, and his skin
envelope of wine. His size and proportions
his years, his features regular. The circum-
ference of his head 21 inches, its long mea-
surement 14 inches 9 lines; and its breadth one
12 inches, wedge-shaped and broad behind. In
his second year he showed all the symptoms
of melibloc ossium, the epiphyseal bones
largely, the metacarpal bones were driven
out, and he lost the left ring fingered
caries. The intellectual condition of the
boy was characteristic of the so-called irre-
versible idiozy, constant agitation and
distraction, unable to collect ideas, to
all he said he said "Ca nique! Ca nique!"
[A sixteen year, 14 years old, shows a
still more marked degree of the same state,
the sternum is driven out (trigonocephaly)
the metacarpus swollen, his corporeal
weakness renders him unfit for any
labour, and though all resistance was
Case of A. R.

exercised for his intellectual reformation. Yet he has not learned to read or write. His speech is stammering, indistinct; his thoughts and associations are confused as those of the insane.

The medical treatment of the little A. R., along with baths and rubbing in the sun, and goat's milk diet, consisted in the employment of the liquor of the most inebriant and frequently used in other cases. Under the use of this his bodily development proceeded rapidly; in six months his walk was normal, the swellings of the bones disappeared, (though they returned in winter) and could not be said to be perfectly healed before two years treatment. But even after so much had been accomplished, it was found the greatest task to fix his attention by any means. "He paid no more attention" is constantly recorded in the journal. He was at last tried with the phosphorescent mixture in the dark, which succeeded. He became gradually interested in the illust
Cases of A. R. & H. E.

Scions of flowers, and both pleased in picking them again in the field. In the same way he learned letters, syllables, words, and verses, but the prime difficulty was writing; the formation of a single stroke was a great task. This character was good-natured, sociable and obedient. The slightest crossed made him cry, and it was some time before he could apply himself to work. At last, cured, he was dismissed to join a children's school.

Case II. (From the same.) H. E. A boy, on admission, 7 years old, had so sickly stature, but another and 4 months and 8 days healthy. His development was slow, he was weak from birth, his voice was always shaky and unsure, his cheeks were indistinct babbled, with existing nasal twang. On his reception in the A. B. school he had no green color of face, dead lively eyes, good-natured expression, which for some minutes membrane of mouth broke and cut the lips swollen, the head halts much misformed, the head flattened at the sides otherwise symmetrical, circumference 17 inches
Case of H. E.

Long measurement 12 1/2 inches and the short 9 1/2.
The occiput much projecting. The upper extremities were so that he could not balance himself with them. His walk was staggering, uncertain, with the body doubled up. General weakness, no where symptoms of spasticity. Length 34 inches, weight 40 lbs.

His character was good natured, easily irritated and made cry, and when any one left the house, he was no longer friendly with him. His appetite was not excessively large and he was very manageable. At school the boy could not be brought and he came to the house without at home. First his gentle health was adorned by rest, exercise, gymnastics and the like. All at once he began to draw and sketched the carriage with the children, which he showed with great heart and joy. By and by he drew very lovely flowers, beasts and horses, and showed a good ideay of perspective. As his native tongue, German, was not difficult for him, he was taught French which he at length mastered,
Cases of M. E. and M. Ch.

Soon he could write, read and understand what he read, and also write very neatly, little letters. The short measurement of his head increased and reached three years, the others remaining as before. His mental development has substituted the physical for his still smaller of his age, and bears marks of Education and him, which has entirely disappeared in others who were earlier treated. On leaving he went to the Orthoed
d Hospital at Basel, from which always good accounts of him are sent, and he hopes soon to commence a trade and make his living.

Case III. (Translated from the same) M. Ch., a girl on admission, 13 years old, the child of healthy parents and has two healthy sisters. She was born apparently healthy, but soon became weakly and only learned to stand when three years old. She had no power of walking or any mental faculty. The head was measured circumferenced 18½ inches, lengthwise, 12½ inches and crosswise 10 inches, the occiput strongly projecting, the hollowing at the vertex not much marked. The head while general
Cases of M. C. & J. F.

Came to the eye dark and chill. Tongue normal, hard palate deeply hollowed, teeth complete, hearing obtuse, a goitre, awkward walk, trembling of the feet, length 5'5" inches. Not only was speech absent but the voice, for the girl was unable to produce a loud sound, and remained three months in this state.

Her character was on the whole good. Her mind learned to occupy herself with house-hold matters, and nursing the smaller children. At first her voice was very slightly, but gradually improved till in six months she could articulate some sounds. She first learned the numbers, then the names of various objects, honey, rice, sugar, bread, etc., then the wild flowers, thyme, geranium, Nightshade, Daisy, etc., then butterflies, birds, and so on. She could read, but with the unmodulated voice of a child mute, but could write well, and was very clever in managing a household. She was dismissed to leave.

Pillory.

Case II. (Translated from the same) J. F. as boy, on admission 7 years old, was in a most
Case of J. F.

Initial condition. The patient was a confirmed brandy drinker, the mother delicate, and they lived in a damp house. The boy showed no disease at birth and grew well all his first year, at the expiration of which he was afflicted with a horrible eruption of the face, which entirely covered and for some years prevented his opening his eyes. His mental development at the same time was interrupted, and although he had been repeatedly admitted into the Canton Hospital at Landing, yet no permanent relief had been afforded him, so he was sent to the Abendberg. On admission, the length of his body was 38 inches. He had slightly atrophied limbs, the face was covered with a thick crust, the eyelids so swollen that he could never open his eyes, the mouth thick and disproportionately swollen, tongue thick, saliva running from the mouth, body regular, the head while at furnaced, the neck covered with several swollen glands as large as fists, which hindered his movements, his talk was unhealthy, croaking, often falling. For several months, the boy lay continually
Cases of J. F. and C.
on his face on the ground, and was difficult
to be moved or placed in another position. His
idiotic condition was seen at a glance, he said
say nothing but "mom. which he often repeated
especially when hungry; he was filthy, and the
whole of his clothes was always shotted his head
from one side to the other. His appetite was vast
omnivorous, and he ate everything he could lay hands
on without even being satisfied. His formation
of the Cranium was regular. (Circumference) It was
Long measurements 13 inches, Short 12. 11 1/2 inches.
Only a slight depression observable over the orbit.
This boy being brought under treatment, in
6 months he opened his eyes, his face and cervical
glands lost their tremendously swollen appear
ance. For three years his form gradually
improved, and all the same time his mental de
velopment proceeded, he now understands what
is said to him, can speak short sentences, is
attentive, obedient and clean.
Case V. (from Dr. Crichton's "Alpine retreat of the
Aberdargy"). C. was four years old, when he
entered with every symptom of confirmed
Case of C.

Rachitic rickets. The nervous system was completely out of order, that the strongest electric shocks produced scarcely any effect on her for some months. Aromatic baths, frictions, moderate exercise, meat regimen, and milk were the means of restoring her. Her bones and muscles grew so strong that in the course of a year she could run and jump. Her mind appeared to advance in proportion to her body, for she learned to talk in French as well as in German. She was in the height of that age at length, burst forth, and she was as gay and happy as before she had been cross and disagreeable. She was particularly cheerful, active, kind, and clever. She learned to write, read, cipher, sew and knit, and above all she loved to sing.

It is now two years since she left and she continues quite well and goes to school. This is an important fact, because in her family there is a strong tendency to rickets and the climate of the country of Dallalas where she is, is fatal to all development.

Case VI. (Transcribed from the Annales
Case of Marie Th. of the Canton of Berne, was admitted in May 1841, at the age of two. On admission, she had total destruction of intellect, the head inclined like that of a new born child, muscles lax, flabby and skin cold to the touch. The head was scrofulous abscess in the neck, and the bones of the hand were swollen and deformed. She was dumb although she showed no want of vivacity, she smiled always on her mother and recognised others. This symptom gave Dr. Bizzoni the great hope, because by it he perceived that the intellectual faculties were not as much disturbed as he had supposed. At the time of admission the circumference of the head was 15 inches, and from the nasal bones to occipital spine 13 inches. After 30 months residence in the Altenberg, it gained 2 1/2 inches in girth. In two months a change was visible in the external appearance of the child, so much so that the mother on seeing it did not recognise her daughter. But it required a whole year to strengthen her limbs a little, and at the commencement of autumn she could eat alone and conduct herself.
Case of Marie P. Conclusion.

Properly. At last she could articulate the words, but still more slowly she learned the consonants. With infinite trouble, her speech was entirely formed. In four years she knew by heart some little prayers, she could crochet and knit and do other little works. And now her growth and development are entirely in keeping with her age, and her intellect has made similar progress.

Such are a few out of the many cases which might be (taken to prove) the Continuum is no longer to be considered as an incurable malady. With patience and care can accomplish in this case great changes, and the disease is no life manageable than any other physical or mental defect.

The example which Dr. Guggeinmuller set has now inspired many others with the like desire of benefiting the unfortunate sick in this house. Many of those who have visited his establishment have resumed to their homes and formed similar institutions, other governments have become interested in the matter, and the Berneberg stands no longer alone. The countries of
Conclusion

Wurttemberg and Saxony, Austria and Russia, France and Bavaria, Bade and Sardinia, have followed the example, and established similar benevolent institutions.

Now has England been behindhand in the good work. As Bart of Lady has established an Hospital for fifteen idiot children. At the same time, a similar school was lately opened at Will. and in 1847 a new Society was formed for the purpose of educating and providing for idiots. This Institution is at Highgate near London.

Within the last few months an Institution for the cure of the Tubercle has been opened near Dundee, conducted upon similar principles, and having the same benevolent object in view. That these and similar institutions may increase and flourish, until, perhaps, a happy period should arrive, when there will be no further need of them, is the fervent prayer of every true Christian and right-thinking man.

FINIS.