Some protective devices among plants.
1. THE POETRY OF SWINBURNE .................................. 1
   John F. Macdonald, Queen's University.
2. FROM BAUDELAIRE'S LES FLEURS DU MAL ............ 7
   Translated by Lois Saunders, Queen's University.
3. FOR THE GENERAL ADVANTAGE OF CANADA........... 9
   Andrew Haydon, Ottawa.
4. OUR INTERNATIONAL BOUNDARY .......................... 23
   Justice J. J. MacLaren, Toronto.
5. SCIENTIFIC NOTES ........................................ 28
   The Accident of Temperature. A. L. C.
   A Problem in Education. W. C. B.
   Cellulose and Some of Its Uses. W. O. W.
6. WHAT'S IN A NAME? ..................................... 44
   J. M. Lano, Royal Military College.
7. EARLY ROMAN RELIGION .................................. 58
   P. G. C. Campbell, Queen's University.
8. ULTIMATE POLITICS ...................................... 70
   E. W. Thomson, Ottawa.
   C. Frederick Hamilton, Ottawa.
   * * *, Ottawa.
   O. D. Skelton, Queen's University.
9. CURRENT EVENTS ........................................ 83
   Higher Criticism and the People; Queen's and the General
   Assembly, W. G. Jordan, Queen's University.

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ALGERNON CHARLES SWINBURNE, 1861.
FROM THE PAINTING BY DANTE GABRIEL ROSSETTI.
THE DEATH OF ALGERNON CHARLES SWINBURNE

The death of Algernon Charles Swinburne in April called forth lengthy and eulogistic notices from papers of every shade of opinion. He was referred to in the tone one uses of a classic as 'the last great Victorian,' 'the last great poet of the nineteenth century,' 'the sole surviving giant of the race of Titans.' In view of this general recognition of his high rank as poet, a brief account of his life and work is not untimely.

Swinburne was born in 1837 of wealthy and aristocratic family, his mother a daughter of the Earl of Ashburnham, his father an admiral in the British navy and son of a rich north country baronet. After the usual education of the British aristocrat at Eton and Oxford, he made a long tour of the continent. While he did not take a degree from the university, he was considered a good scholar, especially in the classical languages. As early as 1849 poems signed A. C. S. had begun to appear in Fraser's Magazine, and so competent a judge as Mr. Edmund Gosse declares they are undoubtedly Swinburne's. His first serious effort, however, was not made till 1860, when he published his two plays, 'Rosamund' and 'The Queen Mother.' They were practically unnoticed by the literary world. In 1865 came 'Atalanta in Calydon' and 'Chastelard,' the first part of the colossal trilogy on Mary Stuart. No young poet ever met with more flattering recognition. The early reviews of Tennyson's work are cold and critical in comparison with the praise and wonder that filled the English literary journals at the strange, new music of the choruses in 'Atalanta.' And indeed it is not surprising that such a lyric as the chief Huntsman's prayer should have delighted the ears of England.
"When the hounds of Spring are on Winter's traces,
The Mother of Months in meadow or plain
Fills the shadows and windy places
With lisp of leaves and ripple of rain;
And the bright brown nightingale amorous
Is half assuaged for Iylus,
For the Thracian ships and the foreign faces,
The tongueless vigil and all the pain."

The alliteration and luxuriant diction were but the defects of youthful work and it was thought that the poet would learn to prune the too numerous shoots of his fancy as Tennyson had his early style of 'double-shotted' adjectives. In 1866 the first series of 'Poems and Ballads' was published under the title of 'Laus Veneris.' It is perhaps not too much to say that no volume of verse before or since has caused such an uproar among the critics. The majority of them declared that several of the poems, notably 'Laus Veneris,' 'Anactoria,' and 'Dolores,' were positively indecent, not fit to be read by any respectable person. Naturally enough the book ran through seven editions within a year.

Mazzini is credited with turning Swinburne's energies from the praise of women's love to what may be called the second period of his poetic activity. The Italian patriot asked the young poet why he did not sing the greater love—the love of liberty. Swinburne responded with a series of volumes devoted to the praise of liberty and its leaders, Mazzini and Garibaldi. 'A Song of Italy,' 1867, was followed by the 'Ode on the Proclamation of the French Republic,' 1870, and 'Songs before Sunrise,' 1871. With the death of Mazzini in 1872 this period of Swinburne's work may be said to close, for the 'Songs of Two Nations,' 1875, is largely a reprint of poems published before. Undoubtedly these revolutionary odes represent, not inadequately, the widespread unrest in European political ideas about the year 1870. For the modern reader, however, their purely intellectual passion for republicanism has little interest. The opening stanza of an 'Ode on the Insurrection in Canada' is characteristic of this group of poems:

"I laid my laurel leaf
At the white feet of Grief,
Seeing how, with covered face and plumeless wings,
With unreveted head
Veiled, as one who mourns his dead,
Lay Freedom, couched between the thrones of kings,—
A wearied lion without lair
And bleeding from base wounds, and vexed with alien air.

From the publication of 'Bothwell,' in 1874, Swinburne's chief effort in poetry has been dramatic. In addition to the 400 pages of
Bothwell we find Mary Stuart, 1881, 'Marino Faliero,' 1885, and 'Locrine,' 1887. In all there are ten plays in the six thick volumes of his collected poetry. Only one of them, Locrine, has ever been put on the stage, and, as an eminent critic who was present on the occasion has said, it was not so unsuccessful as one might have expected. The plays are written to be read, not to be acted, and show not the faintest trace of being influenced by the modern realist school. Of course these last thirty years of the poet's life were not given solely to the drama. Indeed the volume of his lyrical poetry written since 1874 is as great as the whole production of many of our English poets. In addition to these hastily enumerated plays and lyrics there is one long epic, Tristram of Lyonesse, a poem that has many short passages of singular beauty but is woefully lacking in interest as a story.

One hesitates to say anything that will seem discordant with the general praise of the dead poet, especially since it was he who said, 'I have never been able to see what should attract men to the profession of criticism but the noble pleasure of praising.' And yet one must point out that no poet has done more to divorce poetry from life and from the respect of the ordinary man. This is due, I think, to two causes, to Swinburne's amazing detachment from the ordinary interests of life and to his conception of what constitutes great poetry.

His detachment from the ordinary interests of life is the result of his temperament and circumstances, and still more of his association with the pre-Raphaelite group, especially with Morris and Rossetti. Perhaps his early recognition and present reputation are also to some extent the result of that association, for one has only to look over old files of the 'Athenaeum' to see how a small group of pre-Raphaelites, forming what a cynic might call a Mutual Admiration Society, Limited, practically controlled its literary judgments from 1865 on, and persistently praised each other's work.

His theory of poetry was a natural outcome of this association and of his own temperament. In his essay on Wordsworth and Byron he holds 'that the two primary and essential qualities of poetry are imagination and harmony; that where these qualities are wanting there can be no poetry, properly so called; and that where these qualities are perceptible in the highest degree, there, even though they should be unaccompanied and unsupported by any other great quality whatever—even though the ethical or critical faculty
should be conspicuous by its absence—there and only there is the best and highest poetry." What is the result if we apply even this limited canon to his own poetry? The sensuous imagery of the lines quoted above from the 'Ode on the Insurrection in Canada,' is a fair specimen of his imagination just as the stanza from 'Atalanta' is a fine illustration of his music. That its melody is fresh and captivating no one can deny; whether the quality of harmony is present in the highest degree anyone with an ear can decide for himself by turning from it to read aloud the first twenty-five lines of 'Paradise Lost.' Listen to the passage:

'if Sion hill
Delight thee more, and Siloa's brook that flow'd
Fast by the oracle of God,'

and then to this other:

'And chiefly thou, O Spirit, that dost prefer
Before all temples th' upright heart and pure,
Instruct me, for thou know'st.'

A new stop in the organ has been pulled out and the deeper tone is in exact accord with the more solemn thought. In Swinburne's verse the melody is generally independent of the thought and runs through stanza after stanza with almost exactly the same effect, the only difference being that it is d's and f's and b's instead of l's and m's and r's that are used for the ever present alliteration. Some of his stanzaic forms, for instance the one he invented for the 'Eve of Revolution,' are used in poem after poem till there are several hundred stanzas, each so exact a reproduction of the melody of every other that we get the impression of their being produced by a kind of glorified gramophone. A single stanza or couplet is striking, even astonishing, in its beauty of sound and imagery, for instance the couplet,

'And hushed the torrent-tongued ravines
With thunders of our tambourines,'

or,

'With Death for helmsman and Despair for star,
And the white foam to cover the White Tsar.'

Yet each loses much when read in its context, just because it is only one of many couplets equally brilliant and equally mechanical. It is bare justice, however, to say that they are constructed by the most scientific master of metre in the long roll of English poets.

Great poetry must have something more than harmony and imagination, certainly much more than brilliantmetrical effects and sensuous imagery. As Arnold long ago pointed out, poetry is the
most effective way of saying a thing. Fancy anyone trying to put
into prose all that is expressed in 'Break, Break, Break,' or 'Tears,
Idle Tears!' Now, in far too much of his work Swinburne is writ-
ing verse without having anything to say—there is no solid basis of
thought. Of course I am not arguing that a poem must have a
moral that can be twisted into a lesson, though it would be difficult
to write a poem that could escape the ingenuity of a certain type of
reader. I remember once hearing a Public School Inspector say at
a Teachers' Association that Wordsworth's 'We Are Seven' could
be very well used to teach children that they should keep graves
clean. Yet even the reader who cannot agree with my inspector de-
mands thought and feeling as well as melody in the poetry he reads.
So when he turns from 'Scots Wha Hae' and Byron's 'Isles of
Greece,' lyric poems which give perfect expression to noble thoughts
that are surcharged with emotion, when he turns from poems like
these to 'A Song in Time of Order,' or 'Tiresias,' or 'The Halt
before Rome;' or 'The Song of Italy;' I venture to think he will
disagree with Mr. James Douglas, who writes in the Athenaeum of
April 17th that these "and many another incendiary ode and sonnet
will be read when the French Revolution is a wraith of history and
United Italy a ghost of politics." That seems extravagant of such
verse as:

'When the devil's riddle is mastered
And the galley-bench creaks with a Pope,
We shall see Buonaparte the bastard
Kick heels with his throat in a rope.'

A large proportion, a very large proportion, of Swinburne's
poetry has the love of man and woman for its subject. I have space
for only one poem, 'The Oblation,' but it is pronounced by one of
the critics 'the greatest love song in the language.' Here, if any-
where, we expect, besides imagination and harmony, at least emo-
tion:

'Ask nothing more of me sweet:
All I can give you, I give.
Heart of my heart were it more,
More would be laid at your feet;
Love that should help you to live,
Song that should spur you to soar.

All things were nothing to give,
Once to have sense of you more,
Touch you and taste of you sweet,
Think you and breathe you, and live,
Swept of your wings as they soar,
Trodden by chance of your feet.
I that have love and no more
Give you but love of you, sweet,
He that hath more, let him give;
He that hath wings, let him soar;
Mine is the heart at your feet,
Here, that must love you to live.'

The reader who cares to do so will find it interesting to compare with this Shelley's well-known lines, beginning, 'One word is too often profaned.' It is in a similar ecstatic strain. With the music of 'Annie Laurie' in my ears, I am not so sure that 'The Oblation' is our greatest love song. I confess it leaves me cold. And perhaps the fatal objection to the great bulk of Swinburne's poetry is just that—it leaves you cold. You admire the exquisite workmanship, but your feelings are not touched.

Yet within a certain limited range of subjects, Swinburne has the power to move the heart. Perhaps the only point where he touches the ordinary interests of life is in his memorial verses. The short poem, 'In Memory of Walter Savage Landor,' is absolutely sincere and, in my opinion, worth a whole volume of such elaborately wrought verse as the much praised 'Ave atque Vale.' But there are very few of his numerous elegies that at all approach it in depth of feeling. What we may call his sea poetry forms a much larger section of work that is profoundly felt and wonderfully expressed. Scattered throughout his poems are numberless references to the sea and in them all is the note of sincerity, the true Norseman's love of the ocean. We can almost feel 'the salt sweet foam on our lips' as we push out

'In the teeth of the hard glad weather,
In the blown wet face of the Sea.'

It is in a third region still more remote from the ordinary interests of men that Swinburne is greatest. In what we might call the poetry of desolation, almost of despair, he is supreme. There is nothing in the language to put beside such poems as 'The Garden of Proserpine' and 'A Forsaken Garden.' The strange, morbid feeling for death and the sombre, haunting melody combine to produce an effect of utter sadness almost beyond the reach of expression.

'From too much love of living,
From hope and fear set free,
We thank with brief thanksgiving
Whatever gods may be,
That no life lives forever;
That dead men rise up never;
That even the weariest river
Winds somewhere safe to sea.'
The following stanza from 'A Forsaken Garden' is an even better example of what I mean:

'All are at one now, roses and lovers,
   Not known of the cliffs and the fields and the sea.
Not a breath of the time that has been hovers
   In the air now soft with a summer to be.
Not a breath shall there, sweeten the seasons hereafter
   Of the flowers or the lovers that laugh now or weep,
When as they that are free now of weeping and laughter
   We shall sleep.

Is there not something more than harmony and imagination in these stanzas, and is not this the class of his poetry that has the best chance of surviving? There is much of Swinburne's poetry that we cannot afford to lose. Hence his admirers should hasten the day when it will be possible to get the best of his lyrics in such an edition as one of the Golden Treasury Series. What his place in English poetry will be, it is too early to decide. One need not be a prophet, however, to predict that he will be a 'poet's poet,' perhaps even more, a 'poetaster's poet,' a perfect treasure-house for the puzzled rhymster of whom he will be at once the envy and the despair.

J. F. MACDONALD.

FROM "LES FLEURS DU MAL."

Once, only once, beloved and gentle lady,
   Upon my arm you leaned your arm of snow,
And on my spirit's background, dim and shady,
   That memory flashes now.

The hour was late, and like a medal gleaming,
   The full moon showed her face,
And the night's splendour, over Paris streaming,
   Filled every silent place.

Along the houses, in the doorways hiding,
   Cats passed with stealthy tread
And listening ear, or followed slowly gliding,
   Like ghosts of dear ones dead.
Sudden, amid our frank and free relation,
Born of that limpid light,
From you, rich instrument, whose sole vibration
Was radiancy and delight,

From you, joyous as bugle-call resounding
Across the sparkling morn,
With sharp and faltering accent, strangely sounding,
Escaped one note forlorn.

Like some misshapen infant, dark, neglected,
Its kindred blush to own,
And long have hidden, by no eye detected,
In some dim cave unknown.

Your clashing note cried clear, poor, imprisoned spirit,
That nothing in this world is sure, or fast,
And that man's selfishness, though decked as merit,
Betrayed itself at last.

That hard the lot to be a Queen of beauty,
And all is fruitless, like the treadmill toil
Of some paid dancer, fainting at her duty,
Still with her vacant smile.

That if one build on hearts, ill shall befall it,—
That all things crash, and love and beauty flee;
Until Oblivion flings them in his wallet,
The spoil of Eternity.

Oft have I called to mind that night enchanted,
The silence and the languor over all;
And that wild confidence, thus harshly chanted
At the heart's confessional. —Charles Baudelaire.

Translated by Lois Saunders.
FOR THE GENERAL ADVANTAGE OF CANADA.

IN the first book of Paradise Lost, where the poet, with all his wealth of imagery, so graphically describes a great council of war, he calls up one

"Whose delightful seat
Was fair Damascus, on the fertile banks
Of Abbana and Pharpar, lucid streams."

The reference to these clear and limpid waters suggests a pair of well-known rivers in the Northland of Ontario, one of which, at least, is famous as providing the best trout fishing in the world, and whose district has recently obtained an additional prominence in having contributed to the Parliament of Canada at the session just closed a measure which has created the highest interest, not only in the House but throughout the country, and particularly in the province of Ontario.

At a point some forty or fifty miles to the westward of the twin towns of Port Arthur and Fort William, the Pigeon River, an international stream, discharges the waters of Rainy Lake and of the upper northwestern country into Lake Superior; and into the same lake, but eastward from the twin towns about sixty miles or so, the Nipigon River carries the clearer and colder waters of Lake Nipigon and its tributaries.

The Pigeon and Nipigon Rivers are the "lucid streams" of the electoral district of Thunder Bay and Rainy River, and, for the past three years this district has continued to furnish the basis for a series of most important debates in the Senate and Commons of Canada touching the relation and attitude which the Federal power should bear toward "Provincial Rights."

It is common knowledge that, when Confederation was proposed and discussed among the provinces, Sir John Macdonald's idea was that there should be but one legislative authority in Canada, and he inclined to the view that the union might be known among the nations as "The Kingdom of Canada." Lord Derby in the British House, however, when the British North America Act was under consideration there, settled upon "Dominion of Canada" as more in keeping, doubtless, with the idea of a federation, and, perhaps, with some recognition or knowledge of the spirit of the previous
discussions at Charlottetown, Quebec, and elsewhere in Canada.

The conferences at Charlottetown and Quebec in the autumn of 1864, when the American Civil War was just over, were influenced by the impression that the recent difficulties in the United States arose over a weakness in its constitution whereby the individual states maintained a preponderance of power over the federal government. Hence the Canadian Confederation was designed to work out in the opposite direction, making the provincial legislatures subordinate to Parliament, and reserving for the federal authority all powers not expressly given to local governments.

And while, because of the apparently larger influence of such men as Sir John Macdonald and Dr. Tupper, the Federal note was accentuated, there was, nevertheless, the distinct compact that the provinces and the integrity of their law-making power and control should be fully respected and safe-guarded. When, therefore, the Act was passed, and the constitution of Canada was born, a most express distribution of legislative powers was to be found in The British North America Act under sections 91, 92, and 93. With section 93, dealing with the subject of Education, we are not here concerned. Upon the stage of constitutional interpretation both in and out of Parliament this section has already provided a very considerable amount of entertainment, and its day is not yet over. Sections 91 and 92, over the meaning and application of which the troublesome question of “Provincial Rights” has everywhere arisen, set forth the powers exclusively assigned to Parliament and to the Provincial Legislatures respectively. Local Works and Undertakings come under section 92 except

“Such works as although wholly situate within the province are before or after their execution declared by the Parliament of Canada to be for the general advantage of Canada.”

A brief but interesting resume of some leading forms of the “Provincial Rights” question arising out of particular circumstances in the various provinces may be found in a speech of the Honourable G. W. Ross in the Senate of Canada during the session of 1907-1908, where he states that federation began in a “storm of provincial objections” to the encroachments of federal influence. Nova Scotia was indignant because the federation scheme had not been referred to that Province for ratification. New Brunswick was early up in arms over the right to a separate school system there. Manitoba lived through a rebellion in 1869-1870 because half-breed
rights were not respected, and the Northwest Territories had a similar rebellion in 1885. British Columbia threatened to secede because the railway construction contract, if it may be so called, was violated. Quebec was greatly disturbed in 1889 over the Jesuits' Estates Bill. Ontario has been aroused on various occasions, and the Boundary Award, the Rivers and Streams Bill, the ownership of timber and minerals on Crown lands, and several other questions of large importance have been fought from court to court and settled on final appeals before the Judicial Committee of the Privy Council where, with some clearness and accuracy, and after the expenditure of an enormous amount of money and energy, certain rules have been established determining the extent of provincial jurisdiction and the limits of federal control.

The general rule of law established by the Privy Council under Section 92 dealing with the exclusive powers of the province has determined that the British North America Act

"Conferred powers, not in any sense to be exercised by delegation from, or as agents of, the Imperial Parliament, but authority as plenary and ample—within the limits prescribed by Section 92—as the Imperial Parliament in the plentitude of its powers possessed and could bestow. Within these limits of subject and area, the Local Legislature is supreme, and it has the same authority as the Imperial Parliament, or the Parliament of the Dominion, would have under like circumstances."

History repeats itself in curious ways. The Fathers of the American Constitution, following a period of war and strife, and, thinking to avoid what seemed to them weaknesses in the English Constitution, framed a measure that has signally failed in one important respect to produce the end they thought most desirable of accomplishment; and, in much the same way, some of the Fathers of the Canadian Constitution, who had contended for the idea of provincial subordination, begotten also of a time when strife and warfare seemed to have exposed the true inwardness of things, lived to see that their experiment in nation founding produced results, in some respects, exactly the opposite to what they had expected to attain.

The decided cases under the British North America Act establish two further propositions. The first is, that, where Parliament enacts, for example, the Railway Act, such an act carries with it the right to the enforcement of all necessary incidental powers appurtenant to the main measure, although the exercise of these powers may operate as a direct interference with "Property and Civil
Rights," a subject of legislative control belonging exclusively to the provinces under the constitution. And the second proposition settled by a recent Privy Council decision comes to us in this way:

"There can be a domain in which Provincial and Dominion legislation may over-lap, in which case neither legislation will be ultra vires if the field is clear, and that if the field is not clear and in such a domain the two legislations meet, then the Dominion legislation must prevail."

Such, generally, without going too far afield, are some of the leading conclusions of the rule of law under our constitution. The rule of law is a definite one. In its working out it comes from what might be called a secondary process, because acts of legislatures must first exist before courts are called upon to interpret them. When, however, the rule of law is fixed, it is an indication to the future legislator as to the meaning of his proposed measures, and may be invoked in debate as a warning against the creation of a possible conflict between two legislative realms. The rule of law does not determine what ought to be the rule of policy, and the rule of policy is a very unsettled one in Canada and perhaps in the nature of things must so remain.

In the session of 1906-1907 the member for the electoral district of Thunder Bay and Rainy River came down to Parliament as the promoter of a bill to incorporate the Port Arthur Power and Development Company, dealing with various power rights on the Pigeon, Nipigon, and other rivers, seeking to dispose of surplus power to the United States, with a view toward reviving once more the discontinued mines at Isle Royale in Lake Superior within American territory, and asking that the works and undertakings of the Company should be declared to be "for the general advantage of Canada" on the ground that the Pigeon River is an international stream, and the Nipigon River is a navigable stream, over which Dominion rights of navigation should prevail, making altogether such a set of circumstances, it was argued, as would remove the legislation necessarily beyond the provincial field.

The Bill was introduced in the Senate, and, having been extensively discussed in committee, was reported favorably. Some requests for railway legislation, also seeking the statutory declaration of "general advantage," may have stirred up the Senate more than usual; and, while the Port Arthur Company's bill was going through its stages, a most important resolution was presented to the upper
house by Senator David, containing four propositions which are worthy of attention and are as follows:

"1. The Senate will insist upon the application of Section 92 of the British North America Act of 1867, in accordance with the spirit and true intent of that section, to the end that the exclusive powers of the Legislatures of the Provinces of Canada may be protected and preserved.

"2. The Senate will not consider the mere insertion in a bill of a declaration that the work is for the general advantage of Canada, to be, in itself, sufficient foundation for the exercise of the legislative authority of the Parliament of Canada.

"3. The Senate will not pass any bill containing a declaration that a local work or undertaking is for the general advantage of Canada, or for the advantage of two or more of the provinces, until the truth of that declaration has been proved.

"4. The Senate will not consider the presence in a bill of clauses relating to subjects within the legislative authority of the Parliament of Canada, to be in itself sufficient reason for the enactment of other clauses relating to subjects not within that authority."

The two leading speeches in support of these resolutions were made by Senator David and the Honourable G. W. Ross, and are instructive and illuminating contributions to the discussion of this difficult subject. The inferences to be drawn from the debate are chiefly three. The first is that, to the Senate, was given the right by the Fathers of Confederation to protect Provincial Rights, as it was repeatedly stated in the debates at that time that the removal of that body from direct connection with the turmoil of party strife and its opportunity for more deliberate action than the House of Commons could afford ought to put the upper house in a position to give the protection desired. In the second place, for a great many years, and chiefly since 1883, that the use of the statutory declaration complained of had been extended in directions never anticipated when the British North America Act was passed. And, thirdly, that the clear and express compact of Confederation, providing for the integrity of provincial autonomy, was being more and more endangered in successive Parliaments. Not a member raised his voice against the resolutions and on a vote being taken in a house of forty-nine there was only one dissentient—Senator Sullivan of Kingston.

However, within a few days of its decision, the Senate passed the bill incorporating the Port Arthur Power and Development Company. When the bill came down to the Commons, the interference of other measures and the lateness of the session prevented its being fully considered and it failed to become law.

In the next session, 1907-1908, the power rights on the Pigeon and Nipigon Rivers were again presented for Parliamentary consid-
eration, the company this time figuring under the name of "The Ontario and Michigan Power Company." Again the upper house was first honored with a request to pass upon the bill. But whether because the Senate, in its wisdom, endeavored to carry out the resolutions of the previous year, or whether for other reasons, which need not here be entered into, the bill was defeated in committee, and "the general advantage of Canada" lost another example of the sort of violation which the spirit of the clause has so frequently undergone.

The same session also witnessed some memorable contests over two railway charters—those of the Niagara, St. Catharines and Toronto Railway Company and the Hamilton Radial Railway Company—both of them Ontario concerns. The battle raged in these cases over the more or less direct interference with municipal rights. But, by this time, members of Parliament, and the public generally, had become alive to the value of the Federal Railway Commission, with wide powers controlled by capable Commissioners whose policy has been to be fair to the railways without neglecting in the least the interests of the province, the municipality and the individual. Since 1883, when, for the first time, certain railways were declared to be works for the general advantage of Canada, so as to settle and strengthen the charters of the leading trunk lines, various provincial railways have come to Ottawa asking to be made Federal corporations. While there was, therefore, much opposition to the Niagara and the Hamilton Radial bills, yet the idea is obtaining in some quarters that if some working plan could be devised so as to bring the railway system of the country under the control of the Commission we might be saved from many of the difficulties that beset our southern neighbors, and, in the end, be enabled to deal much more fairly by the railways.

Whatever may be said in favor of raising provincial railways into the federal field, by having them declared to be for the general advantage of Canada, it is not by any means clear that other corporations should be so freely dealt with.

It might be here observed that, sometimes, unfortunately, party passion, or unthinking prejudice, may tend to defeat the most reasonable applications. In such a session as that of 1907-1908, in the face of an approaching general election, when ammunition was incidentally being manufactured for every variety of spellbinder all over Canada, the discussion over applicant corporations for the statutory declaration occasionally gave rise to extravagant attitudes and
ridiculous attempts to defeat perfectly meritorious measures. For instance, the government of Ontario intimated that, if Parliament persisted in allowing the declaration in favor of undertakings apparently otherwise provincial, it would set about repealing forthwith all the powers previously given by Ontario to such Corporations. And so, in regard to a company in the same session, backed by a very large investment of capital in southern British Columbia seeking booming privileges on a navigable river, in the Dominion railway belt, a certain section of the Senate became alarmed, and almost stampeded, over the idea of interference with "Provincial Rights," not, perhaps, in this case entirely oblivious of political considerations. After the bill on its first presentation had been defeated in committee, and a debate in the Senate had arisen on the necessity for sending it back for reconsideration, one Senator spent the most of an afternoon discussing a point of order so as to defeat the sending back of the bill; and, when it was reconsidered by committee favorably and again reported to the House, he spent the larger part of another afternoon trying to have the constitutionality of the measure referred to the judges of the Supreme Court for an opinion, a very naive attempt to give the bill the six months' hoist, as the Supreme Court had adjourned a month or so previously, and would not meet again until October.

In the session just ended our old familiar friend—The Ontario and Michigan Power Company—again came storming the federal citadel, directing its engines of war against the bulwarks of the House of Commons. The Nipigon River was explored from its source to its mouth; the Pigeon River and its international aspects, and the international qualities of the head waters and upper reaches and tributaries of both streams, were powerfully described, and members must have longed to get away and enjoy the cheering influences of those delightful waters, where yet, however, winter was lingering in the lap of spring.

The old, old battle between the Province of Ontario and the Dominion of Canada was renewed in all its fierceness, and the debate is of more than usual value because the horizon was cleared of election clouds and the question was considered on its merits. A quiet and independent consideration of the measure, as asked, would lead one to think that the promoter could obtain much more than he eventually received even under the Ontario Companies' Act, without reference to any legislature.
There was a fierce discussion in committee over the bill. The Ontario Government sent leading counsel to protest against its provisions. The Toronto Globe furiously attacked "Mr. Connée's Little Bill," and severely criticized the committee for reporting in its favor. When the measure came up for consideration in the House on the committee's report, the Minister of Justice seemed to think that on the face of the bill, and because the company desired the right to export power to a foreign country, the Federal Parliament only had the right to entertain the measure. The member for Sault Ste. Marie protested against granting the liberty to export power in view of the recently launched movement for the preservation and conservation of our resources, and also because the Province of Ontario had recently inaugurated a comprehensive power policy with which this measure was a direct interference. Here the Premier came to the rescue. Dealing with the question of interference with the provincial policy, Sir Wilfrid said:

"If we pass this bill we interfere directly with this principle, and under those circumstances, holding as I have held, all my life, to the sacredness, if the word is not too strong, of Provincial rights, while we have the brute power to override those rights, it is a question whether we should do so, and it is a question upon which I would invite the serious consideration of my honorable friend who is promoting this bill."

It would be interesting to follow out the debate more fully did time and space permit. Suffice it to say, that the bill to incorporate the Ontario and Michigan Power Company eventually passed both houses without any discussion in the Senate and became law, but shorn of all its glories. The corporation must rest upon its own intrinsic merits as a federal entity, for it has not been declared to be a work for the general advantage of Canada.

As already stated, there can be no absolute rule of policy. Expediency in political life is a word with a large meaning. The possible circumstances of times and places cannot be controlled by any settled rule once for all defined. But Canadians will still continue to trust the good sense, forbearance, and consideration of their representatives in Parliament to deal with the vexed question of Provincial Rights in a broad, sane, and liberal spirit, recognizing that the considerations which obtained at Confederation are after the lapse of over forty years much more than memories and that some of the great questions of Canada's future can be approached and resolved only in the free spirit of forbearance and compromise.

Andrew Haydon.
SOME PROTECTIVE DEVICES AMONG PLANTS.

The study of natural objects has the great advantage of exciting not contempt, but rather the highest respect, and even a reverential awe. This is particularly true of that fascinating but unfathomed mystery, protoplasm. Chemistry speaks with considerable assurance in relation to the mineral kingdom, but its highly perfected processes and instruments are unable to distinguish the protoplasm of a statesman's brain from that of a tadpole's brain, or from that which produces the bark of a tree. The entire living world in its innumerable forms is but the varied expression of protoplasm. In connection with this kind of matter alone is life known. The variety is the response of an irritable substance to the conditions and forces acting on it.

In the vegetable kingdom organization is far from reaching the perfection shown in animals. Each branch of a tree is in many respects the rival of every other branch, and is likely to benefit by the destruction of the other branches. The same is true to a less extent among the cells of any one set of organs. Evidently, however, the cells of the roots cannot rival those of the leaves, because of differing functions. Here we see the effect of organization, which in animals has reached such a stage as to practically prevent the duplication of parts having exactly the same function. There is in the animal body such an absence of rivalry as to make an injury to any member the cause of lack of efficiency to the whole body. The limitation in the size of present day animals is probably due to the necessity for the avoidance of duplicate and therefore rivalling parts. We may possibly attribute the remarkable success of insect life to such perfection of organization that even the two processes of growth and development have become in many orders quite distinct from each other, and occupy different stages in the life history. In plants and in other classes of animals these processes are rivals for the life energy required for their completion.

Sufficient has been said to indicate that we may expect more or less effective adaptations where this sensitive material, protoplasm, meets conditions which threaten its very existence. Such a condition is lack of water in connection with plant life, and to this one factor of environment we shall confine our attention in this article.

By drying plants and parts of plants at a temperature just above the boiling point of water, we can readily prove that all parts of
living plants contain a very considerable proportion of water in their tissues. In seeds this proportion may be as low as about ten per cent., while in vegetables and fruits it is often above ninety per cent. The necessity for this water is clear when we note its duties. First, protoplasm can be alive only when it contains some water. Seeds are among the dryest of living vegetable substances, but they normally contain between ten and twenty per cent. of water, and this is an indispensable condition of their continued life. While dry, the life processes in seeds are very slight and difficult to detect, but the presence of additional water with a suitable temperature will result in greatly increased activity, and the seedling as it develops demands an increasingly great supply of water. Protoplasm that is growing is semi-fluid, and its activity is directly dependent on the maintenance of an adequate water supply. Another purpose served by water is the transportation of food materials into and through the plant, as it is quite certain that all the raw materials for plant food enter the cells as solutions in water.

Admitting the necessity for water, we recognize that the problems confronting the plant are: first, the securing of an adequate supply, and, second, the conservation of this supply.

Since water enters land plants by way of the roots alone, the extension of the root system to tap large areas of soil is the ordinary reply of root protoplasm to the stimulus of an insufficient quantity of water. This extension takes the form of repeated branching as well as of lengthening of root axes, and each branch and rootlet is again increased in surface by the production of innumerable root hairs. Thus the soil is thoroughly searched, and forced to yield whatever water may adhere to its particles. In soil containing free water which may be drained away, we find greatly restricted root systems, and a very slight production of root hairs.

Turning to the problem of water conservation, we find the conditions so various that they have stimulated a wide variety of expedients. Drouth may be periodic or continuous, excessive or slight. Again the periods may vary in intensity and length, from an absolutely rainless season of several months to the few intensely warm hours of a summer day. It should be noted here that lack of water within the plant may be due to either an insufficient income or to an excessive outgo, or to both combined. The dryness of the atmosphere on clear cold days, together with the fact that the soil water is to a great extent locked up by frost, make our Canadian winter a
SOME PROTECTIVE DEVICES OF PLANTS.

season of extreme drouth, for which perennial plants must prepare as they do for the rainless season in tropical deserts.

To meet the danger of seasons which favor excessive loss of water, we find that plants have acquired certain habits which are eminently important in the way of protection. One of the most noticeable of these is the deciduous habit of most perennials of temperate and subarctic regions. By this we mean the periodic loss of all delicate and permeable tissue. The leaf is the chief organ for transpiration of water, and the epidermis of the leaf is not sufficiently waterproof to withstand the drying effect of either a hot rainless season or one of very low temperature, in which most of the atmospheric moisture is precipitated as crystals of ice. Plants whose aerial parts survive these seasons withdraw their protoplasm from the leaves, the process being usually accompanied by marked changes in color. Then the leaf separates at a plane of cleavage already prepared, both surfaces of this plane being healed, leaving a scar but not a wound. The parts of the plant which remain exposed to the atmosphere are mostly encased in a coating of cork, which is sufficiently impervious to prevent undue loss of water. There are, however, such delicate structures as the growing points, which require special protection. They are usually encased in several layers of embryonic leaves, which in turn are covered by firm, dense structures which we call bud scales, and these may be coated with a waterproof varnish. The purpose of these protective arrangements is not to prevent the entrance of water, but its exit.

Another seasonal habit is the retreat of many plants into subterranean structures, such as storage roots and underground stems. All parts left above ground perish, becoming dried straw, their living contents having sought refuge beyond the reach of the drying atmosphere. Such plants as thus secure the friendly protection of mother earth are known as geophilous plants, and are largely represented among those which first in spring give us blossoms and leaves as an earnest of the coming season. For this early and rapid growth they are indebted to the stores accumulated during the previous growing season, and guarded in some subterranean safe deposit.

Perhaps the most remarkable preparation for an austere season is that made by annual plants,—those which pass from seed to seed in one season of growth. In these we have the plant dying completely on the approach of unfavorable conditions, leaving only its seeds to carry on the species. The seeds are small, compact parcels, each made up of a little plant, a store of food, and a strong overcoat.
With this outfit they are confidently expected to prevent the family from becoming extinct. We have marked evidences of their success, in spite of the fact that man, in common with most of the other animals, takes advantage of their youth and helplessness to rob them of their stores of starch, oil, or proteid matter. In this and other ways the vast majority of seeds are destroyed, but usually sufficient of them escape to carry on the species. The deciduous, the geophilous, and the annual habits above described may be considered as extreme cases of reduction of exposed surface, for a season during which growth is impossible and destruction by drying quite certain. The biennial habit is quite similar. Here two short growing seasons are required for the plant to pass from seed to seed. During the first of these a quantity of food is formed and stored in a protected position, usually but not always underground. During the second favorable season a flowering stem, bearing inconspicuous leaves but plenty of flowers, is sent up at the expense of the foodstore. At the end of this season the plant dies just as annuals do, leaving only seeds for the perpetuation of its kind.

There are many situations in which water is scanty during the whole growing season, while the heat is so great as to make evaporation a serious menace to the life of the plant. Under such circumstances we find the protoplasm protecting itself by various modifications of the methods above described. In general there is a reduction of the delicate tissues through which water may be lost. Plants growing on dry plains and sand dunes show what we call a stunted condition. A closer examination shows rather that the habit of the plant is more compact than in favorable situations, and that the leaves, while of less surface, have greater thickness and are of firmer texture. This reduction of evaporating surface becomes more marked as we study plants exposed to increasingly severe and continuous drouth, until the reduction of leaves culminates in cylindrical and finally spherical plants with no leaves whatever. These are the cacti of the deserts, having the greatest mass for the least surface, and with the work usually performed by the leaves transferred to the green stems.

From changes involving the whole aerial plant and relating to seasons in which growth or even the maintenance of life is almost impossible, we now turn to the effect of temporary conditions which would conduce to harmful evaporation. Here we shall find ordinary leaves modified to a greater or less degree. To understand the modifications we must first note the structure of foliage leaves. Con-
SOME PROTECTIVE DEVICES OF PLANTS.

21

ected directly with the trunk or branch is a bundle of vessels and fibres which spread apart and ramify in the leaf so as to give the blades their various shapes. These ribs or veins,—they serve both for support and conduction,—have spread over and between them a thin mass of delicate structure called the mesophyll, while enclosing the whole is a thin transparent skin known as the epidermis. The mesophyll is made up of those life units known as cells, each containing living protoplasm and a green coloring matter, and bounded by a thin soft transparent cell wall. This aggregate of cells can best be compared to a large number of thin rubber sacs fitted and fastened together to form a layer several times the thickness of one sac. If an elastic membrane be imagined as enclosing the whole aggregation, and every sac as distended by air, it will be seen that the form and firmness of the whole body will depend very largely on the distension of the units. The distension or turgidity of the leaf cells depends on a sufficient supply of water. The water enters the plant under the influence of a force known as diffusion, which is as inflexible as the force of gravitation. Hence the leaf cells, being unable to control the inflow of water, must adapt themselves to permit the escape of excess, and to conserve any quantity less than the optimum. This is done in many ways. The most notable method is by temporarily assuming a position of protection when exposed to too great a loss of water. We call this change of position wilting, usually implying merely a collapse due to loss of turgidity. It is, however, much more than this, as we find that the position taken is always one which defends the leaf from further injurious loss. To permit the escape of superfluous moisture, the nearly waterproof epidermis is pierced by innumerable minute openings on the lower or shaded side of the leaf. These stomata are controlled by guard cells which collapse and close the orifice when the loss of water is too great. The change of position known as wilting assists this protective process by either rolling the leaf with the stomata inside as is the custom among grasses, or closing the lower surfaces together as in clovers, peas, and beans, or by the more common method of drooping, so that the sun’s rays strike the leaf obliquely, and are reflected instead of being permitted to penetrate. The aspect of an assemblage of plants during the excessive heat of a summer day should therefore not be considered as indicating a condition of hopeless collapse. Rather it represents well designed attitudes of defence, which the individuals will quickly relinquish when the danger is past.

A different class of protective devices are the modifications in
anatomy found associated with austere conditions from which retreat is impossible. The upper or most exposed epidermis is frequently thickened and hardened, and often a ray filter, consisting of layers of cells containing water, is formed between the exposed epidermis and the mesophyll cells. The lower epidermis is also thickened, and the stomata are embedded in pits which protect them from very rapid changes of atmosphere, such as accompany strong winds. These modifications are characteristic of the leaves of our evergreens, as well as of those plants growing on open plains. In addition we find that the cells most active in the absorption of light and in utilizing its energy for the manufacture of food for the plant, have developed in prismatic form, and present their ends only to the surface of the leaf, that is, to the rays of the sun. Because of their elongate shape these cells together are known as palisade tissue, and this is found in all but the leaves of extreme shade plants. Where illumination is intense and drying winds frequent we find all these anatomical modifications combined, and in addition other structures to prevent the frequent change of atmosphere in contact with the leaf cells. Vegetable hairs are common, and these are particularly noticeable on the lower or sensitive side of leaves. These trichomes are often of unusual shapes, such as branched hairs or star-shaped or umbrella-shaped scales, usually forming a felt of greater or less density. Being empty of all but air they serve both to reflect the sun's rays and to hinder the escape of moist air. Our climate,—so called temperate, but really reaching well into opposite extremes,—gives us a flora which adapts itself to nearly optimum conditions in summer, and to the extreme of drying cold in winter.

In general we see that the action of protoplasm in this connection is what may well be expected from a sensitive substance of limited powers of motion. Each peculiarity may be considered an attempt at living along the line of least resistance. Whenever possible it retreats on receiving a threatening stimulus, and rebuilds the outposts when favorable conditions return. In the great majority of cases this is more economical than to form defensive structures capable of withstanding severe and prolonged attacks. When austere conditions are the rule, however, and retreat means annihilation, protoplasm becomes more tolerant of extreme conditions, and constructs defences behind which it can endure the unavoidable hardships.

W. T. MacClement.
OUR INTERNATIONAL BOUNDARY: AN OBJECT LESSON.*

HE subject of International Arbitration brings vividly to my mind one of the most agreeable reminiscences of my early life. Shortly after leaving college and while still a law student, it was my good fortune to be appointed British secretary to the Board of International Arbitrators appointed to settle the claims of the Hudson’s Bay Company against the United States for the property which the Company had owned in what is now the States of Oregon and Washington, south of parallel 49°, which had been fixed upon as the International boundary. The peaceful solution of what had been for years a rankling and irritating controversy made at the time a deep impression on my mind which still remains, and it was a rare privilege thus early in life to come in close contact with some of the prominent men of the continent—with the members of the British Embassy in Washington and the Arbitrators, one a retired Federal Judge and the other a leading Canadian statesman. Of the others engaged in the arbitration I will name only one, the Hon. Caleb Cushing, who was the leading counsel for the United States and who had been its Attorney-General and was perhaps the foremost lawyer of this country after the death of Webster.

The subject assigned to me for this morning is “Our International Boundary.” My acquaintance with a part of it began early. My boyhood home was on the northern foothills of the Adirondack Mountains, on the Lower Canada side of parallel 45°, which there forms the International boundary. Our farm produce was sold and our purchases made at one of the old time “line stores”—built upon the line, with one counter on the American side and the other on the Canadian, the goods of each country being kept carefully on its own side. The iron post marking the boundary, to which we often hitched our horses, stood directly opposite the front door. On the other side of the road the farmer owned land on both sides of the line and it was no uncommon sight to see him ploughing across the boundary in a field partly in each country, or the cattle grazing quietly in such a field. The farmers on both sides patronized the line stores, buying

*Address delivered at Lake Mohonk Conference on International Arbitration, 1909.
such and a simple convention, like formal like the, part Rcc the Washington, Washington The lowing tries the tions pacific limit, far it minated to determine international treaty the treaty the require the countries to the 18-lb. Mr. change without a change to the States the of was the Treaty of London, 1794; Ghent, 1814; London, 1818 and 1827; Washington, 1846 and 1871, and finally the Convention-Treaty of Washington of 1903 under which the boundary between Alaska and the Yukon Territory was settled by arbitration.

So far as I am aware the above Treaty of London of 1794 was the first treaty providing for the settlement of a vexed question by international arbitration. It provided for two such Boards—one to determine what was really the St. Croix river, which was by the treaty of Paris to form in part the boundary between what is now the State of Maine and the province of New Brunswick; the other to settle the respective claims of the subjects or citizens of the two countries against the government of the other. The negotiators of
this treaty were Lord Grenville for Great Britain, and John Jay, the first Chief Justice of the Supreme Court, for the United States. To these two men, I believe, belongs the distinguished honour of having been the first to provide for such a mode of settlement, and of being the fathers of International Arbitration, that in these days is obtaining such world-wide acceptance.

The boundary line thus settled and defined is the longest between any two countries in the world. The peaceful condition of the fresh water portion of it I have already mentioned. The land portion is equally free from military display. Instead of being flanked by frowning forts and batteries, as is so frequently the case on the frontiers in European countries, one might almost travel from end to end of it, throughout the whole length of the 5,000 miles, without seeing a single soldier in uniform on either side of the line. What an object lesson both on land and water for those nations at present so heavily burdened, and one may say cursed, with militarism!

But what might have proved the greatest triumph of international common sense is something regarding our International boundary that is likely to be decided within the next few months. Most of you are aware of what is known as the Waterways Treaty agreed to between the Governments of the two countries in January of the present year, and which would no doubt have been ratified here this had not a member of the United States Senate succeeded in persuading that body to add a rider granting to his State an additional advantage without conceding any equivalent or compensation to the other side.

This treaty provides, inter alia, that the navigation of all boundary waters shall forever continue free and open for the commerce of both countries; also that all obstructions or diversions of water on either side shall be regulated by a permanent International Court composed of six Commissioners, three named by each country, subject to certain equitable principles detailed in the treaty. Special provision is made for the amount of water to be drawn off on either side for power purposes and the generation of electricity at Sault Ste. Marie at the outlet of Lake Superior, and at Niagara Falls, while fully preserving the scenic beauty of that great wonder of nature, the common heritage of our two countries. It is also provided that any other difficulty whatsoever along the common frontier
shall be referred to this Commission whenever the government of either country shall so request.

With regard to the rider added in the Senate respecting the division of the water at Sault Ste. Marie, at the instance of the Senator from Michigan, I wish carefully to avoid expressing any opinion or entering into controversy as to the merits or demerits of the proposition, but the mere fact itself serves to call attention prominently to the unsatisfactory provision of having to submit an arrangement settled and agreed upon between the two governments, no doubt largely on the principle of give and take, to the approval of an elective body, where there is such a tremendous temptation to attempt to gain local popularity by standing out for some one-sided advantage. From the recent statement made in the Canadian House of Commons by the Premier, Sir Wilfrid Laurier, it appears that this attempted amendment has actually imperilled and may yet possibly wreck the whole scheme.

It has often been to me a cause of great surprise that the more civilized nations, whose subjects or citizens have been so long accustomed to settle their local differences through the Courts and by arbitration, have been as a rule so tardy in learning to apply the same principle in the settlement of their International difficulties. As to these latter, many of them have continued to cling to the code of ethics attributed by Wordsworth to Rob Roy:

"For why?—because the good old rule
Sufficeth them, the simple plan,
That they should take who have the power,
And they should keep who can."

And this course has not been without its Christian apologists. I remember less than twenty years ago hearing the editor of one of the leading religious journals on this continent declare with great emphasis, in an international gathering, that the principles of the Sermon on the Mount had no application to national or international affairs. Again, let us take another illustration from a narrower field. How often do we find officers of great corporations ready to practise and justify methods of business and policies for the corporate benefit that they would scorn to use in their personal affairs or for individual profit—men amiable and considerate in their private relations who are tyrants and pirates in their corporate capacity. We all know that the Dr. Jekylls and the Mr. Hydes really exist outside the imagination and the pages of Stevenson. So also with many public men respecting public matters. The fact is that, while
in a measure we have as individuals become civilized and Christianized, we still remain as nations and collectively largely barbarian and heathen. We need to cultivate not only the individual conscience but also the corporate and the national consciences as well.

In my opinion there is a great necessity for our getting back to first principles. Nearly three thousand years ago the wise man declared that "Divers weights and divers measures are an abomination." Such is an apt description of the divers standards generally applied by us moderns in national, corporate and individual concerns. We have been gradually adopting the Christian standard for the latter, while largely retaining the pagan standard for the two former. The principles advocated at these Conferences, and sought to be applied at the Hague Conferences and by its tribunals, are based upon the truth of the other statement also enunciated by the wise man that "Righteousness exalteth a nation but sin is a reproach to any people."

J. J. Maclaren.
SCIENTIFIC NOTES.

THE ACCIDENT OF TEMPERATURE.

EVERY text-book on elementary science announces the fact that there are three distinct states of aggregation of matter, spoken of more simply as states of matter. Matter, they say, exists in three distinct forms commonly called solid, liquid, and gas or vapor; and on the molecular theory, these conditions are to be explained by different arrangement and speeds of the molecules which form them. The points where the different states merge or change abruptly into one another are known as the freezing, or melting points, and the boiling, evaporation or condensation points. The main factor in determining the particular state in which a body shall occur is the temperature and intimately related is the pressure which acts upon the body. In fact the temperature and pressure are the great variables of the universe, determining as they do to large extent the entire range of physical processes. In certain cases through limited range of temperature and pressure the volume is the regulator of the amount of each state in a mixture of two. The transition from one state to another is always marked by many phenomena, e.g., when ice freezes there is an abrupt change in volume, a remarkable evolution of heat, a decided change in the value of the specific heat (it being reduced to one-half its former value), and its other properties being changed in some degree. The change of water into steam is accompanied by even greater changes in volume and specific heat and a much greater absorption of heat.

When we reflect that water boils normally at 100°C. and freezes at 0°C., that the highest artificial temperature (the electric arc) is 4100°C, while the lowest yet attained (liquid helium) is about −268°C, we see that the region in which water exists in liquid form is relatively small. At very high temperatures water undoubtedly ceases to exist as water, becoming dissociated into its constituent elements. What is true of water is true of other substances. They have their boiling and freezing points, and their properties change with the temperature. At low enough temperature all would be solid and at high enough all would be gaseous; and somewhere between these extremes most would be liquid, so that the universe as we know it is an accident of temperature. Next to air, water is the most important factor in the support of life, and while life is almost universally destroyed at boiling temperature, it is possible many degrees below
freezing; cold alone will not destroy it. Animal life of the higher types is unable to withstand for any length of time temperatures much below 50°. The simpler forms of life, such as seeds, etc., seem to resist any low temperature yet applied to them. This fact has led Lord Kelvin and others to suspect that life came to the earth from distant bodies being brought through the intense cold of interstellar space in meteorites or driven in very simple cell form by radiation pressure. However this may be we must admit that the great preponderance of life upon the earth has existed since the temperature fell below the boiling point and will cease to exist when the temperature falls very far below the freezing point. We live then in a small part of the scale of a vast thermometer extending from 273° below zero (absolute zero) to perhaps 7000° above zero, the temperature of the sun. So if our earth has cooled down from the upper limit or anywhere near it and is to finally reach the coldness of interstellar space, life is an exceedingly fleeting thing. Amongst all of the inconceivably large number of visible stars, to say nothing of the ones not shining by their own light, and the dark stars which we know to exist, it is unreasonable to suppose that the earth is the only body amongst all these on which are the conditions necessary for the support and development of some form of life. Many must have had these, many have them now and no doubt many have yet to reach the temperature where life may be possible. That this life is like our own is not necessary; it may be, of course, that development would proceed along very different lines, so that to admit conditions on Mars favorable to the support of life is not at all the same thing as to say that there are beings there eagerly waiting for the scientists of this planet to arouse themselves and begin interplanetary communication.

It was van der Waals who called attention to the similarity of properties of different substances in enunciating the law of Corresponding States, which is to the effect that all substances have identical properties so far as the relations amongst temperature, pressure, and volume are concerned. All liquids if heated in an open vessel, provided they do not undergo decomposition, boil at definite temperatures which change with the pressure. If, however, a liquid be heated in a closed vessel the evaporation increases the pressure, so that the boiling point is raised, and increasing temperature increases the evaporation and the pressure, so that the boiling point is never reached. This continues until a certain temperature, depending on the liquid, is reached, when the liquid changes into vapor without
boiling, not only at the surface but all through the vessel. The
temperature at which this occurs is known as the critical tempera-
ture. There is more or less doubt as to the nature of matter at the
critical temperature. Some have thought that the liquid state came
to an end here; others that the liquid state persisted above this tem-
perature but could not be seen on account of being intimately mixed
with the vapor. The later theory is that the liquid and vapor mole-
cules are of different kinds, the liquid being perhaps congeries of
the vapor ones, and that a liquid always contains some of the vapor
molecules and the vapor some of the liquid molecules. As the tem-
perature is raised the proportions of the two become more alike until
at the critical point vapor and liquid contain the same amounts of
each, are precisely alike and mix thoroughly. This theory accounts
for many observed facts and will do for the present.

All liquids undergo the same changes with rise of temperature
and, except for the temperature at which visible liquid disappears
and the pressure at the time, there is no difference. Here is a unity
which has not been fully understood. Air has a critical temperature
just as water has, and if the proper temperature could be reached
solids, such as the metals, would show the same phenomenon. Some
of the more easily fusible solids have been investigated.

The critical point is an interesting one. Here, a slight increase
of pressure causes an enormous decrease in volume, the substance is
sometimes spoken of as being "mushy"; surface tension vanishes
and the liquid will not rise in a small tube. It is indeed a critical
point.

Since changes of pressure affect the freezing point slightly, it
has been thought that there might be a lower critical point, a tem-
perature where the solid and liquid states would become identical,
but experimental evidence is against such a view, though the experi-
ments of Barus, Tammann and others show that for some substances
there is a temperature above which a solid ceases to exist and that
no pressure is sufficient to solidify the liquid. Below this tempera-
ture the liquid may be solidified by pressure, the pressure necessary
in many cases being thousands of atmospheres. The pressures in the
interior of the earth of course run up to enormous amounts, and it
is probable that many rocks at high temperature may be held in solid
form by the terrible pressure only to become liquid by a release in
pressure.

A. L. C.
The educationalists who introduced elementary science into the curricula of the secondary schools are commonly supposed to have done so with a two-fold object. They probably wished the pupils to have an opportunity of becoming familiar with the point of view and with the method of science; and at the same time desired them to obtain a knowledge of the principles that underlie the phenomena more commonly met with in the average citizen’s life. To this end the study of physics was selected, largely because it, more perhaps than any other subject, takes for a basis that mass of experience that every normal child brings with him into the classroom; for as Mach\(^1\) points out: “Everything which we observe in nature imprints itself *uncomprehended* and *unanalyzed* in our percepts and ideas. . . . In these accumulated experiences we possess a treasure-store which is ever close at hand and of which only the smallest portion is embodied in clear articulate thought.” It is, then, in this so-called “instinctive knowledge” that the science of physics has its foundation; and it is on account of the fact that this material is already available in the case of every pupil that the teaching of physics forms the best possible means of conveying to beginners the method of the scientific examination of nature.

The wisdom of attempting this work in the schools is seldom strongly disputed. Recently, however, there has sprung up a very general questioning as to the measure of success that has attended it. This must not be taken to mean that any large portion of the educational community thinks that the study of physics has absolutely failed of its purpose—especially as compared with the success attained in some other parts of the curriculum—but the doubt is again and again raised, “Has the teaching of physics succeeded *in any full measure* in giving the training that may fairly be expected from it? and, if not, what is the cause of the failure?” This question, be it noted, comes chiefly from the teachers themselves. It is the intention of the following paragraphs to give a short account of the present state of this introspective movement.

In December, 1905, The Central Association of Science and Mathematics Teachers, meeting at Chicago, took up this problem; and about sixteen hundred copies of a four page leaflet, entitled “A

New Move Among Physics Teachers,” were sent to the principal schools and colleges both in the United States and in Canada. Answers were invited to a number of questions framed in an attempt to ascertain how far the physics teachers themselves were in agreement as to the essentials of the subject. The particular question of most general interest was “What in your opinion is needed to make physics more interesting, stimulating and instructive; and more useful as an educative factor?” Replies were received from eighty colleges, thirty normal schools and one hundred and sixty-five high schools (only two being from Canada). These revealed a most remarkable diversity of opinion, even as to the fundamental points that ought to be treated in a first-year school course in physics, and the answers to the question quoted above showed an equally wide divergence. Fifty-five of those replying thought that physics should be brought into closer relation with the daily life and experience of the pupil. Twenty-five claim that too much material is forced into the available time. Some say that more attention must be paid to the quantitative relations involved; and about an equal number are quite certain that unless all the mathematics is eliminated from the first-year work there can be no hope for school physics. Thirty-three hold that the most pressing need is that of better-prepared teachers, and some of this last group lay the whole blame on “inappreciative school boards,” who not only engage cheap men but who insist on overloading those they do take. The synopsis of the replies to this one question covers two pages of small type. All of it is interesting to the specialist, and most of it valuable, in that it directs attention to points found unsatisfactory by others; but as may be judged from the above given extracts, it affords little help in determining what are the essential features of the problem. “It must then be evident,” comments the committee, “that we are not yet as well agreed as we might be on this most important point. Perhaps the whole thing may be summed up by saying that we teachers do not comprehend two things as clearly as we should, namely, (1) we fail to understand the nature and needs of the adolescent mind; and (2) we comprehend even less of the nature of science and the real meaning of her services to civilization.” This is certainly very severe self-criticism but it is probably, in a large measure, true. The most encouraging announcement of this second circular (June, 1906) is that seven other Teachers’ Associations in the central and eastern states had joined in the work, thus giving it a much broader basis.

A series of theses, based on the decisions of the French and
German pedagogical associations, were next discussed and several important points settled. Thus it was agreed that a reduction of subject matter should be made, to two-thirds of that usually given, those topics having the greatest bearing on the pupil’s life to be retained; and the problems least likely to occur to him spontaneously to be omitted. Method of presentation should be of more importance than amount of subject matter covered, and method of thought than mastery of facts. No definition should be introduced until the concepts with which it deals have been fully developed in the pupil’s mind, and the statement of physical laws should follow the same procedure. The nature of laws, as generalizations from experiment, should be insisted on. The pupil should also be taught to distinguish between the hypotheses and the experimental facts of science. These as will be noted deal almost entirely with general methods in the presentation of the subject.

At this stage a change in organization took place. The twelve sub-committees that up to this time had been co-operating in the work now resolved to constitute themselves “A National Commission on the Teaching of Elementary Physics,” to be an independent body composed of representatives from the large Teachers’ Associations, that should have no other business to distract them from this special subject. The commission recognized at the outset that it was confronted with two phases of the problem, namely, one dealing with the administrative question involved in the defining of the physics unit—that is, the time devoted to physics that would be accepted from any school as an adequate first-year’s work; and, second, the more general subject of the aim and present needs of secondary school science. With regard to the administrative part, the commission resolved on a reduction of subject matter, as above noted, and to ensure that the new course should include the essentials and yet leave to the teacher the maximum freedom in the order and treatment of the topics, the following plan was adopted: (1) A short list is to be issued to include only those topics that all agree are necessary to a first year course. (2) As this will be insufficient for a full year’s work, a much larger but merely suggestive syllabus will be formed from which teachers may select that additional work best suited to their individual needs. And (3) it is advocated for the purpose of examination that the papers be limited to the topics of the shorter syllabus, and that for the remainder of the subject examining boards shall accept the certificate of the teacher both as to ground covered and as to the standing of the candidate. The
broader part of the commission's work presents a much less manageable subject, in the discussion of the specific aim or aims in the teaching of physics, and in the determination of the direction in which this is to advance. As a first step, it was decided to invite discussion, not from teachers at large, as had been done with such small progress in the case of the earlier circulars, but to request some well-known educators and prominent physicists to contribute to a symposium on the subject.

These letters are recently to hand. There is in them far more unity of opinion than in the replies to the circulars, a fact arising probably from the selection of the writers. The greatest prominence is given to the unwarrantable degree in which college entrance requirements seem to dominate the entire field of secondary school physics. This trouble comes down from a time when those looking forward to a university course constituted the majority of the high school pupils, a condition that does not obtain to-day, for in the meantime we have witnessed a complete change in the whole purpose of secondary schools. Formerly they were chiefly preparatory to farther study, but the wonderful growth of their popularity has transformed them into finishing schools for the public. The spectacle presented by the preparation of the comparatively few for college, actually preventing the development of one portion of the curriculum along lines better suited to the large majority, is of itself surprising, and when one adds to this the admission that a freer treatment of the subject would benefit, not the majority only, but the few as well, the situation needs explanation.

About fifteen years ago Professors Hall and Bergen proposed the new well-known "Harvard Experiments." These were a set of laboratory exercises designed for the use of pupils preparing for college, and so well suited were they to the needs of that time that they displaced the then-existing courses in most of the important schools. They became so firmly established in the educational system of the country as to give direction to the class work as well as to that of the laboratory. To-day, owing to the new point of view that has developed in the schools, this type of course is no longer suitable, but the hold it has taken is so widespread that it needs the influence of a national commission to displace it. President Butler of Columbia University, in the first paragraph of his comment, lays down the principle that "College admission tests in physics should

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1Note that this has reference to the high schools of the United States. The present dominating influence in the Ontario schools is the "Teachers' examination."
be made to depend on the secondary school teaching in that subject, when properly organized and conducted, and not vice versa.”

Prominence is here given to this phase because it contains a principle that many of us—especially the university graduates—are too apt to forget. Then, too, an advance in the teaching method of one decade producing an arrest in that of the next is in itself sufficiently remarkable, even if the subject were not a scientific one. Yet we find that while Physics has been making a series of rapid and far-reaching advances—the isolation of the electron, the discovery of radio-activity, the experimental investigation of the electrical nature of mass, the problems of the alchemist coming up again in the evolution and devolution of the elements—and while these and many other developments have been given the widest publicity in the daily press and have been followed eagerly by an interested people, that during this very period the teaching of physics in the schools has been effectively held down by the influence of a series of experiments, excellent in themselves, but not suited to the needs of the time.

Nearly as general as the demand for the deposition of the present system is the recommendation of a more historical treatment of the subject, to deal not only with the epoch-making men, their difficulties and their successes, but to give an outline of the steps by which our chief standards of measurement have been selected. One of the best of the recent elementary text-books has already—and with good effect—introduced portraits and biographical sketches of the “makers of physics.” It might be remarked in passing that a reading course in the historical development of the subject,—say a book like Mach’s¹—might with good effect be added to university honour courses.

The contributors to the symposium also criticize that class of teachers who view physics as a mere science of measurement—men whose ideas of the relative importance of the various phenomena seem to be largely determined by the opportunity they offer for exact quantitative determination. It is worthy of note that among those giving emphasis to this point is Professor A. A. Michelson, of Chicago, whose name the world over is associated with the extreme accuracy of modern physical measurement.

The need for adequately trained and well paid teachers is voiced by several writers. They claim that the physics is too often taken by one of the smallest salaried men on the staff, and one who

¹See above.
is consequently loaded up with a lot of odds and ends of teaching
by those who do not understand that experimental demonstrations
and laboratory exercises require more time in preparation than does
corresponding work in other subjects. Experiments cannot be bul-
lied into working order, nor can the adjusting of experimental con-
ditions so as to exclude extraneous effects be made in the few min-
utes between classes. These require more time than those who have
not tried it are generally willing to admit, hence the cry that many
school boards and some principals need to be educated to a realiza-
tion of this fact.

In regard to better training of teachers, Professor Chute (Ann
Arbor) remarks: "To bring these things about much care and
thoughtful study must be bestowed on the method of presentation,
the teacher must know his subject both theoretically and experi-
mentally, he must be able by simple illustrations successfully pre-
sented to make difficult conceptions clear, dry parts attractive, and
the whole subject a delight. Cutting out the mathematics will not
do it, for then the backbone is gone; omitting mechanics will not do it,
for then explanations of phenomena become largely impossible;
dropping the quantitative work will not do it, for then the pupil will
have no proper appreciation of the way in which science grows and
will think of it as merely a jumble of amusing phenomena. A live
and well informed teacher can make mathematics interesting, quan-
titative experiments entertaining, and the whole subject attractive
as well as instructive without resorting to Leyden jar methods to
command interested attention." This is at once a strong plea for
better training and an effective answer to some of the proposals in
reply to the early circulars.

The criticism offered by Professor J. M. Baldwin (Johns Hop-
kins University) is much along the same line. He writes: "The
object of the teaching of physics is the teaching of physics." This
he explains is not meant as a mere tautology but is to imply that a
knowledge of his subject is of far more importance to a teacher than
a familiarity with its pedagogical philosophy; that any educational
results which may follow from a knowledge of physics will follow
in proportion as the pupil knows his physics; and that the teacher
generally obtains these results largely in proportion as he forgets
his philosophy and bends his efforts to the teaching of physics pure
and simple. This, in a sense, must be well taken, for the instructor
who forgets himself in his subject is always more or less of an en-
thusiast in close touch with it. The point of view of such a man is
contagious, and moreover is generally of value when caught. The perspective will possibly be faulty, but this will straighten itself out more readily than will the glow of life come to the dry bones of a subject killed by the teaching of one not in sympathy with it. Lack of sympathy, in most subjects, means lack of understanding. On the other hand, Baldwin's comment must not be taken too seriously as removing the necessity for a careful review of the methods and the efficiency of physics teaching.

The whole discussion—both in the circulars and in the symposium—is full of interest and suggestion. The proportion of vague and inapplicable theorizing is remarkably small, leaving one with the vivid impression that the problem is in the hands of men who see clearly and think carefully. It must not be forgotten that the work of the commission bears directly on the school physics of the United States. Their problems are not necessarily our problems. Yet even apart from the general educational interest attaching to the working out of principles, there is much that our teachers can learn from a careful study of the papers issued by the commission.

In closing it might be well to note one difficulty that is felt here in our Ontario system, and it is rather surprising to find no echo of it in the schools of the United States. In universities, mathematics and physics are always taken together as cognate subjects, while the non-mathematical sciences of chemistry, biology and botany form a group by themselves. Thus in our "school specialist" courses the "mathematical specialist" takes mathematics and physics, while the "science specialist" has seldom the calculus necessary to follow the preliminary honour work in physics, even if he were required to take it. Further, in those schools where physics is taught by university graduates the "mathematical specialist" usually has his hands full with the algebra, arithmetic and geometry, so the physics falls to the "science specialist" whose knowledge of that subject is generally limited to pass work. It is difficult to see how this situation is to be overcome on account of the fundamental difference in the two groups. Mathematically inclined students of science will naturally follow the mathematics-physics course, and those possessed of the idea that they "cannot do mathematics" will just as naturally enter for specialist qualifications in chemistry, botany and biology. Experience seems to indicate that there are grave objections to putting some of the simpler school mathematics into the hands of an assistant, in order to allow the "mathematical specialist" to take charge of the physics class. So relief from the school side of the problem
is not apparent. From the side of the university, the distinction between those students who think mathematically and those who do not, seems effectively to prevent the placing of preliminary honour physics on the "science specialist course." Queen's has taken a first step to meet this in providing for non-mathematical students an "Experimental Honour Course" in Physics, consisting of lectures on subjects that may be treated without the calculus, and of directed reading and laboratory work. This provides a solution only for those who elect to follow this particular option of the "science specialist" course. But there are three other options in which pass physics is all that is required. The next step obviously is to place experimental honour physics on the list of subjects compulsory for all science specialists, allowing other classes—chiefly pass—to go into the options in its place. This would rob the course as set forth in the calendar of some of its breadth in pass classes, but it would undoubtedly make for a marked increase in efficiency—general as well as particular.

The matter requires attention from the authorities both of the University and of the Education Department, for it obviously puts high school physics at a great disadvantage, even apart from the text-book difficulty.

W. C. B.

CELLULOSE AND SOME OF ITS USES.

The chief constituent of the organs of trees and all other vegetable growths whatsoever is the substance known as cellulose, from the fact that it constitutes the material of the cell walls. Perfectly pure cellulose, unmixed with any other substance, is never met with in nature, but is always more or less firmly combined with colouring matters, fats, gummy substances, etc. Cotton and paper made from rags (especially Swedish filter paper) may be regarded as fairly pure cellulose. Cellulose is distinguished by its high power of resisting most chemical reagents, being insoluble in water, alcohol, ether, fatty and volatile oils, and even in dilute acids and alkalis. It is soluble in a very few substances, however, the best ones being an ammoniacal copper oxide solution, and a hot concentrated solution of zinc chloride. The exact action of these solvents is quite unknown, however. Cellulose is classified along with sugar and starch as a carbohydrate, although it differs from these substances to a very
great extent. Its molecular structure seems to be very complex, so much so, in fact, that chemists have been able to learn very little regarding it, excepting to determine its constituents, which are hydrogen, oxygen and carbon, and the proportions of these elements present in the molecule. It may seem strange that so very little is known about the structure and reactions of this, one of the commonest of substances. However, after one learns something of the difficulties connected with cellulose research, he ceases to wonder any more. A few facts in regard to the cellulose molecule have, however, been hacked off here and there, and further, every fact won from cellulose has been capable of industrial application.

The very fact that cellulose is a very inert substance, not easily acted upon by chemical reagents, air, or moisture, leads to a number of very large industries taking advantage of this. Among these, the most important are those of the manufacture of paper, cotton and linen fabrics, thread, twine and rope. First in importance comes paper. The tremendous development in printing has created a demand for paper which is enormous. It has been generally understood that paper is made from rags. While this is true, there exists not one-thousandth part of the rags that would be necessary to supply the demand for paper. As a result other sources have to be resorted to. The principal of these are esparto grass, straw and wood. Of these wood has become by far the most important source of supply, and the wood pulp forests of Canada have received much attention from the world at large as a source of raw material for paper.

In the manufacture of paper from wood the first process consists in converting the wood into wood pulp. Wood pulp is of two kinds, mechanical and chemical, depending upon the particular method of treatment. Mechanical pulp is made by simply grinding up the logs after they have had their bark removed and have been cut into suitable lengths. This ground or pulpy material is then collected and subjected to pressure to get rid of the excess of moisture, and is then ready to be shipped to the paper mill. Chemical pulp is made by a distinctly different process. The logs are cut into chips by a special chipping machine. These chips are then placed in tall cylindrical steel vessels lined with special acid-resisting brick, and then a chemical liquid is run in, after which steam is forced in and the contents boiled for eight or ten hours. This treatment succeeds in dissolving practically all the hard and resinous substances away from the cellulose, leaving a fairly pure form of cellulose, in dis-
tinction to the crude ground logs composing the mechanically prepared pulp. The chemical liquid used in making chemical pulp is usually either a mixture of sulphurous acid and bisulphite of lime, or a solution of caustic soda. The treatment with these liquids constitutes the sulphite and soda processes respectively. For the manufacture of the cheaper grades of paper, including newspapers, a mixture of mechanical and chemical pulps is used. The proportion in the mixture varies greatly according to the quality of the paper, sixty-five to seventy-five per cent. of mechanical pulp being an average amount for newspapers. For the finer grades of paper either sulphite pulp or the cellulose from rags is used, the latter making somewhat the better paper, since the cellulose from wood is liable to decay in time, while that from rags is practically not affected by the conditions causing decay.

In addition to the cellulose industries taking advantage of its inertness toward deteriorating agents, we have also a large number based on the chemical activity of cellulose, for it proves to be a very active substance chemically toward certain reagents. Strong caustic soda solution acts upon cellulose to produce an effect known as "mercerisation," after the inventor of the process, Mercer. When cotton is immersed in this solution in the cold it shrinks and becomes silky in appearance, and assumes great activity toward dye stuffs. This industry has assumed large proportions, producing the well-known silky, lustrous "mercerised" fabrics.

A large number of commercial products are obtained by the action of nitric acid upon cellulose. Perhaps the most important of these is gun cotton, which is used as a high explosive for blasting, for torpedoes and military mines and bombs. When mixed with another explosive it forms the basis of "blasting gelatine," "smokeless powders," etc. In the manufacture of gun cotton the cellulose of cotton waste is used for the most part. This cotton waste is sorted over at first to remove the larger part of the common impurities; then it is shredded by a suitable machine, after which it is washed, dried at an elevated temperature, cooled, and "nitrated." The nitrating process consists in dipping the cotton into a mixture of strong nitric and sulphuric acids in the proportion of one to three. During this process the cellulose molecule takes up nitric acid radicles to form the hexa-nitrate, and liberates water which is taken up by the sulphuric acid. This "nitrated" cotton is now put into centrifugal machines and freed from the greater part of the adhering
acids, after which it is again shredded, boiled to remove dangerous impurities, subjected to hydraulic pressure to remove excess of water, and moulded into suitable forms for shipping and use. Until about sixty years ago the only explosive known for all purposes was gunpowder. With the discovery of guncotton and nitroglycerine, gunpowder was gradually replaced by them for blasting purposes. In their early days the two explosives were used singly, guncotton as guncotton, nitroglycerine—first of all alone, and then as dynamite. Later on the two were combined as "blasting gelatine," and explosives of a similar nature, but it was quite forty years after their discovery before either became of practical use for propulsive purposes. At the present time, smokeless powders made from the violent guncotton, or of guncotton combined with the still more violent nitroglycerine, have almost entirely superseded the old-time gunpowder. Modern explosives are characterized by very greatly increased power, giving enormously greater range to projectiles fired from both rifles and artillery, thus altering entirely the condition of both land and naval warfare.

Besides the hexa-nitrate of cellulose, or guncotton, lower nitrates may be formed by using more dilute acids, and altering the conditions somewhat. These lower nitrates differ from the hexa-nitrate in being less explosive, although highly combustible, and are soluble in various liquids, including alcohol and ether, in which guncotton is insoluble. When these lower nitrates are dissolved in a mixture of ether and alcohol we have the useful substance "collodion," which, when applied to a wound, leaves, upon evaporation of the ether and alcohol, a film of these lower nitrates, usually called "collodion wool" or "cotton." "Celloidin" wool is the purest form of collodion wool and is neither inflammable nor explosive. It burns, however, if brought into contact with a naked flame. It is used for photographic purposes almost exclusively.

Celluloid is an intimate mechanical mixture of pyroxyline (guncotton or collodion cotton) with camphor, formed by adding the pyroxyline to melted camphor, or by strongly compressing the two substances together, or by dissolving the constituents in an appropriate solvent, e.g., alcohol or ether, and evaporating to dryness. A combination of the two latter methods, i.e., partial solution, with pressure, is now usually adopted. The pyroxyline employed is generally the tetra- and penta-nitrated cellulose, the hexa-nitrate (guncotton) being but seldom used on account of its explosive pro-
properties. Camphor possesses the peculiar property of depriving colloidion cotton and guncotton of their combustible and explosive qualities. Celluloid is insoluble in water, and on this account is suitable for making domestic articles such as knife handles. Celluloid can be rolled, polished, pressed, cut and hammered, and can also be kneaded at a temperature of 145°C., so that occasionally it may take the place of metals, stone, wood and wax. There are very few industries, in fact, in which this substance does not find employment in some form or other.

When cellulose is dissolved in a hot concentrated solution of zinc chloride, we get a thick syrup which may be forced through narrow orifices into alcohol, which precipitates the cellulose from its solution in fine threads which may be carbonized, and used for filaments for incandescent lights. Again, a solution of cellulose in ammoniacal copper oxide is used for “surfacing” paper or cotton fabrics, rendering them waterproof, and resistant to mildew and insects. Such products are called “Willesden” goods, and are much used for coverings of express wagons and busses.

Within a comparatively short space of time an entirely new industry has arisen, that of the manufacture of artificial fibrous materials from cellulose, destined to provide the textile industry with a new material, artificial silk, already largely used. Various methods for making artificial silk are employed. One favorite method consists, briefly, in causing a solution of collodion cotton in a mixture of alcohol and ether to be forced, while hot, through capillary tubes, whence it issues into a cooling vessel in fine threads which harden at once. These threads are still explosive and of course unsuitable for wearing apparel. They must undergo a de-nitrating process which is accomplished by treating them with suitable reducing agents. By again treating them with ammonium phosphate they are rendered practically incombustible, thus giving us an article almost identical in chemical composition with the original cotton from which it was produced, but differing widely from it in appearance, since it now has the appearance of natural silk and possesses a lustre equal to, if not greater than, the natural article. Another method is the “viscose” process by which wood pulp is caused to react with caustic soda and carbon disulphide, forming a substance popularly called “viscose,” soluble in water to a viscous liquid which may be spun into thread and cloth. This cloth, strange to relate, rapidly decomposes into caustic soda, carbon disulphide and cellulose again, thus
leaving us with the cellulose we started with, but a cellulose possessing practically all the properties of natural silk.

At present artificial silk is manufactured for the most part in France. A recent article states that in that country the daily production amounts to 44,000 pounds, which is exported chiefly to Germany, the United States and Japan. The cost of production is about one dollar per pound by the viscose process. This artificial silk is used for lining scarfs and skirts, for mixed cottons, upholstery, in taffetas, and even in umbrella covers. Its use is rapidly growing, and it will not be surprising if it supplants the natural article in the near future.

The foregoing brief description of a few of the industries depending upon cellulose as the raw material, and which have tremendous commercial importance, will show that these industries have been developed upon a very slender knowledge of the raw material. It should also show plainly that cellulose offers a rich field for research, for if such large industries can be built up upon such a meagre knowledge of the material worked with, what might not be accomplished in industrial lines were we to know cellulose as we know the majority of common substances?

W. O. W.
LOCAL names, whether they belong to cities, provinces, villages, rivers, mountains or head-lands, are never mere arbitrary sounds, but records of the past, always inviting and rewarding a careful historical interpretation.

The original import of ancient names has often faded away, but, whenever the primeval meaning may be sifted out, and recovered, we generally gain a symbol that proves itself full-fraught with instruction; for the name of a district or of a town may speak to us of emigrations, immigrations, the commingling of races by war and conquest, or through the processes of commerce and discovery, thus noting events which written history has failed to commemorate.

Local names and names of people might often be adduced as evidence of the common origin and close brotherhood of men whom ignorance and petty interests would have at daggers drawn.

Lastly, names of places stand as the noble ruins of a once living language, in a very remote and dark age.

Topographic words are more secure than other elements of a people's speech from the modifying influences of grammatical inflexion, because they share, so to speak, in the permanency of nature. Their special peril arises only from attempts at accommodating their forms to the requirements of popular etymological speculation.

Indeed, it seems that invading hosts may trample down, burn or extirpate whatever grows upon a soil; they may slay the people—high born and low born—but if one poor outcast be forgotten to till the land anew, to bear witness that a brook, a hill, a hamlet ever existed there, to which those of his race gave a name, whatever else he may forget, even his mother's tongue, the name of his home shall never disappear.

Ancient local names have for the most part a descriptive import; they tell us something of the physical features of the land. Thus many a mountain has been designated by that natural phenomenon, the snowy covering of its lofty summit:—Ben Nevis, Mont Blanc, Sierra Nevada, Snaefell, Sneekoppe, Weisshorn, etc. Not only do these appellations give aid to the philologist when the aspect of the country has remained the same, but where the face of nature has undergone changes, they become evidence of physical mutations, as
valuable to the geologist or the antiquarian as fossils, hatchets or potteries.

Furthermore, local names not unfrequently throw valuable light on the ethnological composition of a people. For instance, when we learn that the highest summit in the Isle of Man is called Snafell, we recognise at once the descriptive character of the name, but, when we discover that the name Snafell is a true Norse word, that it serves moreover for the name of a mountain in Norway, and of another in Iceland, we find ourselves in presence of the historical fact that the Isle of Man was, for centuries, a dependency of the Scandinavian crown, having been conquered and colonized by the Norwegian Vikings, who also peopled Iceland.

In truth, many nations have left no other records of their share in the making up of a race outside the hills, the valleys, the rivers, the villages they named, and where they sojourned. The Celtic, the Iberic, the Teutonic, the Scandinavian and the Scavonian races have thus, and for the most part thus only, made known to us their migrations, their conquests and their defeats, their civilization, the state of agriculture, the progress of the arts of construction, and even their religious beliefs. But one will readily understand how hard a task it must be to decipher Old-World names, mostly derived from obscure or unknown languages which have suffered more or less from the phonetic changes of perhaps twenty centuries, when in the New World, where civilization and nomenclature are both modern, we meet with such a puzzling and interesting problem as the derivation of Canada.*

Many names upon our maps supply us with traces of the history of nations that have left no other memorials, written annals or monu-

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*Three versions have been given of the origin of the name, none of which is satisfactory, to say the least. The first is that early Spanish navigators exclaimed on landing upon the then unpromising shores of this country: "Aca Nada"—Nothing here—hence the name Canada. An objection to this etymology is that the Spanish "Aca" is not 'here,' but rather 'hither,' while 'aqui' means here or herabouts. Moreover, as no Spaniard settled there and then, unless written down at the time, the expression would hardly have been preserved, and the appellation being neither descriptive nor historical, we may dismiss it as thoroughly childish.

The second etymology suggested is from the Indian words 'Kan'=mouth, and 'ada'=a country. Of course this appellation might have fitted the great expanse of water which is the door to the inland settlements, the St. Lawrence, and have been extended to the whole country.

The third etymology, the one commonly accepted, would be derived from another Indian word: 'Kannatha'=a collection of huts. No doubt the last two derivations could be defended by a few likely arguments, but they lack the authority of written tradition which is claimed for a fourth version.
ments, whose language is dying or is dead, whose blood is becoming undistinguishably mingled with that of other races. The knowledge of the history and the migrations of such tribes must therefore be recovered from the study of the names of places which they once inhabited, from the names of the hills which they fortified, of the rivers by which they dwelt, of the land they tilled and claimed as their own against intruders, of the distant mountains upon which they gazed. It is from such a study of local names applied to France and England that we wish to retrace a genealogy of their people from other races, but mainly the Celtic, Teutonic and Scandinavian stocks, although we may briefly refer to the highlanders of France.

It has been remarked that, among the mountains, the botanist and the ethnologist meet with analogous phenomena. The lowland flora of the glacial epoch has retreated to the Alps and the Pyrenees. In like manner, we find that the hills contain the ethnological survivors of the plains. Mountain fastnesses have always formed a providential refuge for conquered tribes. The narrow valleys which penetrate into the great chains are well adapted to preserve for a time the isolation of unrelated tribes of refugees, to hinder the intermixture of race, and thus preserve from extermination or absorption those who should afterwards, at the right time, blend gradually with the conquerors of the plains, and supplement their moral and intellectual deficiencies. In the Pyrenees we find the descendants of the Euskarions or Basques, who have been driven from the lowlands of France and Spain, and number to-day one million souls. An inspection of the map of France will show that the Cevennes and the Alps together with the former province of Aquitaine retain a greater number of Iberic names than the adjacent districts, the hills having long served as a barrier to protect from the better armed Romans, Franks or Normans that dark-eyed, dark-haired, short-statured race still prevalent there, as in South Wales, the West of Ireland, Southern Brittany and in the region around Bordeaux.

The name Canada is very like Spanish, indeed, if pronounced with the middle syllable accented, and anyone familiar with old Spanish maps and early Spanish map-making will find it a more reasonable supposition, that 'Tierra Canada'—land canyoned or gullied, or 'Tierra de la Canada'—land of the valley or gorge, was noted on the map of an early historic Spanish voyage from the West Indies up the Atlantic coast and into the Gulf of St. Lawrence. Such original and authoritative maps were properly held to be of great value, and, when copied for subsequent navigators, the notes made upon them became part of the new maps, and thus the nomenclature was perpetuated.
WHAT'S IN A NAME?

I.

THE ANGLO-SAXONS.

The fundamental principle to be borne in mind when studying local names is that in no case are ancient words arbitrary sounds. They are always ancient words or fragments of words, generally conforming to the physical features of the spot. In this article we will almost entirely confine our attention to that class of words.

England is preeminently the land of hedges and inclosures. On the continent Normandy alone is an exception to the almost total absence of hedgerows. Now the suffixes which occur most frequently in Anglo-Saxon names denote an inclosure of some kind, something hedged, walled in or protected—ton, ham, worth, barrow, stoke, stow, fold, garth, park, hay, burgh, bury, brough. If we take these suffixes as test-words, we are at once enabled to discriminate the Anglo-Saxon settlements.

*ton* is the most common termination of English local names, and although it is a true Teutonic word, it only occurs twice or three times in Germany, but on the coast of France it is as common as in England, and is not unfrequent in Sweden. The primary meaning of the suffix *ton* is to be sought in the Gothic *tains*, in the old Norse *teinn*, and the Latin *tinetum*, brushwood used for hedging. Hence a *ton* or *ton* was a place surrounded by a hedge, or rudely fortified by a palisade. Originally it merely meant a single croft, homestead or farm, and it is but later that the *ton* having become the nucleus of a village grew into a town: Ourton, the village on the bank; Morton, the village on the marsh; Skelton, the seat of the Viking Scyld or Skeld.

The Anglo-Saxon *yard,* and the Norse equivalent, *garth,* contain nearly the same idea as *ton.* Both denote some place *guarded* or *girdered* around, and come from *yerde*, a switch or rod; therefore *jardin* and *garden* were plots surrounded by a fence made of young shoots. *Stoke* and *stow* were places stockaded, surrounded with stocks or piles. A similar inclosure is denoted by the suffix *fold*—in Anglo-Saxon *falod*, which was a stall or place constructed of *felled* trees, for the protection of cattle or sheep. *Worth* denotes a place *warded*, or protected, probably an inclosed homestead for the churls. *Haig* or *hay*, in French *haie*, is a hedge or a place surrounded by a hedge.

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*A yard=a stick of a certain length.
Related to the Anglo-Saxon verb *Beorgan*, and the German *bergen*, to shelter or hide, are the suffixes: *bury*, *borough*, *burgh*, *brough*, and *barrow*. Sometimes these words denote the funeral mound which gave shelter to the remains of the dead, but more frequently they mean the embanked inclosure which afforded refuge to the living. From their position on the crests of hills, they came to mean "a hill-fortress." *Ham* is also very frequent, meaning that which *hems* in, an inclosure, the most holy of all, the *home*, the one secret (geheim) and sacred place.

Another most important element in Anglo-Saxon names is the syllable *ing*; used sometimes as a suffix and sometimes in the middle of a name. It points out a clan in the same way as *Mac* in Scotland and *O' *in Ireland. The Saxon immigration was, doubtless, an immigration of clans (*cluin* = children in Gaelic). The head of the family built or bought a ship, and embarked in it with his children, his freedmen, and his neighbours, and established a family colony on any shore to which the winds might carry him. Quite different was the colonization by soldiers of fortune from Scandinavian shores. It was individualistic. The termination *ing* therefore denotes the children or subjects of a chief whose name has thus been saved from oblivion.

England is not the only country which was conquered and colonized by the Anglo-Saxon race. In the old French provinces of Picardy and Artois there is a well defined district, lying between Calais, Boulogne, and St. Omer, and fronting the English coast, in which the name of almost every village and hamlet is of the pure Anglo-Saxon type with its counterpart in England. Thus we have in the French district and on the English side of the Channel, amongst many others the following towns:

<table>
<thead>
<tr>
<th>In France</th>
<th>In England</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warhem</td>
<td>Warham</td>
</tr>
<tr>
<td>Rattekot</td>
<td>Radcot</td>
</tr>
<tr>
<td>Le Wast</td>
<td>Wast</td>
</tr>
<tr>
<td>Frethun</td>
<td>Freton</td>
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<tr>
<td>Cohen, Cuhem, Cuhen</td>
<td>Cougham</td>
</tr>
<tr>
<td>Hollebeque</td>
<td>Holbeck</td>
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<td>Ham, Hame, Hames</td>
<td>Ham</td>
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<tr>
<td>Werwick</td>
<td>Warwick</td>
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<tr>
<td>Appegarbe</td>
<td>Applegarth</td>
</tr>
<tr>
<td>Sangate</td>
<td>Sandgate</td>
</tr>
</tbody>
</table>
Guindal..................Windle.
Inghem..................Inghem.
Oye........................Eye.
Wimille..................Windmill.
Grisendale.................Grisdale.

Other familiar English forms as Graywick, Bruquedal, Marbecq, Longfosse, Dalle, Vental, Salperwick, Fordebecques, Staple, Crehen, Pihem, Dohem, Roqueton, Hazelbrouck, Roebeck, and the river Slack, are to be met with everywhere. Twenty-two of the names have the characteristic suffix, ton, and upwards of one hundred end in ham, hem, or hen. There are also more than one hundred patronimics ending in ing. A comparison of these patronyms with those found in England proves, beyond a doubt, that the colonization of this part of France must have been effected by men bearing the clan-names which belonged to the Teutonic families which settled on the opposite coast. More than eighty per cent. of these French patronyms are also found in England. Thus we have:

In France.  In England.
Alencthun.................Allington.
Bazinham..................Bassingham.
Balinghen..................Ballingham.
Berlinghen..................Birlingham.
Colincthun..................Collington.
Maninghem..................Manningham.
Todincthun..................Toddington.
Velinghen..................Wellingham.

Further to the southwest we have Douvres in the Saxon shore near Bayeux, which reminds us of Dover, and within a short distance the people formerly known as the Parisii. Now P, according to Grimm's law, is interchangeable in Latin with F, so that we are thus led to identify the Parisii with the Frisii or Frisians. A third settlement of Saxons took place in the neighbourhood of Caen, and extended as far as the islands at the mouth of the Loire, where the population still retains the distinctive outward marks of Saxon blood.

By the aid of the departmental maps of France we can still trace the sharply defined boundaries of the Saxon and Danish districts. Thus it would be seen that in the Eure and Seine Inférieure departments, where the Danish names are thickly clustered, hardly a single
Saxon name is to be found, while in Calvados and La Manche, where
the Danish names are comparatively scarce, their place is occupied
by names of the Saxon type. The Northmen seem to have respected
the right of ownership of their kinsmen, the Saxons, and to have
dispossessed only the Celtic tribes who dwelt to the east and north-
west of the Saxon colony. Around Boulogne we find the names of
Sassetot (Saxon’s field; tot or toft, Norse, related to turf, an in-
closure), Hermanville, Etreham, Ouistreham (Westerham), Ham-
bye, Le Ham, Cottun (Cow’s yard), Heuland (highland), Plume-
tot (Bloomfield or Flowerfield), Caen, anciently written Cathem and
Catheim. There are also about thirty Saxon patronyms, with the
same families on the opposite coast of Hants, Dorset, Devon, and
Cornwall. Thus we have the following families located in both
France and England:

Berrings, at Berigny and Berrington.
Bellings, at Bellengreville and Bellinger.
Callings, at Caligny and Callington.
Hardings, at Hardinvast and Hardenhuish.
Sulings at Soulangy and Sullington, etc.

In fact it would be easy to prove only by means of the local
names that certain parts of modern France are as thoroughly Teu-
tonic in blood as any portion of England.

On the northeastern side and even as far as Arras, Beauvais,
Amiens and Langres we have a race of German descent again, whose
ancestors were introduced in Gaul to defend the frontier by the
Roman rulers. Thousands of Frisians and others were transported
into that neighbourhood by the Emperor Julian. Charlemagne
brought in also a vast multitude of Saxons, including women and
children, at one time, and after another conquest every third man of
the conquered people. But by far the greater number of the German
names in France record, no doubt, the settlements of the Frank and
Burgundian conquerors themselves, who founded, judging their
colonization by means of the patronymic names, no fewer than 1,100
villages in France. It is worthy of note here that the German set-
tlers took possession of the fertile valleys of the great rivers, leaving
the barren uplands almost wholly undisturbed. The west and south
of modern France were unaffected by the Teutonic invasion. Of
these 1,100 patronymic German village-names in France, about one-
fourth are also to be found in England.
WHAT'S IN A NAME?

II.

THE NORTHMEN.

Before we proceed to attempt the solution of the problems connected with the settlements of the Northmen in the British Isles and France, it will be necessary to exhibit the tools with which the historical lock is to be picked. We must analyse and classify some of the characteristic names which the Northmen have left upon the map. The most valuable and important of these test-words is byr or by. This word originally meant an abode, or a single farm, and hence it afterwards came to denote a village. A by-law is a local law enacted by the township. In Normandy we find it in the form bœuf; but, bu(e) (with only two By, Hambye and Colomby), Tournebu, Bu sur Rouvres. In England this suffix is usually contracted into by. Thus we have in England Grimsby, the home of Grim; Rugby, the red soil; Whitby, the white cliffs; Derby, Ashby, etc. Besides byr, by or bœuf, the Northmen have handed down to us the words—thorpe, throp or trop, ville or villiers, toft, beck or bec, force or foss, fleur, gardr, boc, fell, dale, ford, wick or vic, naze or nez, holm, ö or ey, hangr, holt.

There are scores and scores of names ending in by in Jutland and Sleswic, and not half a dozen throughout the whole of Germany; in France, on the other hand, such names as Quillebeuf, Paimbeuf, Marbeuf are extremely common. Thorpe, throp, or trop is an aggregation of men or houses, a village. That termination is rather scarce in France, where it is replaced by the ending ville, as Tancarville (Tancred's abode), or Haconville (Haakon's home). This suffix is not the Romance word villa, but is identical with the German weiler = an abode, a single house. Sometimes it assumes the form villiers, e.g., Hardivilliers, Bouchevilliers. In England it is found in the form well or will, e.g., Bradwell; in Germany Breitwil.

The word toft, which in Normandy takes the form tot, signifies a homestead, and is an indication of permanent colonization. The word beck or bec, denoting a brook, and the suffix force or foss, a waterfall, are seen in Caudebec = cold brook, and Longuefosse = the Grand Falls. The word fell (pronounced fiell in Norway) is a hill, or a place where the ground is on the fall; a field is where the trees have been felled. The Norse word, dale, is the equivalent of the German Thal = a valley. The Anglo-Saxon form is dell. The word ford is derived from faran = to go, to be found in both Saxon and Norse names. The fords of the Anglo-Saxon husbandmen are
passages across rivers for men or cattle; the fords of the Scandinavian sea-rovers are passages for ships up arms of the sea. *Wick* is a station for ships, if by the coast, and a village, if inland, but as the station was a creek for a ship, *wick* generally denotes a bay: Sandwich = sand bay. The Vikings were the creek or bay-men. Another word which denotes the presence of the sea-rovers in the same way as *wic* is *ness*, *næs*, or *nez*, meaning a nose or promontory. Grinez, near Calais = the grey Cape; Totness = the house on the Cape. Holm means an island in a lake or a river = Stockholm, Robehomme. An island in the sea is denoted by the suffix *oe*, *a*, *ey*, *ay*, or *ea*, although *a* and *ea* often stand for names of rivers.

With the exception of a few nautical terms, the Scandinavians who settled in France have left hardly any memorials of their speech in our French dictionaries. The conquerors married native women, and a kindly Providence willed it so that after they were civilized by their wives, their sons should only learn the language spoken by the mothers. The map of Normandy, however, supplies abundant traces of the Scandinavian conquest in the village names: Grimonville (Grim), Borneville (Beorn), Herouville (Harold). Tourville (Thor), Godarville (Guddar), Hacqueville (Haakon). The Norse *gadr* occurs at Fisigard, Auppegard, and Epegard—names which we may compare with Fishguard and Applegarth in England. *Toft* or *tot*, already referred to, is found in names such as these:—*Yvetot* = Ivo’s toft; *Lilletot* = little toft; *Routot* = red toft; *Crique-tot* = crooked toft; *Berquetot* = birch toft; *Hautot* = high toft, etc., more than one hundred of them. As *toft* is a Danish rather than a Norwegian suffix, it might be assumed that the conquerors of Normandy were Danes rather than Norwegians.

Le Torp and Clitourps give us the word *thorpe*. The name of the river Dieppe, which was afterwards given to the town built beside it, means *deep water* or the deep river. From the Danish *bæc* = brook, we have, as already mentioned: Caudebec = the cold brook; Briquebec = the birch-fringed brook; Birkbeck in England; Houlbec = the brook in the hollow; Foulbec = the muddy brook; Clarbec = clear brook. The suffix *fleur*, which we find in Honfleur, Barfleur, Vittefleur, and Fiquefleur, etc., denotes a small river (*fliot flood*): Vittefleur = the white river; Fiquefleur = the river in the bay. The Danish *ö* or *ey* = an island, is seen in Eu, Cantaleu, Alderney, Jersey, Guernesey. The word *haugr* = a sepulchral mound, shows in Cape de la Hogue, Cape Hoc, Cape Hode, La Hague. Falaise is a castle-crowned rock (fells). Les Dalles, Crodale, Danestal,
WHAT'S IN A NAME?

Dieppedal, Darnetal, etc., remind us of all the dales in England. Shaw = a shady place; Bosc = a wood or bushy place; Holt = a wood, appear in Escoville, Escoves, Verbosc, Bonnébosc, Grimbosq, Terhoulde, Ménehoulde. Hastingues, a river-island near Bayonne, probably takes its name from the renowned Viking Hastings, and the Île de Biere in the Loire was no doubt so called from the huts which the Danes erected upon it for the accommodation of their prisoners.

III.
THE CELTS.

Europe has been peopled by successive immigrations from the East. Five or six great waves of population have rolled in, each in its turn urging the flood which had preceded it further and further toward the West.

The mighty Celtic flood can be distinctly traced in its progress across Europe, till at length it was driven forward into the far western extremities of the continent. The Celts were divided into two great branches. Both branches spoke languages of the same stock, but distinguished by dialectic differences as great as those which divide English from German. To the first branch belong the Erse of Ireland, the Gaelic of the Scotch and the Manx; to the second, or Cymric, the Welsh of Wales and the Brezonec of Brittany, which is still spoken by a million and a half or two million of Frenchmen.

The river-names, more particularly the names of important rivers, are everywhere the memorials of the earliest races. They survive where all other names have changed. Towns may be destroyed, the sites of human habitation may be removed, but the ancient river-names are handed down from race to race. Teutonic, Romance villages stand on the banks of streams which still retain their ancient Celtic appellations. Throughout the whole of England there is hardly a single river-name which is not Celtic, and the same may be said of France, with the exception of the Basque region. There is, in fact, hardly a single Celtic noun meaning stream, current, brook, channel, water or flood, or adjective meaning rough, gentle, smooth, white, black, yellow, crooked, broad, swift, muddy, clear, and the like, which does not enter largely into the river-names of Europe.

The usual Welsh word for a river is afon or avon. In little
Brittany we find the Aff, two streams called Aven; two Avons flowing into the Loire, and two more in the Seine, while nearly every other river contains a fragment of the word.

Another word, diffused nearly as widely as *afon*, is the Welsh *dwfr=water*; in Brezonec *dour*—in Irish *dobhar* (doar); Greek *θήρ*. We have the root in the Dordogne, the Eure, the Adour, the Durance, the Durbion, the Dourdon, the Douron, etc.

The Gaelic and Erse word for water is *uisge,* while in Welsh there are several related words pronounced in nearly the same way, meaning current. This root, subject to various phonetic mutations, is found in France under some guise: the Isle, the Isac, the Oust, the Esque, the Asse, the Isère, the Æse, the Oise, the Aisne. From the closely related Welsh word *gwy* or *gy=water*, we may derive in England the Garway=rough water; the Conway=chief water, etc., and in France the Gy, the Guisave, the Guil, the Guiers, at the foot of the Alps.

The root *Rhe* or *Rhin* is connected with the Gaelic *rea*, rapid; with the Welsh *rhe*=swift, the Greek *ρεω*, and the English run and rain.† From this root we have: the Rhine, the Rhône, and scores of rivers in every country of Europe.

Finally the root *don*, *dun*, *dob*, *dn=river* or water, can be traced in Danube, the Don, Dnieper, Durdon, Don in Brittany, the Madon, the Loudon, the Doubs, etc.

It thus appears that the names of almost all the large rivers of Europe, as well as those of a very great number of the smaller streams, contain one or other of the five chief Celtic words for water or river. We may remark that rivers sometimes contain two or three roots nearly synonymous, for instance, the Dan-as-ter. The accretion may be due to the juxtaposition of roots from different languages, as in the case of the Durbeck, the Durbach, the Durdan in England, Germany and France, respectively. The same process of formation may be traced in the names of mountains, valleys, bridges, islands, bays, as well as rivers. *Penhill, Val de Naut, La Puente de Alcantara, Sandwick Bay, Cape Griznez*, etc., are so many examples of redundancy.

We must briefly consider again the adjectival class of river-

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*Whisky is, we understand, a corruption of that word, meaning: yellow water.
†The raindeer is the running deer.*
roots. *Garu*=rough, gives the names: Gave, Garonne, Gers, Giron, Guer, in France. *All*=white, furnishes the rivers Allen, Elwin; Allwen (*Al don*, white aphon); in France the Aulne, the Ellée, the Aisne; dhu, black, we trace in Douglas; lleyn, smooth, or linn, still, in Lincoln (deep pool); tam, spreading, quiet, in Thames; arv, violent, in Arve, Erve, Arveyron, Ariège; cam, crooked, in Camlez (crooked dale), and clith, strong, in Clyde, Clisson, and Clitumnus.

It is indeed a curious fact that a unique river-name is hardly to be found, and as they nearly all exhibit a Celtic origin, we are enabled thus to prove the wide diffusion of the Celtic race.

For antiquity and immutability, the names of mountains and hills come next in value to the names of rivers. The modern Welsh or Brezonec names for the head, the brow, and the back, are *pen*, *bryn*, and *cefn* (*keven*). We find these words in a large number of mountain-names. They are found in Chevin ridge; Les Cevennes and the Chien; in the Brandon, Brenner, Brandenburg, La Penne, Penmarch, Penard, Hennebont = Tête de Pont; Geneva = the head of the river; and the name of the Gallic chief Brennus,* etc.

The position of ancient Celtic strongholds is frequently indicated by the root *dun*; Spanish *duna*; English *down*; French *dune*; Welsh *dinas*. Hill-fortresses existed on the bold isolated crags of Yverdun, at Thun, Autun, Lugdunum (lake fort), Lyons, Laôn (Laudunum, the capital of the Merovingian kings); Melun (Melodunum or meall dun=hill-fort); Verdun (*fir-dun*) or man's fort. No country in the world seems to have had so many Celtic hill-fortresses as France.

*Rhos* (*rus* in Latin, of *rush*, the characteristic moorland plant)= a moor, together with *ros*, a Gaelic word for headland or prominent rock, is of common occurrence—Rossberg, Rosa, Kinross, Montrose, Rostrenen (Brittany), Rosporden, Roz-Landrieux. *Craig*, a rock, so common in Welsh names, is the name given to the barren boulder-covered region between Arles and Marseilles: La Crau; Crach (Britt). *Tor*, a projecting rock, is found in Mount Taurus, Tyrol, Thorigné, Torcé, etc. *Ard*, high, great, forms part of hundreds of names. In combination with *den*, a wooden valley, it gives us the name of the forest of Arden in England, Les Ardennes and Bor-

*That Brennus sacked and burnt Rome in 391 B.C. and only consented to leave Italy on the paying of a ransom of a thousand pounds of gold. As it was being weighed out, the Roman tribune complained of some unfairness. Brennus thereupon threw his heavy sword into the scale; and when asked the meaning of the act, replied that it meant "Vae victis"—the weakest must go to the wall.
dennes* = deep-wooded valley, in France. Auvergne and Arverne are the high country in central France.

The word cwm, in Brittany Combe, is very frequently used to denote a cup-shaped depression in the hills: Compton, Cumberland, Bellecombe. Lleuch, loch, lough = lake, morass, or hollow, constitute the first syllable of Lugdunum (Lyons), Leyden, Laach, Lutèce, the ancient name of Paris. A prefix tre, a place or dwelling, clearly Cymric, occurs in more than thirty names outside of little Brittany, where it is reckoned by the hundred and thousand: Tréguiers, Troyes; and as often in Cornwall and Wales, in Italy Trevi, Treviso, and Trieste, etc. Ty or Ky and Ker, a cottage, a village, is the common prefix of Brezonec parishes: Quiberon, Kergallo; Ty Doué Baris: House of the God of Paris, etc., so that, reversing the old rhyme, we might say:

By Tre, Ker, and Pen,
You may know the Breton men.

Llan, Lan, an enclosure, and hence, in later times, the sacred inclosure of the Druids, is also a useful Cymric test-word. It occurs one hundred and thirty times at least in Wales and Cornwall, and in the Cymric part of Scotland. In Brittany it is one of the most common prefixes. The original meaning of "llan" was probably not an inclosure but a level plain, such as the Landes, the vast sandy flats near Bayonne, or the Llanos, the sea-like plains of South America = English lawn and land. In a mountainous country, such level spots would be the first to be inclosed, and it is easy to perceive the process by which the transition of meaning might be effected. The root, in its primary meaning, appears in the name of Milan, which stands in the midst of the finest plain in Europe: Lanmeur, the settlement by the marsh; Llangatlock, the church of St. Cadoc. The Celtic word man, a district, is probably to be sought in Maine, Mans, Mantes, Le Mans, Mayenne, La Manche. Nant, a valley, is a common root in the Cymric districts: Nantua (Burgundy), Nancy (Lorraine), Nantes in Brittany, Nangy, and a great many parishes, villages, and passes in Savoy. Gwent, Vent, Van, an open tilled country, gave the names of La Vendée, Vannes, and Venetia (Venise), the vast plain at the mouth of the Po.

The roots hitherto considered are distinctively Cymric rather than Gaelic or Erse, but one is decisively Erse, namely: Magh, a plain or field—Welsh maes, English mawth, and to mow; Latin, meto,

* A biography of Mr. R. L. Borden claims a Norman descent for the Leader of the Canadian Opposition; his name, however, is purely Celtic.
which is found in Maynooth, Armagh, Magdeburg, and in French names distorted by Latin writers as Rotomagus=Rouen, Noiomagus=Nemours; but such names are only to be met with in Eastern France. These tribes must have burst into Western Europe, the Cymry from the region of the Alps and the Gathelic branch from the valleys of the Rhine and the Moselle. It would be after their plundering of Rome that they broke in upon Greece, crossed the Bosphorus and settled in Asia Minor, to which they gave the name of Galatia, where they long retained their Celtic speech, and the ethical peculiarities of their (our) Celtic blood. (Vide St. Paul’s Epistle).

The accumulative evidence furnished by these Celtic names has been exhibited in a very imperfect manner, but enough has probably been adduced to show conclusively that large portions of Italy, Spain, France, Switzerland, and Germany, were at some period inhabited by the race which now retains its speech and its nationality only in a few of the western corners of Europe—Ireland, the Scotch Highlands, the Isle of Man, Wales, and Brittany.

One conclusion that strikes us in running over the place names of Western Europe is that the simple-minded children of semi-barbarous times have unconsciously conformed to the natural laws which regulate the bestowal of names, and adorned our maps with a terminology that for beauty, poetry and directness, no academy of modern savants could approach. What a contrast is presented by the New World, settled, not by savages, but by civilized men, where a large proportion of the names are unfortunately thoroughly barbarous in character! We find the map of the United States and even (though in a lesser degree) that of Canada, thickly bespattered with an incongruous medley of names, for the most part utterly inappropriate, and fulfilling very insufficiently the chief purposes which names are intended to fulfil. What poverty of the inventive faculty is evinced by such unmeaning names as Cairo, Troy, Rome, Paris, Athens!

A regeneration ought to be effected in this country in the practice of name-giving. Names, whether they be Indian, English or French, ought to be at once harmonious, distinctive, characteristic, and in entire consonance with the genius and the composition of the nation. In short, if this article could induce some of our modern godfathers to revert, in naming our new settlements, to the antique method of their ancestors of the stone age, we would consider our pains amply rewarded.

J. M. LANOS.
THERE seems to be an ever increasing interest taken in the "juvenia mundi," in the rude germs which have developed to-day into such complex organisms. The ancient was accustomed to look back to the past as better than the present, to refer the complete expression of his ideals to a golden age which would never come again. We moderns, however, go with magnifying glass and dissecting knife to the past, attempting to discover how our forebears lived and thought, and ever present in our researches is the question, how do these things throw light on ourselves; to what extent can we trace a continuity of process between the past and the present?

In no region of knowledge has this interest been more marked than in the study of religious belief. Such a historical study starts with the very crude ideas of the savage about those elements in the world around him which he cannot understand and to which—with the religious consciousness in its very rudest germ—he ascribes supernatural powers. Following this course of inquiry through the ages, we discover the vast complexity of modern religion, whether we take its ritual and ceremonial, its belief about the Deity, its doctrines or, in general, the religious consciousness.

Any attempt, then, to study religion in one of its early forms, possesses attractions of various kinds. In the first place we meet with religion near its beginnings, retaining much of its simplicity of conception and ritual, enabling us to see how primitive man put his first religious instincts into conscious practice, what form his feeling of something higher than himself naturally took. Secondly, we can attempt from a study of the conditions of his early history to show how those very conditions were instrumental in forming a religious belief of a particular kind, how, in other words, at this stage of religious development religion was not essentially a relation between the creature and the Creator quite undisturbed by the needs of the material world, but was conditioned by his physical wants and his surroundings. Thirdly, religion has passed through stages of narrower limitations before it has reached that of universality, of appeal to men irrespective of colour and nationality; it had first to be tribal and at a higher stage national; in fact religion even in its
Christian form still possesses strongly marked national features in the various Christian countries, if we look not at the indwelling spirit of Christianity, but at its formal side as a Church. In the particular case under discussion this national relation is very marked, for to a very large extent this religion bears the impress of the national character, especially where we look most for it, in its ritual and the conception of the nature of the gods. In the last place, I may suggest that in the case of the religion of the Romans there is the added historic interest that naturally attaches to the question of what were the beliefs of the great Empire builders of old, of the practical, organising, unimaginative, sober and law-abiding Roman. The intention of this paper is to discuss the religion of the Romans, not throughout its history, but in its earlier form, its essentially Roman form, wherein it connects so closely with the Roman character, that is, as soon as the Roman community emerges into the light of history.

This means that we must at the outset clear our minds of many erroneous ideas, strip away from the religion much that in later ages was added to it from external un-Roman sources. We are not looking at the religious beliefs and practices current in the time of Cicero; nor must we start from a vague conception that the Roman and Greek Deities were much the same, and the religion of the two nations in many ways identical; the only way in which they resemble is that the two races come from a common stock, and passed through a similar stage of religious development, though at different epochs.

We may for the sake of clearness distinguish four stages in the history of Roman religion:

1. The national (or better, tribal) religion developed along its own independent lines.
2. The period of the influence from the North of Etruscan beliefs, leaving a permanent and gloomy mark on Roman belief.
3. The influence from Magna Graecia of Greek religion, accompanied by the gradual, unreflecting identification of the gods of the two races by the Roman himself.
4. The gradual acceptance of the various Egyptian and Oriental Deities and beliefs—marking the breakdown of the old creed, its failure to satisfy the spiritual needs of a nation become more reflective and at the same time more cosmopolitan.
It is almost entirely with this first stage that this paper is concerned—with what the Romans loved to term "the religion of Numa."* This early stage—the first, we may call it, if we are speaking of Roman Religion, though in historical days we find traces of a still more primitive form of religion in the shape of Magic, Stone and Tree Worship—has a very characteristic list of divinities who claimed the worship of the primitive Roman. It may appear tedious to attempt an enumeration of these gods and to mention the sphere of their influence, but without this any generalisations on Roman worship would lose half their meaning.

To start with those that are less known, there was the god Rubigo. One of the commonest pests that the Latin farmer had to deal with was the red mildew on the corn. Obviously some evil spirit produced this, who had to be propitiated. Hence in the earliest calendar of festivals we find a festival of Rubigo, the spirit of the mildew, celebrated on April 25th; the ritual was the sacrifice of a red dog and of a sheep by the Flamen, and the exposition of their entrails on the altar of the divinity, some five miles outside of Rome.

There was many another, closely connected with Rubigo. There was Semonia, who had a general charge of the seed sown; Seja, who protected the corn before it sprouted; Segetia, who was the god of the standing crop; Nodotus, who protected the growth of the corn until the knots had developed. Saturn, in later times the god of agriculture and civilisation in general, and identified with Chronos of the Greek mythology, was originally the god of sowing, as we see from the derivation of the word: "ab satu est dictus Saturnus," says Varro, with greater accuracy than was the wont of ancient philologists. This festival, best known of all to us as in many ways the origin of our own Christmas festivities, the Saturnalia, celebrated on December 17th, commemorated the sowing of next year's crop.

Another rustic Deity is Silvanus, the spirit of the woodland, of those forests that the earliest Roman had tofell before he could commence even the rudest agriculture. The strange thing about him is that he never properly became domesticated; he would never be induced to come and live in a temple; he loved his freedom too well, and kept to the woods and the thickets. Yet for all this he consented (on proper entreaty) to make himself useful to the settler; he was

Tutor finium, arvorum pecorisque deus.

(Hor. Epod. II, 22).

* Cic. Rep. 2, 14, 26, cp. 5, 2, 3.
and up to the latest days of the Roman Empire and in the remotest provinces we find him retaining this primitive attribute; whenever a forest was cleared, he was first invoked to aid or earlier in history not to thwart man's efforts; and part of the rite consisted in "lustratio," a purifying of the land from the various wild and hostile spirits whose natural abode was in the forest about to be cleared.

To give an account of some more of the divinities or powers of whom the Romans stood in awe and whom he propitiated, with whom we may almost say he made bargains, we may take those whose names are known to all. Foremost stands Jupiter, who later, as we find him in Vergil, was chief among the gods, ruler of Olympus, and identified with the Greek Zeus, but who in the earliest form in which we meet him is sky god, concerned to a certain extent with the crops, especially grapes, and so with his wine festivals in the early calendar.

Juno at first has, to the Roman, no connection with Jupiter. She stands for womanhood, possibly in connection with her being the moon goddess; she is the guardian of women, as opposed to men, and especially in connection with childbirth and marriage. So much was this the case that in common life women used to speak of their personal Juno, a kind of individual power protecting each woman and with her death passing out of existence too somewhat in the same way as we speak of a "guardian angel."

Probably the most unchanged worship in the whole of Roman religion was that of Vesta, goddess of the "blazing hearth," whose sacred fire was kept forever burning by the vestal virgins, chosen from the noblest daughters of Rome; but even she is not one but many, for each household had its own Vesta, just as the State had its Vesta in the Forum. Here we see very clearly the connection between the deity and the condition of early life of the nation; in the primitive community the King's hearth is of great practical utility, for there was kept perpetually burning the fire from which the individual householder might draw; hence it was the duty of the King's daughters to care for it and to keep the flame perpetually alight.

* Legend tells that the Pelasgi of old who first occupied the land of Latium, dedicated a grove and a day of festival to Silvanus, god of woodland and of cattle.
Still more striking is the case of Mars. To classical students he stands for the god of War, most Roman of all Roman deities, father of Romulus, giving his name to the first of the Roman months, and at the same time the counterpart of the Greek Ares. Yet in the earliest religion this was not his characteristic: he was originally connected with the growth of vegetation. As Mr. Warde Fowler has put it, he represents the consciousness "of some great numen (or divinity) at work in the spring time, quickening vegetation and calling into life the powers of reproduction in man and the animals." So in the invocation we find given by Cato: "Father Mars, I pray and beseech thee that thou mayest be gracious and favorable to me, to my home and to my household, for which cause I have ordained that the offering of pig, sheep, and ox be carried round my fields, my land and my farm: that thou mayest avert, ward off and keep afar all disease, visible and invisible, all barrenness, waste, misfortune and bad weather; that thou mayest suffer our crops, our corn, our vines and bushes to grow and come to prosperity; that thou mayest preserve the shepherds and the flocks in safety, and grant health and strength to me, to my home and to my household."

Though slightly out of place here, it may be interesting to hint at the process by which this agricultural divinity was gradually in the historical evolution of the Roman state connected with war. As we see him addressed in the prayer I have quoted, he is the god "par excellence" of the farmer. But when this agricultural community grew into a state, coming into collision with neighboring Latin states, it was only natural that the deity who concerned himself with the interests of the farmer should also take upon himself the protection of the farmer turned soldier for the protection of his lands. Later on when the Roman was an empire builder and less of a farmer, it was the warlike attributes of the god that were most prominent, though the agricultural attributes never disappeared, particularly in the countryside.

Before going on to enumerate some of the other divinities of early Rome, it may be well to call attention to two points that emerge from a consideration of those already mentioned. In the first place the slightest knowledge of Greek religion will show how incorrect it is to do as the Romans themselves did later, that is, to identify the divinities of the two nations. The Greeks, at least in the period we know them and particularly at the time we are now speaking of, had, for instance, no parallel to the number of divinities presiding over the various stages of the growth of the corn; nor when we look at
what we usually term the greater gods, the "di consentes," do we find closer connection than what we would naturally expect from the fact that both nations assigned divinities to the more important functions of life. That the way in which the Roman and the Greek regarded them was very different, I hope to show further on.

The second point that strikes us is, that these gods that I have mentioned, and many another, such as Ceres, Priapus, god of gardens, and Faunus and Pales are preeminent the gods of a rustic, agricultural community that is occupied, not so much with the earlier stage of the grazing of cattle, but with the more settled and advanced labour of tilling the ground. This fact comes still more strongly when we look at the old Calendar of Festivals, which is chiefly taken up with agricultural celebrations; they fall into three groups: those of Spring, expressive of fear and hopes for the growing crops and herds; those of Summer, the festivals of fulfilment, especially of harvest" (for we are in the south of Europe where harvest comes early), and lastly those of Winter, the festivals of sowing and purification."

I close this list with a most interesting and, at first sight, bewildering group of divinities, which were grouped around the early years of the young Roman. When the child is weaned, there is one to teach him to eat, another, Potina, to show him how to drink, Cunina to keep him quiet in his cradle, Locutius to help him in his first efforts to speak, others to guard his first attempts to walk; in fact, forty-three gods of childhood have been counted. (Varro). To us, as to the early Christian Fathers, "this crowd of small deities condemned to menial services" may seem somewhat ridiculous, but they are most valuable to the student, as they show very clearly the way in which the early Roman created his divinities, and at what stage of religious development we find them. Taking, then, the divinities of this early community as a whole, we are now able to attempt to analyze their character, i.e., define their theology. The fact of supreme importance to note is that they are not gods. The very word the early Roman used for them is a witness to this: they are numina-powers. They are not personal, they have no individuality. As Ovid says: "Think not Vesta to be ought else but living flame"—Fasti VI. Hence they stand in strong contrast to the anthropomorphic deities of the Greeks. We find a number of facts about early Roman religion that connect closely with the abstract nature of these multitudinous spirits. For many years there were no temples of the gods in the city: for how could these impersonal
abstractions dwell in a particular place? The erection of temples only comes through the later influence of the Etruscans, yet not for all. Silvanus could never be induced to live in a temple. Still less could there be the anthropomorphic representation of them in the shape of statues. Even when later through contact with the Greek religion of South Italy we do find statues, yet the most Roman of religious conceptions, Vesta, remains unchanged, so that Ovid says, Fasti VI, 257,

\[
\begin{align*}
\text{Esse diu stultus Vesta simulacra putavi:} \\
\text{Mox didici curvo nulla subesse tholo.} \\
\text{Ignis inextinctus templo celatur in illo;} \\
\text{Effigiem nullam Vesta nec ignis habent. *}
\end{align*}
\]

Cf. Varro, who says in the true spirit of Roman religion that "those who introduced representations took away fear and brought in falsehood."

Similarly the very Greek belief in oracles has no counterpart in early Rome; the Sibylline books came from Magna Graecia much later. There being no personal gods, it was obviously impossible for men to consult them or to receive advice and prophecy from them: we have not as yet reached so advanced a stage in the conception of the relation between man and the deities, nor indeed of the deities themselves.

A last point that flows from the impersonality of these divinities is, that of true Roman *Mythology* there was none, until the fashion was set by the rich stores of myths of the imaginative Greeks. Since they are not conceived of as distinct personalities, they have no lineage, no father or mother, no relationship between them, no connection and no subordination. Jupiter, the sky god, for instance, has no jurisdiction over the fire god. Saturnus, the god of sowing, can lay no command on the various divinities I mentioned as guarding the growth of corn in its various stages.

It is clear, then, that the identification of the Greek and Roman gods is a great mistake. It is, of course, true that in course of time all these features were added, adopted from the Greeks, but they were never properly assimilated or used together: the old religion of Numa was early arrested in its growth and survived for many a century, accompanied by many a new element borrowed from elsewhere, but it is never very difficult to disentangle the old form from

*Once I thought in my folly that there were statues of Vesta; but I have learnt that none of these repose 'neath her rounded dome. Fire that never dieth is hid within that shrine. Nor Vesta nor fire hath any figure.*
the later accretions which are in most cases inspired by a very different view of the gods. One must, however, add, to guard against any misconception, that the primitive deities of Greece were in many ways identical with those of Rome, belonging as both did to the same stage of religious development, a stage that I shall at once describe, but the important point to be emphasized is that both nations developed from this same stage along their own lines, and also within this stage formed different conceptions.

These "numina" belong to that stage of early religious belief known to-day as Animism. In this paper I am not concerned with the question as to how this form of belief was evolved; that belongs to the Metaphysic of Religion; it is sufficient here to briefly indicate its character. By Animism, then, is meant that stage in which primitive man worships spirits, and earliest of all the great elements of Nature, the sun, the rain, the winds, on which his subsistence and his comfort so materially depend; later on, the worship extends to minor objects, the oak and the waterfall, the spring and the grove, and even further to other than natural objects. These various spirits, ever increasing in number, form what we may call a vague and somewhat indistinguishable crowd; as opposed to the later stage of worshipping gods with a name and more or less of a personality, the spirits are invoked often without any name, only by those who have need of them, and by these only when the occasion requires and are worshipped chiefly, if not entirely, from a motive of fear. This invocation is only occasional, because the existence of the spirit only lasts during the continuance of that over which he presides. Saturnus has his festival at the time of the sowing of the seed and is not invoked at any other time of the year.

But while we call Animism a stage in religion, it is very obvious that within these limits there can be a number of lesser stages of gradual development. I have assumed that this spirit worship begins with the greater powers of nature and then took in also the smaller and lesser ones. Some authorities hold the converse; but whichever came first, it is obviously a later stage when man believes that there is a spirit to be invoked in connection with his own personal needs, to be prevented by propitiation from harming himself and his flocks, or later his crops and his household effects, and later still watching over his welfare and thus abandoning the negative attitude of not harming him. Therefore we may ask to what stage of Animism does this early religion of Rome belong; is this form the earliest in which we can find the Roman, after his severance from the rest of the Ar-
yan stock? These questions are not easy to answer. Our chief difficulty is that we cannot to-day get with any precision at this religion at any given period; what I have loosely called early Roman religion represents the general stage of Animism held in common with the rest of the Aryan stock with traces of all the minor stages of development and spread over a long period. It is clear that the Romans must have passed through the pastoral stage and therefore at one time given great prominence to the spirits connected with hunting and herding, and of these divinities we find some traces existing at the period I am attempting to discuss. But at the time at which we can first catch a glimpse of the Roman, and for centuries afterwards, he is essentially an agriculturalist, worshipping especially those spirits connected with the soil and therefore tending to neglect those that he used to worship in his pastoral state.

On the whole, then, this early religion, as far as we find clear traces of it, is that of the latest form of Animism, that belonging to an agricultural state of society, and I am therefore tempted, particularly on historical grounds, to regard this latter stage as the time when Roman religion develops along its own lines.

But we do find traces of early forms of worship, to be assigned to the time when Greek and Roman were one. We find survivals of magic, as when we find puppets of straw thrown into the Tiber as a rain charm. So we find sacred trees—the fig tree in the Campus Martius and the "ficus Ruminalis"; and, in the case of animals, the wolf and woodpecker sacred to Mars, probably remnants of Totemism, though in all these cases the later Roman invented aetiological legends, representing, for instance, "ficus Ruminalis," as the tree under which Romulus and Remus were suckled by the wolf.

There is a further most interesting question. Given this general stage of animism through which all religions have passed, what are the peculiarities of development due to the Romans themselves? To what extent did the character of the nation have a modifying influence on their view of their divinities? The question is easier when we apply it to the relation between men and their gods and still easier when asked of the Roman ritual and ceremonial, but I think that one may venture to assert that the peculiar development by the Romans themselves in their conception of the spirits shows itself in three ways, which I shall do no more than hint at.

(1) The vast emphasis placed on those spirits who are connected with agriculture in its every form, from the clearing of the primaev forest to the gathering in of the harvest and its safe stor-
ing in the granary. This does not mean that other nations did not have their agricultural deities, but that the Roman development of those spirits was one that took place after the Latin stock became separate, and further that these divinities were more numerous and played a more important part in the worship of the early Roman than was the case with any other race, and finally that they continued to be worshipped long after a stage of civilisation was reached, at which in the case of other nations they passed out of existence or were merged into larger conceptions.

(2) The very abstract way in which they formed these deities. In the case of the worship of the nature powers, whether greater or lesser, there is not much abstraction in arriving at the conception: the sun spirit and the sun are the same to the earliest savage, though later the sun is conceived of as being the dwelling place of the sun spirit, the running water of the river-god. A later stage, when other spirits appear, shows, no doubt, more of this abstraction, but the Roman went far beyond others in his tendency to form abstractions not only of all the particular acts that he himself performed, but of all the stages in the various processes of Nature. It is not, as in the case of the Greeks, that he personified an abstract quality, but he formed a vague abstraction of certain very definite acts, such as we do not find in the case of other races.

(3) Closely connected with the last named characteristic of these abstractions: they are almost entirely functional, associated, as we would expect from the Roman character, with the practical life, with each phase of natural development, with each state or still more, action of the life of man: essentially practical deities, whose malevolence could do him material harm, and whose co-operation meant prosperity. So Janus in earlier times is the spirit of the opening and closing door, hence facing both ways, who protects the household at its threshold by preventing enemies coming in, and so in accordance with that further tendency toward abstraction that I have just mentioned becomes the god of beginnings. I would therefore emphasize the practical, material side of Roman worship. The Roman did not rise to the conception of a god of the gods making for righteousness. He ignores the ideal elements of life.

A further point in which the Roman seems to have if not innovated, yet to have carried out the conception more thoroughly and more logically is, that he conceived of the gods, spite of their impersonality, to be the parties to a contract for the advantage of both
sides. Of this, however, I shall speak more at length when dealing with the worship.

Before leaving this part of my subject, I cannot resist mentioning the hypothesis that has been put forward as regards these functional divinities of the Romans. It is that they really represent an advanced stage of religion, akin to Monotheism. Most of the names are epithets and adjectives, and in all probability there was originally a noun belonging to them; really they were all epithets of one great deity, or, as some are masculine and some feminine, of a great male and a great female deity. The noun fell out of use, but was still present to the mind of the Roman, and thus his regiment of divine names are not really designations of different persons but titles of the same person, supposed to be present alike in all these numberless manifestations. Thus the god who helped the child to speak was, when addressed in full, “Divus Pater Vaticanus.” And a parallel is found in the Christian religion in the manifold epithets of the Deity.

Such a hypothesis, backed by the authority of Gaston Boissier amongst others, is diametrically opposed to the view of these divinities that I have been presenting, and I think could not be held by a student of the earliest forms of religion. I will do no more than suggest reasons for refusing to accept it.

(1) In the first place it asserts that suddenly in the process of evolving a higher conception of the unity of the Deity, we find at Rome a decadence, a step backward, a loss of the more embracing conception, a change from comparative simplicity to vague complexity and confusion. Historically no such change can be found in the case of any other nation, nor in any other stage of religious development. Logically the loss of a higher category, and the adoption of an infinitely higher one, is not one that we can find in the evolution of thought.

(2) In the second place we can find no reason to account for the change, even granting it to be possible. The only explanation put forward is that, while the epithet remained prominent, the name of the god gradually was forgotten and finally the fact that there was an all-supreme god in all these manifestations grew vaguer. Forgetfulness may be a characteristic of the individual in mundane matters, but not so in matters spiritual and least of all in a primitive religion, and one of the most marked characteristics of Roman religion, as I hope to show shortly, is its long memory, its minute observance of old forms, remaining unchanged for centuries, so that the Roman is the last man to suspect of having forgotten his former approach to
Monotheism, even if we had some grounds to offer for this forgetfulness, and of these there are none; nor any practical utility in such abbreviation.

(3) Such a hypothesis leaves a most tremendous historical gap between that stage of animism which is pastoral and which seems to be the religion of the common Aryan stock and this advanced stage, Monotheism. We may say that we lose sight of the Latin with the scattering of that stock, wherever its original home, and wherever the breaking up took place, and we are asked to believe that when we next meet with those Latins they have in the interval, in the course of their wanderings and under the rudest circumstances, even before they rise to any settled mode of life, risen to a conception that the Greeks in their most advanced stage never reached; and then when we next meet with them, they have relapsed into Polytheism.

Lastly, it seems to me that the attractiveness of such a theory lies in the fact that it is an inversion of a truth.

In this idea of a number of manifestations of power each independent and separate, and none possessing any marked personality, we can see from a later standpoint how the further idea is at least latent, of these manifestations being those of one great power, how from these particulars it is natural for man, in his attempt to explain and co-ordinate, to arrive at the conception of a Unity underlying and explaining the abstract particular he has started with. But as a matter of fact the historical Roman never did this; the development of his religion was arrested long before he could achieve this; and when his ideas did change, it was not in the process of his own development, but through the acceptance of Greek ideas.

P. G. C. Campbell.

(To be continued).
ULTIMATE POLITICS.

THE three letters which are here printed were not written in their original form for publication. Mr. E. W. Thomson was good enough to send me a copy of his book, "When Lincoln Died," and accompanied the gift with the letter which, with some revision for the press, appears first in the series. I replied, and showed the correspondence to a professional soldier of high rank, who has had special opportunities of learning the point of view of the authorities who are charged with responsibility for Imperial defence in its widest aspects. In returning the letters this officer added the brief note which is printed third in order. Later the idea of publishing these letters was broached and all three agreed that they should appear in the Queen's Quarterly; the soldier, however, held that he should remain anonymous.

C. FREDERICK HAMILTON.

I.

OTTAWA, May 20, 1909.

My Dear Hamilton,—

With this I send you a copy of my book of verse, "When Lincoln Died, &c." of which a Canadian edition will appear in the fall as "The Many-mansioned House." You will see that it consists largely of pieces somewhat political in bearing. Collectively these disclose a variety of pan-Anglican sentiments—some peculiarly Canadian, some British or "Imperialistic," some "American." Such is my innocence, or lack of imagination, that I did not conceive this inclusiveness could offend any reasonable being, until some not unfriendly Canadian critics had chidden it. They intimate a certain displeasure that a Canadian should discourse sympathetically of "Yankee" persons or views. But that was precisely what I hoped to be applauded for! As I want you to read the book with full understanding of its main purpose, let me explain this.

Just as "Peter Ottawa" is an attempt to reconcile various Canadian sentiments that are often imagined to be inconsistent, so the whole book, insofar as political, is an attempt to reconcile various English sentiments which are frequently supposed to exclude one another. I use "English" here in the pan-Anglican sense, as denoting all English-speaking folk. Cannot one love Abraham Lin-
coln?—that great man of English blood and name—cannot one admire and laud the so-English-named Grant, Lee, Sherman, and their valorous brethren in arms, in race, and in language?—without coming under any just suspicion of insincerity in avowed devotion to Canadian nationalism and British Union? I hesitated a little at the term "British Union," since it happens that, to my way of thinking, pan-Anglicanism or English-speaking union is not only a greater idea than British Union, but that the latter may be best promoted in accordance with the former.

At risk of wearying you I will discourse a bit on this theme. It seems to me that a formal union of the British English-speaking countries, a union newly binding the Dominions to or with the United Kingdom, is impracticable; that the advocates of such new union propose political retrogression for not only "the overseas Dominions" but for the United Kingdom; and that such a novel "Empire" is undesirable. It is undesirable partly because such novel, formal British Union would newly, and almost expressly, exclude the essentially English Republic, whose inclusion, however informally or tacitly, seems to me necessary to the ultimate success and safety of the English-speaking peoples. I share the belief that a sufficient and most formidable pan-Anglican Union, such as Cecil Rhodes dreamed of, can and will arrive by so simple a process as British decentralization and the more or less deliberate cultivation of goodwill all round between language-brethren. This view seems to me continually more agreeable to our brethren of the Republic. I do not allege this at random, but as one who has long been on the lookout, daily, for "signs" pro and con.

If the King's subjects continue to proceed according to the unique English genius for decentralization (which implies mutual confidence, and which therefore promotes such confidence), then the King's geographically separated Dominions must each become truly independent of the venerable Mother of Parliaments, while continuing in fraternal relation with the United Kingdoms and with one another, by reason of the Crown's common supremacy. The King's realms would thus be in peace-league but not in war-league. The defence of each, according to its situation in the world, would be the business and duty of each, respectively. Collectively the realms would thus become ever and more armed and more formidable. Their tendency to become a war-league on sufficient occasion would be increasingly strong, by reason of their fraternity. At the same time each would be independently and newly able to cultivate
fraternal relations with the essentially English Republic. That they would do so—Great Britain newly, Australia newly, Canada newly—seems to me as plain as anything in the imagined future can be. The Republic, finding itself newly and fraternally looked to by each of the British English countries, would be essentially in the pan-Anglian Union.

On the other hand, if we monarchical English (and I am as convinced as you can be of the merits of the British sort of monarchy), take a centralizationist turn backward, we shall be clamped together (temporarily) in a very clumsy political machine, one vastly more clumsy than we have now evolved, and one unsuitable for dealing with the Republic. The imagined centralized empire would be embarrassed, in all manner of dealing with foreign powers, not by the dominance of the single-hearted London Government—one very complaisant to the separate, individual wishes and interests of "the overseas Dominions"—but by the dominance of a distracted government, one bound to try to represent each and every constituent, one most unlikely to be enabled to represent any of them satisfactorily. Fancy Canada having a "say" and vote on Australia's obvious desire to be on fraternal terms with the United States! Or Australia in a position to "buck" against some proposed Canadian arrangement with Washington! Canada is now badly "out" with Newfoundland—why? Because Canada meddled injuriously against Newfoundland's proper liberty to make special trade and fishery arrangements with the United States. Similarly all the countries of any federated British Union might fall out.

The federated machine could not work. If it did not speedily break down by deadlock or paralysis, its effect would probably be to bring us all into loggerheads with other powers, and especially into quarrel with the Republic. For the "central truth" of the pan-Anglian situation is that the British English communities, including the United Kingdom, simply have to, and in fact do now, look individually to the American-English community, the Republic, for countenance, friendship, backing, profit, alliance. They should get freedom to bargain and deal separately with the Republic, even as they are now almost absolutely free to bargain and deal separately with the United Kingdom and with one another. They can never well deal collectively with the Republic because their individual interests are widely diverse.

In short, the Republic is a leading English country. This comes not only because the bulk of the Englishry of the world are already
in the Republic, but because the preponderance of the Republic cannot but increase. Its people must number three hundred millions before your grandchildren cease from participating in the English duty of running the world. Which means that pan-Anglican leadership must more plainly come to the Republic, where the bulk of the people, power, and wealth will be. To promote unfriendliness toward the United States would surely be very unwise in the people of the other English regions. For them to fight the Republic would destroy the fair prospect of a pan-Anglican Union ruling the world to peace and industry. It is best to look facts in the face; to acknowledge the huge value of friendliness all round between English-speakers; to cultivate that sentiment deliberately, both by the arts of advance and restraint. Is not that a sound Imperialism? I am not here arguing the case, nor endeavouring to stir you up to confusion of my dream. I am but stating its nature.

Well, back to where we started. My small book is largely a political document. It amounts to a deliberate attempt to signalize actual sympathy with sentiments often regarded as inconsistent, viz., Canadian, British, and "American" sentiments, all these being sentiments of the Englishry of the world. The design, in brief, was to evince that catholicity of feeling in a pleasing way, with hope to induce some readers to share it.

A certain responsiveness has been disclosed in the Republic. There my critics have written very sympathetically of the Imperialist "Many-mansioned House," of the ultra-Canadian "Peter Ottawa," of the pan-Anglican "Parliament of the Ages." Possibly these things were taken the more kindly by Americans because preceded in the book by the Lincoln and Civil War pieces. Just so I designed. In England Mr. Quiller-Couch and other critics have taken the "American" poems sympathetically. It is only in our dear native Canada that my humble attempt to be a bit of a reconciler has been publicly greeted with some mild reproof, and privately with some less mild. I am told that a Canadian hasn't any right to be celebrating Canada and the Empire in the same book with Abraham Lincoln and the Civil War!

In effect the few Canadian objectors seem to be saying, "Reconciliation be hanged! Away with it! We won't, shan't, can't be reconciled to the United States!" "Why not?" one enquires. "Because we're so loyal. Because we must be true to the Throne and the Old Country." As if there were essential war between the Monarchy and the Republic! In fact there is essential friendship. Should
it not be fostered, furthered? To foment jealousy and hate is surely not only ungenerous but dangerous. Is it not also essentially disloyal to the Old Country? We know that, by the very nature of things, our Motherland can not have one sincere and powerful friend in Europe or Asia. Shall she not have one in America? Is it loyal to flout the mighty Republic of our kin and language? It would seem that some Canadians exult in trying to blot out the fair prospect of pan-Anglican Union. That way loom madness and destruction.

How wise has been the governing mind of England since 1865! How conciliatory to the English Republic! If all Canadians were as wise we could induce in the United States a perfect friendliness to Canada. Indeed, such a sentiment largely exists already in the Republic, thanks partly to England's wisdom, and partly to the fact that little influence is exercised over Canadian Governments by the cantankerous, small minority that desires to promote animosity between the branches of the English on this continent.

Well, this is surely an inordinately lengthy screed on the text that one small Canadian book displeases a few Canadians by alleged Americanism, while pleasing Americans by Canadianism and British-ism. The latter fact accords with what I know, from much mingling with our republican neighbors, to be true, viz., that the greatness, efficiency, power, wealth, and national security of the United States give that English folk a generosity, magnanimity, breadth of vision, goodwill to mankind (a truly pan-Anglican and imperial feeling), which are quite lacking in the few Canadians who inveterately detest the Republic.

Yours cordially,

E. W. THOMSON.

II.

OTTAWA, June 2nd, 1909.

DEAR MR. THOMSON:—

* * *

While in matters of immediate policy and politics we differ, I am in sympathy with the ultimate aims which you show forth.

With your conception of an ultimate union of some sort of the English-speaking world I am, of course, in full sympathy. But I do not wish to keep my eyes fixed so incessantly on the goal as to become oblivious to the dangers of the road by which I must reach that goal, and with regard to the policy of the immediate future I am by no means in agreement with you.
ULTIMATE POLITICS.

The key to English-speaking union must be the independence of Canada—by independence I mean independence within the Empire, and of the United States. Conversely, the great danger in the way of the ultimate ideal is the unprecedented, enormous, overweening, and (in the Miltonic sense) Satanic pride of the United States. Absorption of Canada by the United States would confirm and if possible increase that pride, and probably renew the older tendency of the United States to live within this continent, to care nothing for the outside world, and to omit to take that part in the world's business which the British Empire has done and is doing, on the whole with advantage to humanity. Our independence, our growth as a second great power on the North American continent (with its standing reminder that they are not the only great people even on their own hemisphere), our continued and increasing participation in world-politics as a part of the Empire, seem to me to furnish that factor which will bring the American Republic into association with Britain and the rest of the English-speaking world. And apart from the sensations which they will feel as they see the northern fringe which they hitherto have disregarded growing into a civilization and a polity in some respects superior to their own, there is this further consideration, that the more they deal in world-politics the more will it be driven home to the Americans that the Empire is their best friend and probably their only friend.

The essence of our independence is the continued cultivation of that stubborn loyalty which is bound to be aggressive in some of its manifestations. It is above all necessary to stand by our own individuality, to uphold our own institutions, to keep unimpaired our heritage of national spirit. There is no danger that our cultivation of our individual national life as opposed to American ideals will lead to war; should it do so, I say deliberately that such a war, waged to preserve our precious national identity, would benefit us. Who can doubt that the tradition of unflinching, stubborn loyalty which has been bequeathed to us by 1812 is a heritage so precious as far to overshadow the suffering and loss of the time? In saying this I do not wish to be understood as desiring war; having seen it, I have a lively sense of its gravity. I simply do not anticipate it. Nor do I regard it as the worst of all evils. It simply is one of several evils, and like other trials may give us compensations.

You dread Imperial organization as furnishing an obstacle to the larger union. I cannot agree. Fifty years ago a thinker with your ideals probably would have viewed Britain's and Canada's
adherence to monarchy as an insuperable objection to close relations with the United States. Development on both sides of the boundary line, more especially on the American, has transcended that old-fashioned objection. So may your dread of one particular type of organization be transcended. Apart from that there are two considerations whose value impresses me:

1. The Empire must organize to survive; and it is above all necessary to survive.

2. Our connection with the Empire, our association with the widest sweeps of world-politics which it will bring us, is our countervailing advantage to set against the bulk and wealth of the United States. Deprive us of that, insist on perpetuating our present maimed and imperfect citizenship, and we shall be at a standing disadvantage in dealing with the Republic. It is our special duty to make ourselves as strong and as good as they are; only in equality can there be union; and for us the road to full citizenship is through Imperial organization.

By Imperial organization I do not mean immediate formal union such as is hoped for by Imperial Federationists. The phase immediately in front of us is that of national development, and it will probably outlast our time. When we have done with it I should expect some movement towards the closer linking of the Five Free Nations to be in order. Also, as soon as possible there must be a substantial increase of the armed strength of the Empire, probably by national rather than by Imperial machinery.

One other remark. In part of your letter you turn aside from the thesis "Would Imperial Union be desirable?" to a discussion of that other thesis, "Would Imperial Union be practicable?" I shall not follow you in that; so far I have seen no satisfactory plan of Imperial federation proposed; nor, what is far more important, have I seen any plan devised for bringing any plan whatever to pass. I am content to work along the plan of national development, of organizing fresh centres of strength, in Lord Milner's phrase. But I must observe that your arguments as to the impracticability of Imperial Union have this peculiarity—that every one of them would have applied with equal force to a certain project of union which a man named Alexander Hamilton was busy advocating just before the year 1787. I have a strong suspicion that they were duly advanced then. The physical obstacles to American federation in 1787 were greater than the physical obstacles in the way of Imperial federation to-day. And at
present the race prejudices of California may get Massachusetts into trouble with Japan; while a few Gloucester fishermen have succeeded in keeping the rest of the United States from eating cheap fish of a Friday. And again, it is a historical fact that the States of the American Union once fell out; upon that you are in a position to offer first hand evidence.

We are on common ground with regard to no small portion of our ultimate hopes; and less on common ground with regard to immediate methods. I am all for Canadian independence of the United States. I am all for going our own way, for developing in strength, for showing the Americans and everybody else who may be interested that we have a type, an individuality, a way of looking at things and of doing things, all of our own. I am all for drawing closer to the Mother Country, whose part in world-politics is so splendid and so noble, whose public morals are purer than those of this continent, whose standard of civilization is higher, whose influence must prove beneficial in almost every particular. I am for national Canadian development, pushed forward with all the rapidity possible; I also am for Imperial organization, pushed forward with all the rapidity possible; I refuse to see any discrepancy between these two objects. I deliberately wish to cultivate closer relations with the United Kingdom and the rest of the Empire, and I deliberately wish on the whole to leave the United States alone. For one thing, it is necessary to strive against their overpowering bulk; to cite a smaller reason, independence will be a surer passport to their friendly consideration than complaisance. But I do not advocate rudeness; so far from it entering my head to complain of you for treating of Lincoln and the American struggle for unity, I like those poems; with you I deplore any attempt to upset the policy which Great Britain is pursuing. Nor do I advocate a continuance of our present policy of ignoring American affairs and preening ourselves upon our supposed moral superiority. American history and development should be our constant study. We should save ourselves at least half of the mistakes from which they have suffered; and moreover they now are something like twenty years ahead of us in public morality, in civic righteousness, in political virtue; our Pharisaic complacency is one of the things which I wish to upset. But while we should emulate their progress in desirable things we must keep the flag flying. We must study them, we must profit by them, and we must leave them to themselves. As for pan-Anglican Union, I am content to allow a future generation to work at it; my
bit of work is to do my little best to promote national development and Imperial organisation. By forwarding those two things I shall best help on the larger " union of hearts."

One word more. You speak of being "truly independent of the venerable Mother of Parliaments," and of being "in peace-league but not in war-league." With the first I agree. I am a subject of King Edward, not of the Parliament of the United Kingdom. But as for the second, he who is the enemy of my King is my enemy; and I cannot conceive of Britain assailed and Canada remaining neutral. The Ross rifles would go off of themselves!

Ever yours sincerely,

C. FREDERICK HAMILTON.

III.

OTTAWA, 4th June, 1909.

My Dear Hamilton:—

Thank you for having allowed me to read this most interesting correspondence.

I, too, like to think that Cecil Rhodes' dream will one day be realized; and I agree with you that its realization will not be prevented, but promoted, by an antecedent organization, union, call it what you like, of British nations.

And why should national development and the closer linking of the Five Free Nations be regarded as separate and successive phases? Why should they not proceed concurrently? Why postpone the closer linking?

Without it the eldest of the Five Free Nations will sink to the position of Belgium; the second will wed a neighbouring Republic; the third and fourth will turn yellow; and the youngest will fall to Germany.

Not a pleasant prospect.

* * *

IV.

KINGSTON, June 29, 1909.

My Dear Hamilton:—

Worrying about our national destiny seems with most Canadians to have taken the place of worrying about our individual salvation. The correspondence you enclose in your letter of yesterday raises the problem of that ultimate destiny in unusually clear-cut
ULTIMATE POLITICS.

fashion. It is true, as we are often reminded, that it is the way of our race to work out their constitutional development one step at a time, as concrete issues demand, but it is also obvious that it is of some importance in which direction we are facing when that one step is taken, on what far star our gaze is fixed. I shall be glad to add an editorial last word, as you suggest.

Both Mr. Thomson's letter and yours seem to me most convincing on their negative side. Mr. Thomson makes a strong case against any centralized pan-Britannic organization, and you succeed in showing that a pan-Anglican union, at this present stage, at least, is even more chimerical, and that it will come the quicker the less we show ourselves eager for it. Perhaps I draw that conclusion because I want to draw it, looking at the matter from the standpoint of those to whom Canada is first if not last, who find their patriotism spreading thin when it is attempted to cover Tasmania and Bechuanaland with it, and becoming almost indistinguishable from cosmopolitanism when Texas and Georgia are also fenced in from the lesser breeds, the Not-Ourselves that make for Unrighteousness. I am no more eager to see our national individuality swamped in pan-Anglicanism than in pan-Britannicism. My ideal is national development, in self-respecting friendship with the United States, and in defensive alliance with the others of the Five Free Nations.

Yet your warning against narrow parochial self-absorption and self-content is a very necessary one. More and more with growth in strength and growth in our international commerce we will have to take our place in the world's councils. And we have many a lesson to learn from England and from the United States, particularly in our problems of government. In fact, we stand so badly in need of instruction in common honesty that the Montreal Star, in its recent be-knighted Dreadnought campaign, finds in our inability to build and manage a Canadian navy without graft an argument for handing over the money to Britain to spend. I think you will agree with me that that is not the way we must learn our lessons. Britain has a lesson to teach us and every other nation stumbling up out of sordid politics: the lesson that a nation may work out its own political salvation and rise from Walpole depths to Gladstone heights. It is not that way division of labor within the Empire lies—Britain furnishing the honesty and Canada the cash; if I read the temper of Canada right, we are not going to hire Britain to be honest for us any more than we are going to hire her to fight for us.
We can find ideals to help us in Britain and in the United States even if we do not send P.B. delegates to London or P.A. delegates to Washington. We can strive to secure the personal honesty that marks British politics while avoiding its class-graft; we can learn even more from the attempt of our neighbors to shake off their incubus of corruption, because their problems and their stage of advance are more nearly ours. Here I think lies Mr. Thomson's greatest service to his country, in his attempt these twenty years, culminating in his Many-mansioned House, to make us understand that we are heirs to the memory of Lincoln, just as the men of Massachusetts may share with Britain and with us Milton and Cromwell. You agree, fully and frankly, that in the efforts of to-day the United States has much to teach us; but you differ in your "We'll take your lesson and be hanged to you" attitude.

You advocate Imperial organization, following or concurrent with our national development, and find hope of its practicability in the analogy of the task of uniting the American colonies a century and more ago: "the physical obstacles to American federation in 1787 were greater than the physical obstacles in the way of Imperial federation to-day." True, the British Empire has shrunk, thanks to cables and steamships, but it has not yet become contiguous and the rest of the world has shrunk with it; we are ten times nearer Melbourne than of old, but we are also ten times nearer Paris and nearer San Francisco; relatively, the Empire is as scattered as ever, and a straight line between Toronto and Cape Town still runs through New York. When after-dinner orators talk of the Empire as one, I sometimes feel I should like to set them a simple examination on elementary Imperialism something as follows, whereon I hazard I might score a scratch pass, having the privilege of picking the questions:

1. Name six statesmen in Australia—politicians will do.
2. In what state is Brisbane?
3. Who is the premier of Natal?
4. What is the present status of New Zealand's experiment in compulsory arbitration?

Or, to come to topics nearer the great heart of the people,

5. What slang is current in Johannesburg to-day?
6. What are the particulars of the murder or divorce trial which is filling the Sydney newspapers?

And even after we get that inter-imperial cable service which is an absolute necessity I doubt if, for lack of the background knowledge that comes only through personal travel and contact and newspaper
reading, the driblets of cable items will greatly remedy our (assumed) ignorance.

But I need not dwell on the point. You agree that thus far no practicable scheme of Imperial Federation has been broached and no practicable method of bringing it about; and "imperial organization," so far as I can guess, must mean Imperial Federation or some Pollock or Chamberlain plan of the same thing by some other name, Imperial Councils or what not, destined by their astute planners to grow unbeknownst "by a process of gradual development . . . into a new government with large powers of taxation and legislation over countries separated by thousands of miles of sea," as Mr. Chamberlain once put it.

For the present, at least, you reject any formal plan of centralization. Yet you seem ready to subscribe to a centralization which makes Imperial Federation by comparison seem the essence of autonomy. You take exception to Mr. Thomson’s vision of peace-league but not necessarily war-league between the free nations of the Empire, bound together only by a common King, and maintain that Canada could not remain neutral were Britain assailed. I grant that were Britain assailed, in a death-grapple with Germany, for example, Canada would strain every nerve in aid. But don’t you calmly assume that in all the wars in which Britain is engaged she is "assailed" rather than "assailing"? A recollection of the process by which the British Empire has expanded from 120,000 square miles to 12,000,000, might suggest that she has had at least her share of attacking and of benevolent assimilation. There are real difficulties in any plan of Canadian neutrality while Britain is at war, I admit, but they are not so serious as the problems presented by the proposal to accept all Britain’s wars as ours. We would doubtless send our fleet to help Britain defend New Zealand from that Chinese invasion which your soldier friend anticipates in his masterpiece of pessimism, but would we send it to help in another Opium War, to help force again on China the curse from which she is attempting to free herself? Would our British Columbia regiments join the troops of Britain’s ally, Japan, in the contingency of an attack on Oregon? But delenda est Germania. Yes, but yesterday it ran delenda est Gallia. Ten years ago, in Fashoda days, the very panic-mongers who are now crying out that a struggle with Germany is inevitable were demonstrating that France, for centuries Britain’s foe, must be her foe for ever. The kaleidoscope of shifting alliances may bring Britain and France face to face again. Would any respon-
sible Canadian statesman risk a civil war in Canada by taking part in the struggle in the English Channel?

"The enemies of my King must be mine." I begin to suspect a Jacobite strain in your ancestry, or how else explain this rusty ideal of personal loyalty as the arbiter of our policy, befitting a seventeenth century Cavalier, thus reviving in a twentieth century newspaper man? The King, God bless him, has nothing to do with the case. I do not mean to underrate the importance of the sovereign’s function as the chief surviving symbol of imperial unity, nor the great services he has performed for Britain by putting his personal popularity and his royal tact at the disposal of British cabinets in their attempt to find friends and allies in Europe. The homely virtues of Victoria and the tact and sportsmanship of Edward have put off indefinitely that funeral of monarchy which our republican friends used to prophesy. But why use the King as a stalking-horse for the real makers of British policy? When you declare that the King’s enemies are yours, don’t you mean that the Harmsworth-Pearson Gramophone Press’ enemies are yours? I for one decline, even though Canadian editors as well as Ross rifles should go off at half-cock, to be stumped into meekly accepting whatever policy may seem good to the organs of reaction in Britain to advance, in the attempt to block the progress of social reform. If we are to be governed from London, let us be governed by an Imperial Federation parliament in which at least we will be represented, not by King Northcliffe.

Sincerely yours,

O. D. Skelton.

A POSTSCRIPT.

PoIte Fortune. Que., July 1, 1909.

My Dear Skelton,—

* * * The discussion is one of far forecasts, very "academic." This may cause some misunderstanding, against which I wish to guard myself. The possibility of misunderstanding is evidenced by Mr. Hamilton’s declaration for "independence within the Empire—and of the United States." In this I am entirely at one with Mr. Hamilton, save that I rather favour the term "Independence under the Crown," for which cause I have been writing for some thirty years, at every fair opportunity. In fact, Mr. John Ewart’s plan for Canadian independence is precisely that which I favour. If any other impression were taken from Mr. Hamilton’s phrasing—i.e., were any reader to suppose me averse from independence of both British Parliament and U. S. Congress—then I should be, as it were, the kid seethed in its mother’s milk.

Were Canada not liable to be drawn into war without the voted consent of her majority, and her own Parliament, then I should think her independence achieved, her situation politically sound and most desirable, her geographica situation one enabling her to fulfil her blessed destiny—that of most importantly aiding the fraternal union of the Englishry of the world.

Really we three agree very closely as to what should be done first, and it has never been the way of our race to quarrel much over visions. What is is, what will be will be.

Yours sincerely, E. W. T.
CURRENT EVENTS.

HIGHER CRITICISM AND THE PEOPLE.

This has been a subject of special interest in Ontario during the last few months owing to sensational incidents such as Dr. Carman's arraignment of the Rev. G. Jackson, the attack against the English Bible class of University College, Toronto, and Professor J. Orr's appeal to the people against the extravagances of criticism. To discuss all the material involved in this controversy would require a volume rather than a brief note, but just as we go to press the decision of the authorities at McMaster University in regard to the last charge of heresy is announced, and it seems possible to sum up quietly some of the results of this recent and local phase of a great movement. We are often told that the phrase "higher criticism" is an unfortunate one, as it is liable in both of its parts to popular misapprehension. That may be the case, but the only remedy for that is a little more intelligence and care in the use of it. For about one hundred and fifty years it has been in use among Biblical students and it has become a technical term that cannot be dispensed with in this department. We could mention many other technical phrases well suited to the study or class-room which suffer under similar disadvantages when bandied about in popular controversy. The literary and historical criticism which seeks to set a book in its proper framework and solve its real problems is certainly higher than the criticism that limits itself to the narrower task of settling the text. Both forms of study are legitimate and fruitful and only the most ignorant can fall into the mistake of thinking that one who uses the methods of the higher criticism by that fact claims to be a superior person or shows himself to be a sceptic. A very loose popular application of the phrase is to denounce as "higher criticism" a particular set of opinions about the Bible with which the speaker happens to disagree and which in many cases he does not understand. When a preacher supplies "hot stuff" for the newspaper by declaring that the higher critics are "liars and infidels," he shows that he is sadly lacking in knowledge and charity and places himself outside of the pale of reasonable discussion. By the form of his words he denounces every man who tries to form an intelligent view of the Bible, while he thinks that he is merely denouncing those who differ from him.
The critical movement has been going on for centuries but the result of these varied labours has received a fuller application during the last fifty years so that the text-books and lectures dealing with the study of the Bible have been completely changed. For example, let any one compare the "Student's Old Testament History," 1878, with the recent histories by Cornill, Wellhausen and Kent. In the former case we find only a slight rearrangement or skilful paraphrase of the Biblical material; in the latter the sources are carefully estimated and an attempt made to trace the real development in thought and life. In a movement of this kind, consisting of contributions from the leading scholars of the world, the progress is slow but steady. Personal preferences and sectional extravagances are eliminated and agreement is reached along certain broad lines; then the results are defined more clearly or qualified more carefully. A public controversy in any locality, Toronto or elsewhere; a heresy trial, great or small, has little effect upon these general movements. It is a great impersonal movement unaffected by temporary fancies and uncontrolled by any particular church. This does not mean that our local controversies are unimportant; they may have considerable effect upon ourselves, upon our church life as well as upon our personal temperaments. On the whole, then, we think that the situation, as seen now when the dust of controversy has subsided a little, furnishes some causes for thankfulness. The action of all those concerned has tended to vindicate a true Christian liberty without placing the stamp of approval upon merely private speculations. The temper of our daily journals in dealing with the subject has been admirable, representing as they do the general intelligence of the community; they have recognized that churches which reverence the past cannot hastily accept new opinions, but they have at the same time pointed out that the love of truth and the right of untrammelled investigation is an essential thing which the churches must preserve. The public refuses to be thrown into a panic even when stories are told at meetings of the "Bible League" which are meant to make one's flesh creep and which the authors tell us ought to spoil one's sleep for many nights. Popular indifference to these subjects may have something to do with this apathy, but there is also a recognition of the fact that so many honest, faithful Christian men hold the so-called "new views," and thus it is scarcely possible to believe that the perfect truth is possessed by the rigid defenders of the old.

As to the question of Bible teaching in Toronto University, a full discussion would be out of place here. The present writer may
say, on his own responsibility, that it seems desirable that young men, non-theological students, should be able to obtain in our universities some knowledge of that ancient Hebrew literature to which we owe so much; that when the class in which such knowledge may be gained is optional no section of the community has any substantial grievance. As a matter of fact, the objections are made not so much against the class itself as against the character of the teaching, and such objections would lie against the attendance of young people at a class in Biology or Geology as they are objections against the modern scientific method. It may be said that it is all very well for a "modernist" to talk in that fashion, but personally I disown the title, it is as misleading as most other labels of the kind; no "modern" view is of any use unless it has absorbed the best that is available from the past.

In conclusion, our Methodist and Baptist friends are to be congratulated on the strength and dignity of their final deliverances on this subject. It is not that their authority can be quoted for any particular opinion, but that they have reaffirmed and vindicated the spirit of freedom for which their churches were noted in their earliest days. Especially has it been recognised that in the classrooms where young men are prepared for the ministry, the teacher is expected to grapple earnestly with the difficulties of the situation and make the students feel that what the church really desires is the truth in each particular case and not the buttressing up of pre-conceived opinions. This is not likely to lead to recklessness but rather to a keener sense of responsibility on the part of teachers and students. On the whole, then, we may believe that the discussion has done some good. It has shown that it is useless to appeal to popular audiences without some clear positive statement. To attempt to frighten people by retailing the most extreme speculations and the most questionable conjectures does not yield any satisfactory result. The time has perhaps come when an attempt should be made to present in popular form some of the latest results of scholarship, and some of our ministers have done good work as teachers of the Bible and have created a new living interest in the sacred literature. The supreme test to which all our theories must submit is their power to explain the facts of the case, to bring back to us the real life of the past in a way that shall help to inspire and purify the present.

W. G. J.
QUEEN'S QUARTERLY.

QUEEN'S AND THE GENERAL ASSEMBLY.

At the request of the editor of the Quarterly, I undertook before I left Kingston to send back a report of the discussion concerning the relationship of Queen's to the Presbyterian Church. The pressure of business during the actual sitting of the Assembly does not leave much time for this kind of work, and to attempt it in the brief intervals between the stages of my journey is not very satisfactory, so that I repented of the promise so easily made; however, when a promise is once given the task, small or great, must somehow be accomplished. I shall try then to furnish the outline of the debate in a spirit of fairness and with whatever skill in the line of reporting that I may possess.

In the first place it may be said that Queen's men ought to appreciate the kindness of the Assembly in setting apart for our use two of its earliest sessions, on the afternoon of Thursday and the morning of Friday, June 3rd and 4th. The subject was thus brought before the supreme court at a favourable time, when its members were fresh and energetic, able and willing to give an attentive and patient hearing to the arguments on both sides. The atmosphere was on the whole clear and cool; the speakers were well received and their strong points appreciated on one side or the other. Remarks were heard afterwards that the debate had been kept on a high level.

We may borrow an introductory note from the Hamilton Evening Times. These quotations may serve the twofold purpose of recording the facts and giving a specimen of the kind of treatment that the local press gave to the Assembly's important debates:

If the Assembly is to go its full Marathon distance, and without doubt that is the course, the pace already set is an unusually "hot one." To dash off the first afternoon, with the Queen's men leading, as was witnessed in the debate on the proposed changed relations to the church, looks as if the Hamilton Assembly is to make history.

Principal Gordon looks better and seems a little more certain of his ground than when, in Winnipeg a year ago, he saw the enemy, not a foreign one, but within the "gates of Queen's." This University with its splendid history has fought its way to victory. It has never been afraid of a struggle, yet unhappily the old text has meaning, "A man's foes are they of his own household." It seems to be that from the fountain of rare loyalty to one another, there have sprung up two opposite streams of policy, which have wrestled at the fountain head for mastery and, failing, shifts the whirlpool where the friend and stranger alike stand by in sorrow. No one is at liberty to charge the other with having destroyed the harmony of the University or not being a friend of Queen's. It may be mistaken judgment, but not treachery. The whole thing is unfortunate; the pity is the problem is not one where the slate might be wiped off and start de novo.

Principal Gordon made out a case for a judge, but both Dr. R. Campbell, and especially Mr. G. M. Macdonnell, captured the majority of the jury. As a pleader it would be hard to find the equal of
Queen’s Principal, either in Parliament or in civil law. He is clear as sunlight, his logic is smooth as an unruffled river, and not a note escapes his lips that is harsh. He makes his points and goes out to face those ready to be thrust against him, usually to either divest their force or remove the edge. His voice drops like honey in sweetness, but deepens and swells with unrivalled power.

Of course we all knew that there were several “chiel’s” among us taking notes, but the following notes are from the particular chiel who represented the Hamilton Herald:

I “sure allow” that whatever the home-returning men of this assembly relate of its proceedings, they will not fail to speak of the brilliant speech of G. M. Macdonnell, K.C., of Kingston, on the Queen’s question of separation from the church. Mr. Macdonnell has the appearance of an ascetic. Thin, grizzled, deep-eyed, heavy-browed, restless and nervous, he holds you by the sense of pent-up fire and force. His voice is a sharp challenge to your attention, and his reasoning and logic, along with his array of facts, make him a fearsome opponent. His Highland blood gets warm as he talks, and it melts the covers of his satire and scorn, so that these flow in sufficient streams to make him one of the most “kittle” men to wake up.

* * * * *
“Pringle of the Yukon,” now of Sydney, N.S., earned long ago the attentive interest of the assembly. He is a mighty man on the story of the trail in the new land of the uttermost northwest of Canada. This morning he was heard on the Queen’s quarrel (for it is nearly that now), and for a piece of well-reasoned, well-put speech it is hard to beat. He was not talking to a sympathetic audience, for he is a separatist. He was badgered more than once. He kept his head, however, and got his ideas out in good order and with arousing effect. Not that he was applauded. He had to go without a cheer, but he went on and stuck thorns in the think tank of many who had been asleep with assurance that all is well with Queen’s as he is now.

* * * * *
An odd side-step movement was executed by Professor W. G. Jordan Thursday afternoon during his able speech on the Queen’s constitution changes. He began his argument standing beside the moderator’s small table. Presently he edged behind this table and looked at his audience as we fancy he looks at his students. As the table is close to the moderator’s chair, the professor had a neat task to perform, and we are haunted by the suspicion that the head of the house got his toes treated a wee bit. It looked to an impartial observer as if Professor Jordan was going to “say things” and wanted to have the reassurance that is born of “good backing in a mix-up.” This, however, was an erroneous conjecture, as the professor is always able and willing to fend for himself.

On this note I may perhaps be allowed to say that if I did really tread upon the toes of our respected moderator. I take this opportunity of tendering a sincere apology. The “chiel’s” idea of the way in which the moderator displayed his zeal for order and courtesy may be given here and then we proceed to the real business:

Sometimes the moderator displays a humor so pawkly and so pertinent that he might be taken for a Caithness man. Of course he is not Caithness, and his Irish arteries rebel against the thought of it. To-day there was an instance of this when he prepared the Queen’s case discussion by saying that if anyone had new light the court
would be glad to get it, but they had small need for old light. It was a remark proper and a propos, and the house applauded. The moderator has his own sort of humor and it is good, but when the door slams and the members chat in impolite chorus here and there in the house it is not a genial humor that suffuses his face. Nor can he be at all blamed, for he has a boisterous crowd to handle.

* * * * *

The present reporter must, however, express his conviction that some of the remarks just quoted appear to reflect the feeling of last year rather than the temper of the present time.

The Principal presented the request of the Trustees in an able speech that lasted just one hour; it was a clear statement of the history of Queen's relation to the church, the present situation and the nature of the changes now required in the charter, with reasons for the same. It would be impossible to give an adequate report of this speech in our brief sketch. It was given in a restrained manner, there was no attempt to make "points" against real or imaginary opponents; the aim was to carry the whole house the one step of granting the reasonable request of the Trustees for a commission to deal with the case. The resolution presented was as follows:

"The trustees of Queen's University, having expressed their deliberate judgment that further changes in the constitution are necessary for the welfare of the university, the Assembly resolve to appoint a commission to confer and co-operate with the trustees regarding the changes suggested, to consider all the interests involved, and to report their judgment on the whole question to the next General Assembly."

The speech in support of it gave the history of the relations of Queen's to the church, sketched the modifications made at various times, such as the creation of the Council and the permission to elect Trustees from other denominations, with a view to showing that the present movement is the outcome and completion of all that has gone before. The speaker proceeded to show that a few years ago when the whole university question was likely to be reopened the Trustees were seeking to place themselves in such a position that the claims of Queen's would receive fair consideration, when the movement was arrested by the action of the Vancouver Assembly. One important point was that Principal Gordon refused to admit that all the responsibility for the working of the endowment movement was to be placed upon the leaders of the present movement; the action of the Assembly in sanctioning other similar movements must be considered as tending in the same direction. In fact, under the circumstances it is difficult to believe that the church seriously desires to retain
Queen's as an arts college under the control of the church and relying upon the church for maintenance; "we are faced with the alternative that either the church must assume the responsibility for the maintenance in a way she has never done before, or accede to the request of the Trustees, who are responsible for the financial condition, and who know the students, and desire a modification which would enable them, as they believe, to handle the financial situation more completely." The three changes required, liberty in regard to the election of the Principal, removal from the charter of the demand for a majority of Presbyterian Trustees, and the change of corporation, were briefly outlined in their nature and effects. The conclusion of this strong speech may be given in the words of the Globe:

"There had grown up within the church what might be regarded as a real corporation of benefactors, men who had justified their claim to the name. Would it be harmful, he asked, if the corporation were made to consist of friends and benefactors of the university and graduates? What would this mean? It would mean giving the university a larger degree of self-government, and the church would admit that every extension of self-government that had been granted had been wisely exercised. The university had moved along the lines cherished as its ideal. Further, it would mean an increase of revenue. They could not hope to receive aid from the Government of the Province in their present condition, and yet there were many who recognized that the work of Queen's was such as to justify any Government in granting aid from the Provincial treasury. Still further, it would secure, in some degree at least, the unifying of the university. It would not mean any weakening of the control that the church exercised over the theological faculty and over the training of young men for the ministry. It would not mean anything deserving of being called separation from the church. It would be a readjustment of the relations between the church and the university in such a way that the vital and spiritual connection would still be fully maintained. The life of Canada to-day was freer and showed more self-government than at any time in the past, and yet with the removal of restrictions by the mother country Canada had never before been so loyally attached to the mother country or the mother country so proud of Canada. He believed the same would be the result if a larger measure of freedom and self-government were given to Queen's by the church, if she were allowed to develop a little more fully than hitherto along lines by which the attachment of the university to the church would continue, not by formal or
local restrictions, but in such a way that all that was vital and spiritual would be truly conserved.”

This resolution was seconded by Mr. E. Brown, of Portage la Prairie, who in a brief, effective speech stated that when appointed a member of the committee last year he was opposed to this movement, but the evidence placed before them then had convinced him and he was now quite prepared to support the request of the Trustees, and as Principal Gordon was content to have the question referred to a commission, it seemed to him that such a reasonable request ought to be granted.

For a few minutes it looked as if that would be done quickly and quietly, but Dr. R. Campbell opened the debate with a strong speech in opposition. He conceded that it might be advisable to open the Principalship of Queen’s University to all and sundry, but the question was, should they sever the connection between the church and the university? What, he asked, had been the results of secular universities in the United States? Their influence upon the training of candidates for the ministry had been so adverse that only four or five per cent. of the candidates received in theological seminaries came from these universities. “Are we prepared to give up what we have? The time has come when this church should assert more strongly its right to a larger control of universities than it has now. I am ready to go into that commission, but with the understanding that the door is shut, where the Assembly nailed it last year in Winnipeg. I shall not reopen the question of the changes in the charter as proposed.”

The next speaker was the Rev. Dr. Armstrong, of Ottawa. His entrance into the arena, the impression he created, and the contribution that he made may be given in the words of the Hamilton Times:

From the body of the church a thunderous voice was heard, and every eye turned to Dr. Armstrong, who claimed simply to have a question to ask. But he had to take the rostrum. For blunt statement and severe scrutiny this Ottawa father and ex-moderator has a record of his own. His question, whether, since the presbyteries were asked to consider the attitude of the Assembly in retaining Queen’s, it would not be a wise thing to hand this resolution down to them for their judgment. Having been presented, he said very briefly what his views were. “The church may be very glad some day that we have this university; at any rate I do not think that we should bow down before any Carnegie-god.”

The Rev. J. Hodges, of Oshawa, graduate of Queen’s, followed and opposed the resolution; he contended that this movement was
CURRENT EVENTS.

contrary to the spirit that animated students in his day. His specific contribution to the debate was that a leading member of the church had said to him: "Cut the connection between the church and Queen’s, and in five years you will have no theological faculty."

The Rev. John Hay briefly supported the resolution, contending that nothing would be lost by submitting the matter to a commission, while much might be gained.

Professor W. G. Jordan supported the Principal’s contention that the movement was on the real line of evolution and was the inevitable outcome of all the past changes. He protested against the introduction of Mr. Carnegie’s name, as the matter of pensions was only a small part of a comprehensive case. But as it had been forced into the discussion he must confess that, while having no personal knowledge of Mr. Carnegie, he considered that such ideals as peace, heroism and education, to which that gentleman had devoted so much wealth, were essentially Christian. He then stated that the fears expressed as to the destruction of Queen’s Theological Faculty by the progress of the present movement seemed to him to be groundless. The proposal to remit the matter to the Presbyteries of the three central synods he regarded as unreasonable. The three central synods were an artificial group that had no standing in the charter. If the charter was to be taken literally the whole church was the corporation and the constituency. The attempt to limit Queen’s to the three synods showed that the phrase, the Presbyterian Church was the corporation, could not be taken absolutely. As to Dr. Campbell’s statement that the supporters of this movement contradicted themselves, saying that Queen’s was free and also that she was hampered, he pointed out that the contradiction was in the actual circumstances, because the life of the university had outgrown the terms of the charter. The changes proposed were in the dead parchment rather than in the real life. If it was proved that the interests of a thousand students demanded reorganization within the university, he did not think that the Theological College with its thirty students could stand in the way.

Mr. Drysdale, of Montreal, thought that Mr. Carnegie had a very good theology, viz., that of doing justice and loving mercy. He declared that the tendency was to nationalize all progressive educational institutions. He characterized the statement of Rev. Dr. Campbell, that the corporation of the university extended from ocean to ocean, as bunkum. Members of the church had no real control of Queen’s University.
Mr. J. K. Macdonald, of Toronto, said that he thought there were difficulties facing the university and the Assembly should cooperate in seeking to remove them. He would be glad if the university could be retained, but the interests of the university should receive the first consideration.

Mr. G. M. Macdonnell, K.C., to quote the Globe report, regarded the proposed changes as the first step towards the separation of Queen’s University from the church. He denied that the senate and trustees were a unit in favor of the changes, and maintained that the attitude of the Church towards the university was clearly defined in 1903. “They call this evolution,” he exclaimed, “this proposal to cut off the university from the source of her past strength. What is nationalization?” asked Mr. Macdonnell. “Will anybody tell us?”

A commissioner—Making a united Canada.

“We are to make a united Canada,” replied Mr. Macdonnell, “by cutting us off from the things we have loved for the past sixty years.” The charter had been described as a dead parchment, but the charter declared that the university was founded “for instruction in the Christian religion and in arts.” (Loud applause.) “Evolution,” said Mr. Macdonnell, with a sweep of his hand—"you cannot say, 'Come now, brethren, let us evolute.'” (Loud laughter.) He did not think the Assembly ought to unload the responsibility of determining the destiny of Queen’s University upon any commission. But if they were to appoint a commission, that commission should have instructions, and they ought to reaffirm the position of the church, made clear at Vancouver, that Queen’s University must stay with the church.

He would not object to the Principalship being opened up nor would he insist upon an overwhelming majority of Presbyterians on the Board of Trustees, but he would not be content to have a corporation composed of graduates and benefactors. If the university were nationalized the benefactors would disappear, and as for the graduates, their power would be limited, and the control of the university would be left in the hands of a Board of Trustees. Some Toronto graduates had written to him, “Hold arts and theology.” The church must hold what it had held for sixty-eight years. They could build up other faculties and group them as they pleased, but let them stand by arts and theology. He proposed the following amendment:

“The Assembly, while reaffirming the resolutions of 1904 and
1908, as requested by the trustees, appoint a commission to consider in co-operation with them whether it would be advisable to limit the relation now subsisting between the church and the university to the departments of arts and theology, and to provide that the other departments now or hereafter existing may be otherwise constituted, such commission to report to the next Assembly."

The following extract from the Hamilton Times will show that Mr. Macdonnell created a powerful impression on the minds of the reporters and of his hearers. He certainly threw his whole weight into the opposition to the Principal's resolution, and some phrases used by the present reporter were made the subject of effective satire. Of course, I think that even arguments of that nature can be answered, but the present statement is not the place for it:

Mr. G. M. Macdonnell, K.C., of Kingston, had passed a restless hour. He had a humble seat in the synagogue among a few tired commissioners, due to the heat of the day and the long journeys to the Assembly. But this nervous organism, as strange and rich a piece of nature as one will see in a "day's march," was not asleep. It is said that great occasions are rather his delight. To see him quiet in his seat there is a strong resemblance to the late Principal Caven, but he is not often at rest. He is a "fighter," and had grace not won him for the good fight of the Christian, he would have been "terrible." On the platform he only really begins to speak when some sharp wit is foolish enough to heckle him. Then look out; the challenge goes like a flash, his intense soul springs to the line, and a bonnier knight seldom gave more gallant battle. "They call it development or evolution—both bad terms. I shall use another, environment. Even this does not suit my friend Dr. Sedgwick, and I shall use a fourth, "spiritual atmosphere." Did this charter not have something to do in making the spiritual atmosphere of Queen's? See our arts and science and medicine, under a charter which says such and such shall be members of the Presbyterian Church. Was there no spiritual atmosphere? And has a dead parchment created this?"

For several minutes the whole house gave round after round of applause. The speaker was too serious to notice that he had "made a great hit," but twisted and side-stepped to carry on the fight. "And to throw all this away for a united Canada! The things we have loved for sixty years to go with a wave of the hand because some gentlemen say, Come now, brethren, we must evolve!"

President Forrest, of Dalhousie University, in an energetic speech supported the resolution. He maintained that Presbyterians had always been opposed to denominationalism in education. He made some interesting statements regarding his own university, showing that Dalhousie had remained in full sympathy with the Presbyterian Church while free from direct church control.

Professor Perry, of Winnipeg, defended his phrase, "a united Canada," against Mr. Macdonnell's attack, maintaining that denominational universities meant a divided Canada.

When Professor Dyde rose to second the amendment the hour
of adjournment had come, so he had to defer his speech until Friday morning. In a forceful speech, which I present in the *Presbyterian's* report, he seconded Mr. Macdonnell's amendment, the mover having agreed to eliminate the specific suggestion that the church should retain simply the Arts and Theological departments. The amendment thus consisted simply in the words, "whilst reaffirming its resolutions of 1904 and 1908." In supporting the amendment, Professor Dyde referred first to the suggestion that the new departure was both a natural development for Queen's and a return to the ground taken by Principal Grant. He said that Principal Grant did not regard separation as the natural development of Queen's; he viewed it with pain but accepted it as a practical solution of the financial difficulty in order to obtain Government aid. Only under grim necessity would Principal Grant have consented to the separation of Arts and Theology. At that time it was understood that the Assembly disclaimed responsibility for the support of the university. But the Assembly changed its attitude at Vancouver. The church has declared its sympathy. Continuing, Professor Dyde pointed out that the Provincial Government is now supporting the School of Mines, the Faculty of Education, and, to some extent, the Faculty of Medicine. There is no danger of these becoming a burden on the church, and by their support the Arts department is assisted. It is not correct to say that the church must sever the connection or take the responsibility for the support of a modern university. The constitutional tie with the church should not be severed. The vital connection is there, and if that is severed, the spiritual connection will gradually die out. As to the endowment, Professor Dyde said that he found it difficult to speak temperately about the position in which the endowment fund had been placed by the present agitation. The workers for the fund believe that the endowment can be raised, though it has been unfortunately arrested. *Queen's* will not be less national in the truest sense if the Presbyterian tie is retained.

Dr. Dyde was followed by Dr. J. Pringle, a Queen's graduate, who is well known throughout the land on account of his missionary work in the Yukon. He delivered what may be called a breezy speech on the other side. He spoke as a Queen's man who matriculated as far back as 1871. He differed from Messrs. Macdonnell and Dyde in that he maintained that the resolution before the house did not necessarily involve separation. At the same time he believed in the nationalization of Queen's University; for consistent Presbyterians there is no real stopping place short of this. How can we
raise our voice against separate schools if we declare that the second university in the Province of Ontario must be kept under direct church control: Dr. Dyde makes his statements clear enough, but he does not seem to see in what direction they should lead him. He could not follow Dr. Dyde in this matter as the resolution displayed a spirit of distrust in relation to the Senate and Trustees. He dealt with the relation of the School of Mining to the University and said that the help now received would enable the aid now given it by the province to be regulated in a more straightforward manner.

The Rev. J. Rollins, of London, described the movement to cut the denominational tie between Queen's and the church as a movement not towards nationalization, but towards provincialization. He pointed out that the Western University made some claims which the Ontario Government did not seem to be in a hurry to recognise.

Principal Patrick, of Winnipeg, now came on the scene and showed his statesmanship in the way in which he kept himself to the actual resolution before the house. This speaker was quite prepared to vote for a resolution which would have committed the Assembly to the principle of removing "the denominational restrictions," and he believed that such a motion could have been carried, but he confined himself to a loyal support of the resolution presented by the Principal, as the important point was to have any motion adopted by the Assembly carried by as large a majority as possible. On the ground that "if we love Queen's and desire to promote its interests the more deliberate our action the better, and the motion makes for deliberation," the motion hands over the subject untrammeled to the commission. The Assembly has not heard the specific statement of the Senate and the Trustees and, as Dr. Pringle said, the amendment shows distrust of these bodies and also distrust of the commission. The amendment also gives an interpretation of the action of previous Assemblies which he was not prepared to accept. The Trustees would be quite justified in refusing to accept and confer with a commission sen: to it in such a crippled condition.

Dr. Patrick could "debate" if he wished to do so, that is, if debating means a clever twisting of an opponent's argument so that he cannot recognise it: but in this case he simply made a quiet statement that was perfectly clear and dignified.

The time had now come, about noon on Friday, for the Principal to sum up the discussion. This he did with brevity, strength and dignity. He gracefully accepted Dr. Dyde's compliments, but would have been glad if the professor had omitted the phrase, in
speaking of the endowment movement, that he had been wounded in the back in the house of his friends, a charge he had not expected from such a quarter. By maintenance he had simply referred to the maintenance of the Arts department. Some thought that the Assembly might here and now commit itself to the principle of maintenance of Arts. Even this, however, seemed to be a responsibility that the church was not prepared to undertake. He cited the cases of Princeton and Dalhousie as those of universities that had continued to maintain a living connection with the churches to which they owed their origin, without any legal bond. Hence he could not agree with Professor Dyde that the constitutional is the vital bond.

The brief reply was closed with an effective rejoinder to one of Dr. Dyde's points. The Principal in his opening speech referred to the relation between Canada and the motherland, and showed that real loyalty had increased in proportion as the strict legal ties were released. To this Professor Dyde replied that the Principal ought to have taken his illustration from the case of the United States; the present demand for separation had its analogy there rather than in the Canadian relations to the empire. The Principal was in the fortunate position of having the right of reply, and he turned the argument very deftly by declaring that if in the time of strain between Britain and her American colonies British statesmen in charge of affairs had shown more wise conciliation, we might to-day have had closer union between the United States and Britain exerting its influence towards peace and the higher life of humanity.

Under the influence of this happy illustration we went to the vote, and the amendment was defeated by 143 votes to 65, and immediately thereafter the original resolution was carried nem con by 179 votes. Thus the matter is remitted to a commission which consists of the following members:

The Very Rev. Dr. Lyle, Moderator, Hamilton; Rev. Dr. John MacMillan, Halifax; Rev. Dr. T. C. Jack, North Sydney; Rev. Dr. Barclay, Montreal; Rev. A. T. Love, Quebec; Rev. Dr. Ephraim Scott, Montreal; Rev. Dr. Ramsay, Ottawa; Rev. J. H. Turnbull, Ottawa; Rev. C. H. Daly, Almonte; Rev. J. D. Boyd, Kingston; Rev. James Binnie, Tweed; Rev. D. W. Best, Beaverton; Rev. James Wallace, Lindsay; Rev. Dr. D. McTavish, Toronto; Rev. D. Strachan, Toronto; Rev. Dr. McLeod, Barrie; Rev. J. J. Wright, Elk Lake; Rev. Dr. W. Farquharson, Durham; Rev. Dr. James Ross, London; Rev. J. Edmison, Kincardine; Rev. Dr. Charles W. Gordon, Winnipeg; Rev. Dr. J. A. Carmichael, Winnipeg; Rev.
CURRENT EVENTS.

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Some imperfections in the report will doubtless arise from the fact that it had to be written hurriedly under distracting circumstances. Quotations from various journals I have inserted deliberately so as to show in a partial manner the impression made on the press. I have tried to make the report fair though I have not attempted to hide my own views, which have been formed after careful deliberation, and which I am prepared to defend. Trusting that any future discussion may be kept at the same high level as that shown in Hamilton Assembly, I close with an appropriate quotation from the Toronto World:

It is unlikely that a careful report by a competent commission, after a full consideration of all the circumstances involved, will be set aside by the General Assembly of the Presbyterian Church next year. The resolution to refer the status of Queen's University to a commission must, therefore, be regarded as a wise and practical one. It removes many vexed issues from an arena which, even though distinguished, as few are, for its moderation and calm sense, is not adapted for the examination and discussion of such detail as the university problem involves.

There will be no question of the trust and confidence reposed in the commission, nor of the faithfulness with which it will observe the responsibility laid upon it.

Great things depend upon the universities of Canada, and among them Queen's stands in a place of special eminence, inspired as it is with the ideals of an historic church, whose standards of upright dealing, high-minded and magnanimous thinking, and spiritual stability, have happily tinctured Canadian character.

The union of such characteristics with the high types of scholarship associated with the traditions of Queen's is something of national importance, and the preservation of these ideals evidently underlies the intentions of those responsible for the movement for expansion.

Those who hold the nationality of Canada dear will rejoice at the existence of so strong and effective a factor in the national life as that evidenced by the determined and progressive scholarship cultivated by Grant and now fostered by Gordon.

W. G. JORDAN.

London, Ont.
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Age Requirements for Professional Training.

“In pursuance of its policy of improving the qualifications of the teachers, the Department of Education will hereafter exact a higher standard of answering at the examinations for entrance into the Faculties of Education and into the Normal and Model Schools. The age for admission into the Faculties of Education and the Normal Schools will also be raised one year in each case. Beginning with the session 1909-1910, each candidate for a teacher’s certificate shall be at least eighteen before entering a Normal School and at least nineteen before entering either of the Faculties of Education.”

In accordance with this announcement, an applicant for admission to a Faculty of Education must be nineteen years of age on or before September first; for admission to a Normal School, eighteen years of age on or before September first; and for admission to a Model School, eighteen years of age on or before December thirty-first.

It must be understood that no deviation from the foregoing rule will be allowed in any case.

School Principals and Inspectors are requested to give due publicity to the provisions.

Examination Papers of the Education Department of Ontario can be ordered from The Carswell Company, 30 Adelaide Street East, Toronto.
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