board officials and employees and members of local boards of health. Five or six meetings a year will be held for the presentation and discussion of papers. Most of the prominent health board officials of the state have expressed themselves as strongly in favor of the association, which promises to grow rapidly in membership and influence.

UNIVERSITY AND EDUCATIONAL NEWS

By the will of Ernest V. Cowell, the University of California receives a bequest of $750,000. It is for a hospital, a gymnasium and an athletic stadium, each to cost $250,000.

The Nebraska legislature has passed a bill, which the governor has signed, appropriating $100,000 with which to begin the development of the campus of the College of Medicine of the university, in Omaha. The issue presented in the legislature was whether or not the state was ready to begin the development of a complete medical college plant, and the decision was affirmative, by a narrow margin in the house and by a wide margin in the senate.

Dr. Elmer Ellsworth Brown, U. S. Commissioner of Education, has been elected chancellor of New York University.

Bruce Payne, Ph.D. (Columbia, 1905), professor of educational psychology in the University of Virginia, has been appointed president of the George Peabody College for Teachers at Nashville. The old Peabody College has been disbanded and President Payne will have a free field in constructing the new one, which is to have new grounds, buildings and faculty, and one million and a half additional endowment.

Professor H. H. Newman, chairman of the school of zoology, University of Texas, has resigned to accept an associate professorship of zoology at the University of Chicago. All appointments in zoology at Texas have been made and the details will be made public in a subsequent number of this Journal.

Dr. Clinton R. Stauffer, assistant professor of geology at the School of Mining, Kingston, Canada, has been appointed associate professor of geology in Western Reserve University.

Dr. J. J. Laub, of Heidelberg, has been appointed professor of theoretical physics and geophysics in the University of La Plata.

DISCUSSION AND CORRESPONDENCE

THE REFORM OF THE CALENDAR

To the Editor of Science: A recent letter by Professor Chamberlin in your journal entitled "Reform of the Calendar" has reinterested me in the subject and suggested the publication of another, and, it is hoped, more correct view of the subject. A perusal of the article "Calendar" in Encyclopædia Britannica will suggest arguments in its favor; as to recent articles on the subject, time and inclination are lacking for their reading and the risk is run of anticipation on conflict.

As the greater part of the eighteen folio pages in the Encyclopædia is under the head "Reformation of the Calendar" or treats of intricate peculiarities calling for reform, the legitimate effect of the article is the conclusion that what is needed and possible is not a reformation, but a

Simplification of the Calendar

Let us then state this as a problem and attempt a solution. The Encyclopædia's definition may be condensed to read "A calendar is a method of meting out time into hours, days, etc., for ordinary use." It is therefore a table of measures which establishes certain units of time and defines the relations between them, and this must be so done as to facilitate the transaction of business.

A fortunate solution must depend largely on the units employed and Professor Woolhouse gives, as he must, the *solar day* and the *solar year* as two natural and indispensable units, mentioning later the *month* as a natural but not indispensable one. Owing to these units being natural, they are incommensurable and simplicity requires the smallest possible number of such units. It would therefore seem advisable to exclude the month from any controlling influence in the calendar.

Let us see how this will look in a more definite and practical form.

Suppose that SCIENCE should found the

Calendar Betterment Association

to spread information and enlist interest and influence sufficient to secure the passage of a law something as follows; similar action to be urged in other countries:

It is hereby enacted that the *calendar year* 1917 shall end and the *new-calendar year* 1918 shall begin at midnight of the thirtieth day of December, 1917.

That a *new calendar* is hereby established requiring:

That the years 1918 to 1924, inclusive, shall consist of fifty-two weeks of seven days each, thus giving these years the uniform length of 364 days.

That during these seven years the twelve months shall be recognized in their customary order and grouped in the usual four seasons, but with a length of thirty days each for the first two months and thirty-one days for the last month of each quarter. Each first month of a quarter will then begin with Monday, the second with Wednesday and the last with Friday, and all thirty-first days will fall on Sunday.

That the dates in existing legal papers, or future ones which may mention months, shall apply to the months of the new calendar, in which the first days of January, February, June, August, September and November will take the place of the suppressed thirty-first days of the preceding months.

That the dates in all legal papers made under this new calendar shall be expressed by stating the day of the week, the number of the week and the year, the weeks being numbered in succession from the beginning thereof and the days of the week from one to seven, or named as usual, from Monday, the first day, to Sunday, the last. When the date is expressed in fractional form the numerator shall be the number, or name, of the day and the denominator that of the week, thus: the first Tuesday in 1918 will be 2/1 1918 or Tu/1 1918, and the last Saturday 6/52 1918 or Sa/52 1918, and the date may be underscored when confusion might occur with an old calendar date. For relatively unimportant purposes these dates may be written thus: 20118 and 65218.

That during the *common years* previous to 1925 the necessary adaptations of business procedure to the occurrence of *long years* of 53 weeks each shall be made.

That as the year 1924 will end about the shortest day, and as certain of the calendar years must be lengthened to make their average the natural length, the year 1925, and every fifth year thereafter, shall be a *long year* of 53 weeks, with the exception of the year 1950 and subsequent years divisible by 50, which shall be common years.

That for a still closer adjustment the years 1995, 2395, etc., at intervals of four hundred years shall be changed back to common years of 52 weeks each.

That no further adjustment is to be anticipated for 25,000 years.

That after 1/1 1925 all legal and business documents shall be dated by the day, week and year, and periods of time shall be stated in days, weeks and years, and that so stated a year shall be held to mean 52 weeks, and that when a year of 53 weeks is intended it must so be stated or the term "*long year*" used.

It was my first intention to write a criticism of the calendar proposed in the letter referred to, but on a visit to an old friend shortly after its publication we discussed it and also my system, which he urged me to put in print. From the point of view of the writer of the letter, which my friend somewhat favored, the calendar he proposes has much to recommend it. It is certainly picturesque, too much so for business purposes, but not enough for ecclesiastical. If the definition of a calendar could be changed to make it a piece of tapestry to decorate the seasons, it might be acceptable in America with publishers of calendars and others on the ground that people here are too practical and lack in artistic feeling, and need something of the kind to educate them to appreciate the beauties of the church calendars, but business people want a plain calendar.

After writing the above an accidental opening of your issue of December 23 shows me a similar proposition for correction by weeks from the University of Illinois, where for some years astronomy was in my charge, but the arrangements proposed bring to mind a passage in the Encylopædia which says: "The difficulties that arose in attempting to" adjust differences "induced some nations to abandon the moon altogether." Wise nations! To the escaping Hebrews the moonlight was all-important, but if we were to run away we should most likely depend on artificial light and may safely abandon the moon.

A discussion in detail of the feasibility of the correction by weeks would be too long for a single letter. My hope is that it may be exhaustively criticized and prove to be the easiest way. One five-yearly correction large enough to be intelligently provided for ought to be better than numerous small and confusing irregularities.

Comparatively such a correction is not large. For the sake of uniformity we now have "standard time" varying as much as two per cent. from local time, local noon varying as much as one per cent. from astronomical, and we have months differing in length by ten per cent., with similarly large differences between the calendars of different nations. The proposed correction is less than two per cent.

Some of the details have been worked out in tabular form to the year 2006 and further, but this letter is long enough without the insertion of tables. The general effect of the proposed calendar on New Year's Day is to shift it towards the shortest day of the year, but by 1946 and 1991 it has returned to its present place; after 1991, however, it creeps back more permanently so as to remain among the shortest days of the year.

J. Burkitt Webb

To the Editor of Science: If calendar reform is going to be a subject of discussion in scientific circles, international conferences, etc., it would be well to bear in mind that any radical change will be a great inconvenience to the business world. I agree with Professor Barton[1] that the disadvantages of Professor Chamberlin's scheme outweigh its advantages.

We can not have an ideal calendar for the reason that 365 is not exactly divisible by 12, 10 or 8. The year has been divided into twelve months for thousands of years, and it is as satisfactory a division as can be made, especially since the twelve months are divisible into four quarters. The chief objection to the present calendar is that February has only 28 days. This can easily be changed by giving it 30, and taking the two days from some of the months that now have 31. I suggest the following:

Five months of 31 days: December, January, June, July, August—155 days.

Seven months of 30 days: February, March, April, May, September, October, November—210 days.

February may be given 31 days in leap year.

December, January and July each have now a national or general holiday. We can shift Memorial Day to June and Labor Day to the last working day in August, so that each month of 31 days would have a holiday in it.

Wm. Kent

The movement for the reform of the calendar has just made new progress. We learn from M. Grosclaude, inventor of the chief project, and also by official confirmation through the newspapers, that the Swiss Federal Council has decided to initiate the calling of an international conference, whose purpose will be the reform of the Gregorian calendar, in order to obviate the inconvenience caused by the changing of the weeks in the year, which brings the school holidays at different times each year.

The Vatican has been consulted and would be in favor of the reform, which would remove the necessity for changing the date of Easter every year.

The reform to be discussed will be based on the project of Grosclaude, which has already been explained in these columns, and which was recommended by the first congress of the Universal Esperanto Association last August.

It is therefore to be hoped that soon this important reform will be on the way to realization.

[1] Science, January 13.

If the Swiss government had not taken the initiative in the matter, the government of the Netherlands was and is yet willing to call a conference for the same purpose.

During the past few months SCIENCE has devoted a great deal of space to the above subject, and several well-developed schemes for improving the calendar have been advanced. However, none of these schemes has been complete, and none of the authors of them has presented with his scheme a plan by which it could be introduced.

The above quotation is a translation from Esperanto of a news item which appeared in the issue for December 5, 1910, of the official organ of the Universal Esperanto Association, published at Geneva, Switzerland. It speaks of a scheme for improvement of the calendar that has been under discussion in Europe for more than twenty-five years, but which, strange to say, has never been published in this country. This plan was originally published anonymously by Camille Flammarian in 1884 and afterwards by M. Armelin, of Paris, in 1887. In 1900 it was revived by L. A. Grosclaude, of Geneva, and it is known as Grosclaude's project. It has been developed to its present stage by scientists of various nations in the *Internacia Scienca Revuo,* published in Dresden, by means of the language Esperanto. In the recent discussion the original plan has been slightly modified in accordance with ideas advanced by Professor Dr. W. Koppen, of Hamburg; and the scheme as here presented is now advocated and supported by Dr. Rene de Saussure, a well-known scientist of Geneva.

As will be seen from the following explanation and the accompanying table, the compilers of this scheme have achieved a wonderful simplification of the Gregorian calendar, which can be introduced with absolutely no break in present dates and no interruption of present customs.

There are just three great evils in the present calendar, and these are: (1) The constant changing of the position of the weeks in the year, (2) the great irregularity and inequality of the lengths of the months, (3) the necessity for movable holidays on account of the changing of the weeks each year.

As the third evil is caused by the first, there are really only two points which need to be changed in the present calendar. These are: (1) To fix the weeks in the year, and (2) to even up the lengths of the months.

As there is just one day more than fifty-two full weeks in an ordinary calendar year, the obvious solution of the problem of the changing weeks is to make this day a non-week-day. Having done this, the fifty-two weeks may be divided into four quarters of thirteen weeks each. As each quarter has ninety-one days, it may be divided into three months—one of thirty-one days, and two of thirty days. A little calculation demonstrates that the logical place for the thirty-one day month is at the beginning of the quarter, as this arrangement makes it unnecessary to change the length of more than five of the months; the other seven months remaining exactly as at present.

By placing the non-week day at the end of the year, it may be made the thirty-first of December, thus remaining a part of the month and of the year, although not a part of any week.

As the thirty-first of December is St. Silvester's Day, and is celebrated quite extensively in some sections in Europe, it is proposed to call the non-week day *Silvester* and to make it the holiday, instead of January first as at present.

As the first day of the week is Sunday, each quarter must begin on Sunday in order to have thirteen complete weeks in each quarter. January first would therefore fall on Sunday, and "Silvester" would come between Saturday and Sunday.

In leap years, the leap-year day would also be made a non-week day and would be placed at the end of the first half-year, thus becoming the thirty-first of June, and giving the first half year the same number of days as the second half. It is proposed to call it *Leap-year Day.*

This plan makes a peculiarly happy disposition of the holidays, movable, as well as fixed, as may be seen by the accompanying

table of fixed dates. It combines all the best points of the proposals that have been published in these columns, and avoids their bad points.

The plan for its adoption has all the simplicity that usually accompanies really good things and is as follows:

In the year 1911, the days of the week in the months of September, October, November and December coincide with the arrangement in the proposed calendar. If, any time during the year 1911, the governments of the various nations will decide to declare the thirty-first of December of that year, and of all future years, a non-week-day, one half of the problem will have been solved. If they will then declare that during the year 1912, and all future years, the number of days in the five months February, March, April, May and August shall be changed in accordance with the accompanying table, the entire problem will have been solved.

As this is a perfectly simple, practical and conservative plan for overcoming difficulties that every one is obliged to contend with every day of his life, steps should be taken by those in a position to do so, to have the president authorized to appoint a commission to investigate the matter thoroughly, with authority to confer with the similar commissions to be appointed by other governments and by the Vatican, to the end that some such scheme shall be adopted.

The conditions necessary for the adoption of this scheme as outlined above will recur in 1917, and as it is hardly likely that any scheme can be agreed upon by December, 1911, we may look to that year to free us from the inconveniences under which we have suffered so long.

JOHN M. CLIFFORD, JR.

BRADDOCK, PA.

INVARIABLE TABLE OF DATES

For the Quarters

Days	Months															
	January April July October					February May August November					March June September December					
Sunday.....	1	8	15	22	29	...	5	12	19	26	...	3	10	17	24	
Monday....	2	9	16	23	30	...	6	13	20	27	...	4	11	18	25	
Tuesday....	3	10	17	24	31	...	7	14	21	28	...	5	12	19	26	
Wednesday	4	11	18	25	...	1	8	15	22	29	...	6	13	20	27	
Thursday...	5	12	19	26	...	2	9	16	23	30	...	7	14	21	28	
Friday.....	6	13	20	27	...	3	10	17	24	...	1	8	15	22	29	
Saturday...	7	14	21	28	...	4	11	18	25	...	2	9	16	23	30	
Non-week day[1]	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31

[1] Only in December of ordinary years and also in June of leap years.

QUOTATIONS

THE GOVERNMENT OF UNIVERSITIES

AMERICANS interested in the questions of university government will find much that is interesting and pertinent to our own situation in the admirable article on "Modern Universities and their Government" which is the leading feature of the London *Times's* educational supplement for April 4. We are very much in the habit of thinking of our universities, with ultimate power over the institution resting in the lay boards of trustees, as being in this respect quite unlike any other educational institutions of similar importance; and this is natural enough, since the half-dozen new universities that have been established in the chief provincial cities of England, and which are probably their only important analogues, are of such recent origin as to be seldom prominently in our thoughts in this connection. It is the government of these new universities, and especially the methods and the spirit of their procedure in the appointment of professors, that constitute the subject of the *Times* article; a subject justifying the extreme seriousness with which it is discussed because the universities in question are expanding with such rapidity that they "have to a large extent the future of English learning in their hands."

Both the resemblances and the differences that suggest themselves, as between the American and the English experience, are of decided interest. Into the details of the English organization we shall not attempt to enter; suffice it to say that the active governing authority of the university, corresponding to our board of trustees, is what is known as the council; and while this council is not nominally self-electing or self-renewing, in practise it is so. Perhaps the most interesting state-