TRANSACTIONS OF THE CANADIAN INSTITUTE. [Vol. 1].

the remarkable attribute that it can be measured with the nicest precision.

If we accept the cardinal idea running through this definition that *there is one time only* we will find ourselves on solid ground, and we may proceed to build up on the fundamental principles of unity and unbroken continuity a scheme of reckoning to meet all reasonable demands which may be made upon it, in this and succeeding generations. The problem would be easier of solution were there no existing customs to overcome, and we had to begin *dc novo* to establish the best means of accomplishing the desired purpose.

As we are circumstanced in the world's history, we have to accommodate the reform of to-day to such of our inherited usages as are not at variance with essential principles, or do not materially affect their application. If, for example, circumstances admitted, we might with advantage introduce the decimal system as a notation to be followed, but we already use the duodecimal combined with the sexagesimal division, and force of habit seems to require, that we should, as far as possible, adhere to the existing system in this respect, at least so far as it is not at variance with sound principles and the general convenience. It is obviously indispensible that we should refrain from any meddlesome interference with confirmed usages, or suggest changes not manifestly called for.

The advance of civilization during the past half century has produced entirely new conditions in human life. Steam and electricity applied to communication by sea and land have done much to obliterate distance, and bring all nations, so to speak, within one neighborhood. Through force of circumstances, therefore, we are obliged to take a comprehensive view of the entire globe in considering the question of time-reckoning. It is no longer possible to limit the subject to a narrow and sectional aspect. The progress of the age demands that we should not confine our view to one limited horizon, to one country or to one continent. The problem presented for solution to the people of both hemispheres is to secure a measurement of the one universal passage of time common to all, which shall be based on data so incontrovertible, and on principles so sound, as to obtain the acceptance of the generations which are to follow us.

To effect any measurement there are two essentials; first, a starting point or zero; second, a scale or a unit of measurement. The Washington Conference of 1884 has determined both a zero and a unit. The zero is the instant of mean solar passage on the anti-prime meridian

## 134