## SANDFORD FLEMING ON TIME

the time of each zone varies exactly one hour from that of the adjoining zones. Thus all the variations of time which formerly were limited only by the number of towns and cities and localities which obser ed their own local time, are reduced to the five zones. Only at points where the zones come in contact is there any exception to the common satisfaction which has resulted from the change. These are the only localities where we find the old time difficulties, now so happily removed from every other section of the Continent. At such localities the difficulties must continue to be felt until Cosmic Time comes into general use, for it is the one remedy which can satisfy every requirement.

The Standard Hour system is an effective preliminary means for the introduction of universal time, and it is not confined to North America. In Sweden as well as Great Britain the principle is in common use. The Standard time of Sweden is based on the meridian fifteen degrees east of the prime meridian, consequently an hour in advance of the Prime Meridian time. The time c Great Britain is that of the prime meridian itself.

The scheme of hour meridians can only be regarded as a provisional arrangement. It greatly lessens the difficulties experienced, but it does not wholly remove them. It is, however, an important practical step towards the general unification of time as it brings the minutes and seconds into complete agreement with the world's time wherever the system is adopted. The Astronomer Royal of Great Britain calls particular attention to the breadth of view evidenced by the managers of the American railways who were so largely instrumental in having this important step taken. "By adopting a national meridian as the basis of their time-system, they might have rendered impracticable the idea of a universal time to be used by Europe as well as America. But they rose above national jealousies and decided to have their time-reckoning based on the meridian which was likely to suit the convenience of the greatest number, thus doing their utmost to promote uniformity of time throughout the world by setting an example of the sacrifice of human susceptibilities to general expediency."

There is one feature of time-reform alluded to by President Arthur in his message to Congress which promises before long to be accepted by the community. I refer to the proposal to count the hours from zero to twenty-four. The recent report of the special committee on Standard Time of the American Society of Civil Engineers (January, 1886) thus alludes to this branch of the subject :—

"This feature has the authority of the International Conference for its introduction. In intelligent circles in Europe, particularly in England and in Russia, also at the antipodes in Australia, the proposal is reported to have been greeted with enthusiasm. The Astronomer Royal of England, Mr. Christie, has established at Greenwich Observatory a division of the great dial into 24 hours. In London and in other cities, public clocks have been also changed to accustom the English public to this division of the day. Some newspapers in all their annoucements adopt the change, and scientific societies give notice of their meetings in the same manner as this Society, according to the 24-hour system.

"On this Continent there has been no uncertain sound. In the last annual report of the Committee it was stated that 171 managers of railways in the United States and Canada had declared their readiness to abandon the division of the day into half-days, known as *ants* and *post* meridian, and to accept the numeration of the hours in one series, from midnight to midnight,—these managers having under their control some 60,000 miles of railway.