## 1890.91.]

which is 180° from the meridian of Greenwich. The unit is the smallest and most available measure of time which nature presents to us; the period occupied by a single rotation of the earth on its axis, and is denoted by two successive solar passages on the zero meridian.

The "universal day," as defined by the Washington Conference, is actually the time unit, but the term "day" is unfortunate and misleading.\* A "day" is always as a ciated with sunlight and darkness, and is in fact a local and superficial phenomenon. Every separate meridian which can be laid down on the surface of the globe has its definite day with the accompanying and distinct sun-rise and sun-set in each case. It is important to disassociate the normal unit, the standard measure of time for the world, from our ordinary conception of the day. In order to do so and make clear the fundamental idea of unity of reckoning, it will answer our purpose to find a point of reference equally related to the whole globe. The centre of the earth is this one point identical in relation to every spot on the surface. If we could directly communicate with a standard chronometer at the centre to regulate clocks in all latitudes we would have the means of obtaining the perfect unification of time-recl:oning the world over. Is there no other point where we could establish a common standard? Is not the axis of rotation which passes through the earth's centre common to the whole earth, and would not any point on this axis furnish the position we are in search of? Let us accordingly take one extremity of the axis, the north pole, and in imagination place ourselves in observation at this point, free from local influences. We would find no sunrise, no sun-set, neither east nor west, every radius of direction would be identical. We would have nothing given but the position of the meridian establishing the time-zero; from this starting point suppose we divide the horizon into a series of arcs, each of fifteen degrees, making the total number of arcs twenty-four, and through the end of each arc we draw a meridian. The passage of the sun over the zero meridian will indicate the commencement of the time-unit which, according to the usage of centuries, and the decision of the Washington Conference, is divided into twenty-four hours. At the end of the first hour the sun will be over a meridian which may appropriately be termed the first hour meridian; at the end of the second hour the solar passage will have advanced to another meridian, which may be distinguished as the

<sup>\*</sup> The question of a proper name for the "time unit" has been considered by the Royal Society of Canada at its May meetings in 1890 and 1891. A time nomenclature committee has been appointed and some progress has been made in this, as well as the question of distinguishing the hour meridians.