

## DECIMALIZATION OF THE DAY.

If the commission on the decimal hour has not given a complete solution of this important question, the reason for it must be looked for in the very legitimate fear that it has had of imposing upon the public a new division of the time, a new value for each fraction of the time, and a new face for all the timepieces now in use.

In order to avoid an abrupt transition in the habits of routine of the public, there is quite a simple method to be employed, and that consists, as shown in Figs. 1 and 2, in providing watches with two faces, one giving



Fig. 1.—WATCH WITH SEXAGESIMAL DIVISIONS.



Fig. 2.—WATCH WITH DECIMAL DIVISIONS.

the present sexagesimal time (Fig. 1) and the other (Fig. 2) the decimal time. In this way, a person who carries a watch that gives both the divisions of the time will very easily get used to reading the two dials. There is but a single setting of the watch required, it being impossible to move the decimal hands without moving the sexagesimal ones also.

The four hands starting from midnight, the hour hand (Fig. 1) makes two revolutions of the dial in twenty-four hours, while the decimal hour hand (Fig. 2) makes one revolution a day of ten decimal hours.

In order to avoid too great a complication in the ordinary watches, the seconds hand is for the present suppressed in the decimal dial; but in the decimal instruments of great precision constructed by M. De Rey-Pailhade, the decimal seconds hand has been retained, and gives the  $\frac{1}{10000}$  of a day. Fig. 3 represents a decimal watch that once belonged to M. Saint-Just, one of the members of the National Convention.

We are indebted to La Nature for the engravings and article.

## THE REDWOOD FORESTS OF HUMBOLDT COUNTY, CALIFORNIA.

The accompanying illustration presents a typical scene in the celebrated redwood forests of Humboldt County, California, from which a 15-foot slab of wood was recently cut and shipped to London for manufac-

ture into the top of a dining room table. Humboldt County contains an almost unbroken belt of timber which runs parallel with the coast for one hundred miles and extends about eight miles inland. It has been estimated that the redwood forests cover 538,000 acres, of which about 40,500 acres have been cut down. The forests of redwood now standing are estimated to be capable of producing 100,000 feet of marketable lumber to the acre.

It is a fortunate peculiarity of the redwood forests that they are apparently imperishable, as far as the forces of nature are concerned. The stumps do not die, but send forth shoots which would in the course of time, if left alone, renew the forests. Moreover, the forests offer a stubborn resistance to the ravages of the forest fires which are so destructive of the timber in other parts of the Pacific Coast. The very wood itself burns sluggishly, even when it is dry, and the density of the forest growth, by shutting out the sun, retaining the moisture of the soil, and taking up and holding the dampness of the fogs and sea breezes, prevents the fire from taking hold of the underbrush. A fire will sweep through the pine or spruce belts which border the redwood forests, but it will fail to take any firm hold upon the latter. Even when the trees have fallen they appear to suffer no further deterioration than the loss of their bark. The composition of the timber is such that it seems to be almost entirely proof against the action of the elements. It is these enduring qualities among others that render these forests so especially valuable; since,

unlike those of fir and pine, they are not liable to be swept out of existence in a single conflagration.

The base of the tree in the illustration shows the way in which this monster, measuring 16 feet in diameter, was felled. The rough surface, on which the marks of the axe are plainly discernible, shows where the V-shaped cut was made by the axman, the smooth surface was made by the cross-cut saw, and the jagged strip across the center shows the remaining wood that was broken across as the tree bent to its fall.

## The Psychology of the Battlefield.

In a paper on the "Psychology of the Battlefield," read before the Royal United Service Institute, Mr. W. V. Herbert, late captain in the Turkish army, said: "The constituents of a body of fighting men, say a company of infantry, are: Absolute cowards and absolute heroes, an insignificant minority; average men, a vast majority. 'Absolute cowards' are men totally deficient in all such qualities as act on the battlefield as counterpoises to the fear of death natural to man: patriotism, piety, faith, pride, vanity, gratitude, loyalty to cause, king or country. 'Absolute heroes' are men who are ever ready to sacrifice their lives to an idea, whether right or erroneous. 'Average men' are men in whom the normal, natural and perfectly praiseworthy love of life can be overcome only

in certain exceptional conditions and chiefly by the superior will power of other men, i. e., leaders.

"Men incapable of being soldiers and dangerous on the battlefield (leaving out of the question self-evident cases, such as men addicted with and obnoxious by reason of notorious vices) are: Malcontents; men who have a grudge against the country. For out of these deserters, spies and traitors are formed. Degenerates—The conclusion which all specialists have arrived at is that degenerates (though they may be geniuses in certain arts and capital men of manual labor or handicraft) are incapable of performing duties for the doing of which a connected train of argument is requisite (for instance, sentry, observation, transmission of orders, command of others), since in them the 'current' between the conception of cause and effect is interrupted. In such men the perception of the senses, though in itself unimpaired, does not cause a corresponding image in the brain—that is, a defined idea. For instance, a 'degenerate' sentry will hear the noise of wheels, but be unable to argue therefrom that a vehicle is approaching. In every man—even in the

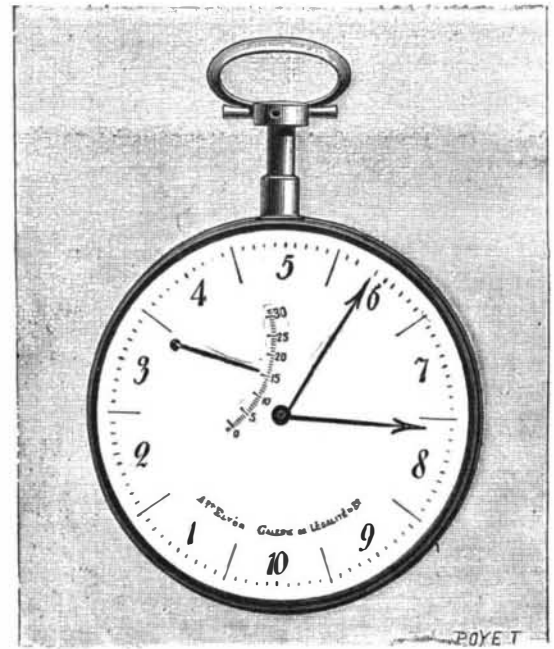


Fig. 3.—A DECIMAL WATCH.

fool—there are latent stupendous possibilities. The latent powers of men of resistance and endurance are enormous. The battlefield is the place, the immediate superiors (the company officers) are the persons, to bring them out. For this end drill books and works on tactics are of no avail, since these start from the mistaken basis that all men are always courageous and reliable.

"An officer who, in the turmoil and deviltry of battle, cannot bring his will to bear immediately and irresistibly upon the minds of those under him has failed in one of the elementary duties of his profession, and had far better embrace another, and less ambitious calling. Skobelev said that a position carried by attack can be held even if 75 per cent of the original attacking force have perished. Military history proves that such positions are abandoned when 25 per cent have succumbed. That is so because generally all the officers are among the slain and the incapacitated, and there is no will power left to guide the dormant will power of the survivors. How to provide for such an emergency is the business of those who have the organization of an army in their charge."—Army and Navy Journal.

THE Smithsonian Institution has come into possession of the Hallett Phillips collection of Indian implements and antiquities from the Potomac Valley. It is reputed the largest collection of its class in the world, and its value is enhanced greatly by the careful arrangement and record of individual specimens. The collection consists of over 20,000 pieces, principally spear and arrow heads, stone knives, hammers and scrapers, fragments of pottery, and soapstone utensils. Mr. Phillips made a long study of prehistoric man in the Atlantic tidewater region. In his opinion, Washington was not the first capital on the banks of the Potomac. He believed the site, owing to its great advantage in connection with stone quarries and the river fisheries, was the headquarters of the great Algonquin confederacy. The Phillips collection is said to be the best key in existence to the manners and habits of this vanished race, of which written history gives little information. Mr. Phillips was drowned recently in the Potomac. The collection passed to the custody of the Smithsonian Institution through the generosity of Mr. Thomas Lee, to whom it had been bequeathed.



A FALLEN GIANT IN THE REDWOOD FORESTS OF CALIFORNIA.