

CHRONOLOGY

Time Signals Help in Setting International Boundaries

RADIO TIME signals broadcast three times a day by the U. S. Naval Observatory through the naval radio station NAA, are useful for many things besides setting your clocks and watches. Speaking in a radio talk presented by Science Service through a nation-wide network of the Columbia Broadcasting System, Captain Frederick Hellweg, superintendent of the observatory, told of some of these uses.

"Do you know that mineralogists and geologists depend on the Naval Observatory's exact time to assist them in hunting for the vast oil deposits hidden away in the bowels of the earth?" he asked.

"Would you be surprised if I told you that scientists depend on the Naval Observatory's time signals in their investigations of gravity? Of course you all know that the navigators on ships at sea listen daily for our time signals in order to navigate their ships safely across all the seven seas.

"How many of you know that all the important boundary commissions which determine the boundary lines between nations, between states, and between communities are dependent for the establishment of their lines accurately upon the time signals broadcast from the Observatory. To show you how extensive is the use of our time signal—in 1921 the Observatory broadcast a special time signal upon the request of the Australian Boundary Commission, which was establishing the boundaries between the provinces in Australia. This last summer we were requested, and later thanked, by the Director of the Canadian Geodetic Survey, for our assistance in their boundary work between the provinces of Ontario and Manitoba."

"Here at the Observatory we use small telescopes, known as transit instruments, for observing the stars for time," Capt. Hellweg said. "These instruments, as their name indicates, are used only to catch the exact instant when the star passes across the celestial meridian. The celestial meridian is a line in the heavens which passes through the north and south points and also through the zenith of the place where you are situated.

"The exact time according to the

clock that the stars cross the meridian is very closely determined, and the difference between the time that the stars should cross the meridian and the times they are found to cross the meridian according to our clock, is the error of the clock. These errors are very accurately determined.

"Down in a vault, specially made, and maintained Summer and Winter at a uniform temperature and at a constant air pressure, are three standard sidereal clocks which keep the most accurate star time possible. These clocks are never reset or interfered with in any way except in the case of necessity for repairs. The actual rate of each clock is determined by checking up with the actual time the stars cross the meridian, and then by applying these corrections to the face time of the sidereal clock, we know the exact sidereal time, from which the ordinary time can be found."

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20 Points for Happy, Healthy Childhood

Formulated by the White House Conference on Child Health and Protection which met in Washington

Also See Page 339

"1. Every prospective mother should have suitable information, medical supervision during the prenatal period, competent care at confinement. Every mother should have post-natal medical supervision for herself and child.

"2. Every child should receive periodical health examinations before and during the school period including adolescence, by the family physician, or the school or other public physician, and such examination by specialists and such hospital care as its special needs may require.

"3. Every child should have regular dental examination and care.

"4. Every child should have instruction in schools in health and in safety from accidents, and every teacher should be trained in health programs.

"5. Every child should be protected from communicable diseases to which he might be exposed at home, in school or at play, and protected from impure milk and food.

"6. Every child should have proper sleeping rooms, diet, hours of sleep and play, and parents should receive expert information as to the needs of children of various ages as to these questions.

"7. Every child should attend a school

which has proper seating, lighting, ventilation and sanitation. For younger children, kindergartens and nursery schools should be provided to supplement home care.

"8. The school should be so organized as to discover and develop the special abilities of each child, and should assist in vocational guidance, for children, like men, succeed by the use of their strongest qualities and special interests.

"9. Every child should have some form of religious, moral and character training.

"10. Every child has a right to a place to play with adequate facilities therefor.

"11. With the expanding domain of the community's responsibilities for children, there should be provision for and supervision of recreation and entertainment.

"12. Every child should be protected against labor that stunts growth, either physical or mental, that limits education, that deprives children of the right of comradeship, of joy and play.

"13. Every child who is blind, deaf, crippled or otherwise physically handicapped should be given expert study and corrective treatment where there is the possibility of relief, and appropriate development or training. Children with subnormal or abnormal mental conditions should receive adequate study, protection, training and care.

"14. Every waif and orphan in need must be supported.

"15. Every child is entitled to the feeling that he has a home. The extension of the services in the community should supplement and not supplant parents.

"16. Children who habitually fail to meet normal standards of human behavior should be provided special care under the guidance of the school, the community health or welfare center or other agency for continued supervision or, if necessary, control.

"17. Where the child does not have these services, due to inadequate income of the family, then such services must be provided to him by the community.

"18. The rural child should have as satisfactory schooling, health protection and welfare facilities as the city child.

"19. In order that these minimum protections of health and welfare of children may be everywhere available, there should be a district, county or community organization for health education and welfare, with full-time officials, coordinating with a state-wide program which will be responsive to a nation-wide service of general information, statistics and scientific research. This should include:

- (a) Trained full time public health officials with public health nurses, sanitary inspection and laboratory workers.
- (b) Available hospital beds.
- (c) Full-time public welfare services for the relief and aid of children in special need from poverty or misfortune, for the protection of children from abuse, neglect, exploitation or moral hazard.
- (d) The development of voluntary organization of children for purposes of instruction, health and recreation through private effort and beneficence. When possible, existing agencies should be coordinated.

"20. Each child has the right to be understood."

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