

fications are planned which will significantly improve the performance of the telescope at shorter wavelengths. Full theoretical efficiency is hoped for in the 18 to 21 cm range, of particular importance in determining the distribution of hydrogen.

The United Kingdom Atomic Energy Authority has agreed to act as agents for the project. The AEA can be required by the Minister of Technology to work in fields outside atomic energy and has already been required to undertake research and development in the field of radio telescopes.

Slow Conversion

A MODERATE but welcome endorsement of SI units has now been handed down by the Units and Usage Committee of the US Bureau of Standards, which recommends a period of transition during which old and new systems can be used side by side. These recommendations are set out in the NBS *Technical Bulletin* for June 1968.

The committee recognizes two distinct uses of figures in NBS publications—descriptive data and essential data. Thus it would have authors write “the interferometer mirror mounted on a 1 inch rod (descriptive), was advanced in 10 nanometer increments (essential)”. During the transition period, the NBS says, descriptive data should be expressed in the most convenient way, and translation into SI units is not essential; the most appropriate units are those best understood by the expected readers. An author who uses non-SI units may, if he wishes, give SI units in parentheses.

With respect to essential units, the committee considers that results reported in scientific papers require more rigorous standards of units than results reported in technological papers. Thus, during the transition period, it recommends that in technological papers essential data be expressed in the units customarily used in the relevant branch of technology, with SI units given in parentheses or in parallel columns in tables. In graphs used as the primary means of presenting data, the coordinates should have a second set of markings in SI units. If graphs are used to indicate trends or are supplements to tables, SI units are not necessary. Authors are, however, recommended to use SI units for these data as soon as the extent of the use of this system in the appropriate branch of technology makes SI units an efficient means of communication.

In purely scientific papers, NBS authors will have to use SI units. Values in other units may be given in parentheses if the author feels that this will aid communication with the reader. Data which are used generally in both science and technology should be expressed in SI units with an indication of conversion factors into technological units, or with parallel columns of converted values. The committee stresses that these recommendations will apply only until the SI units have become familiar.

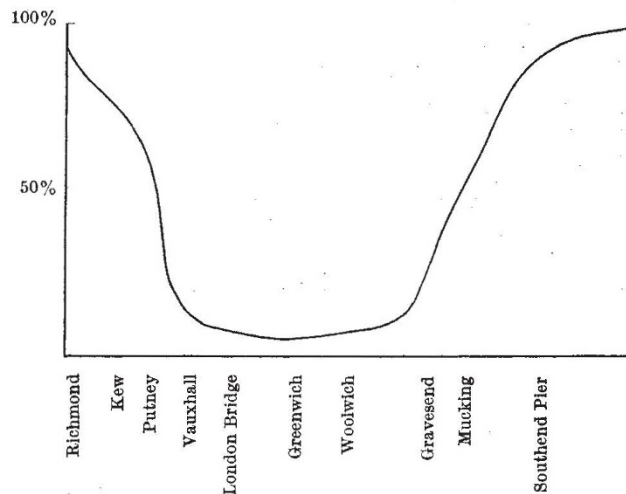
Poisoned Chelmer, Cleaner Thames

DEAD fish were found in the River Chelmer in Essex on the morning of June 29. On sampling the water, the Essex River Authority found cyanide at concentrations of 0.2 parts per million near the main intake of the Chelmsford Corporation's water works. By the evening of the same day, the authority had traced the

source of cyanide to a sewage works which discharged its effluent into the river. The cyanide apparently reached the sewage works from a plating factory, where it was presumably released by accident. The bacteria in the biological filters at the sewage works were killed, but their demise was not noticed until after that of the fish.

No less commendable than the speedy action of the Essex River Authority is the longer term effort of the Greater London Council to purify the Thames. The GLC is not so optimistic as to admit that the Thames has been getting cleaner every year, as indeed seems to be the case, but it does say that the pollution figures for 1967 represent yet another improvement and show the Thames to be cleaner than at any time during the past 70 years.

The index of pollution is the extent to which the water is saturated with dissolved oxygen. Water is deoxygenated by the bacterial breakdown of organic products in sewage effluent. Recent improvements in the purification plant at three of the GLC's main sewage works has had its effect on the oxygen sag curve, the variation of oxygen content with distance downstream. Until 1965, the percentage saturation has been about 70 per cent at Richmond, dropping to 5 per cent at Putney. During its passage through inner London, the Thames is virtually without oxygen;



Variation of oxygen content along the Thames as a percentage of saturation during July-September 1966.

saturation begins to climb only at Woolwich, nearly 20 river miles east of Putney. The sag curves for 1966 and 1967 represent a small but steady improvement. No one is more heartened at this turn of events than the fish, which last year allowed themselves to be caught as far downstream as Fulham Power Station. A carp and a roach were taken this year at Milbank, but these presumably had come down river at high tide and were not living in that stretch of the river from choice.

A century and a half ago, salmon were common in the Thames. In nostalgia for those days, a member of the House of Lords recently offered a considerable sum of money to the first person who could catch a salmon from Westminster Bridge. Oxygen saturation at this splendid site is about 10 per cent, whereas salmon probably require about 30 per cent to survive. Nor can salmon be expected in London until the upper reaches of the Thames are stocked with them. Much