found. Chromosome II, heterozygous for both inversions, was found in one of the cultures where both inversions of the *X*-chromosome had been detected. Consequently, in this culture a small number of larvæ with a normal chromosome set and individuals with combinations varying between normal chromosomes and inversions both in the *X*-chromosome and autosome II were observed; which phenomena may also take place in populations in Nature.

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June 21.

[1] NATURE, **137**, 1035 (1936).

The Teaching of Science in Schools

WITH much of what Mr. H. S. Shelton says on the subject of science teaching in schools, in his letter in NATURE of July 18, every teacher will agree. For example, closer association of prominent men of science with secondary education would be welcomed and would be most desirable. It is probable, too, that if another Committee were appointed, similar in constitution to that which sat in 1916–18 under the chairmanship of Sir J. J. Thomson, it would perform valuable service.

Unfortunately, however, Mr. Shelton includes in his letter a number of statements which may mislead those not closely in touch with what is happening. In the first place, it is inaccurate to say that the recent conference on general science represented a belated attempt to implement the (Thomson Committee) recommendation "That the science work . . . should include . . . some study of plant and animal life". The title given to the conference meant what it said and, as a matter of fact, far more schools include biology in their curriculum than Mr. Shelton probably recognizes. Before long, there will be few which do not.

Nor does the sub-committee appointed by the Science Masters' Association to consider the teaching of general science propose (as Mr. Shelton hints) to recommend a time-allowance of three hours per week. On the contrary, its members heartily endorse the original Thomson Committee recommendation that "the time given to science should be *not less* . . . than 6 periods". They would, indeed, prefer a more generous allowance than this.

Facts must, however, be faced: in many schools the recommendation has not been implemented. So that the report might prove useful to teachers in such schools, and so that it might not be merely an academic curiosity, the sub-committee has decided to work out two distinct syllabuses, of which the one to which Mr. Shelton refers is the less important.

When Mr. Shelton writes "If this proposal comes into being, we shall be back again in pre-scientific times", he seems to me guilty of pessimistic exaggeration. By "proposal", I suppose he means the publication of a syllabus, since no one proposes to recommend diminishing the time allowance given to science. It is very unlikely, after all, that the publication of a syllabus—explicitly stated as intended for schools giving a meagre time allowance to science—will encourage the more enlightened headmasters to curtail the time given to the subject in their own schools.

Lastly, I cannot subscribe to Mr. Shelton's statement that "The whole problem of the school time-table is now in hopeless confusion. No attempt is being made, for example, to correlate the mathematics and the science . . ." Confusion is, on the whole, less than it was and in many of the best schools a genuine attempt is being made to achieve some degree of correlation and to act on the recommendations of the various committees which have already considered the matter.

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Dissociation Energy of Diatomic Sulphur, Selenium and Tellurium Vapours

ON the basis of the spectroscopic data of Naudé and Christy[1], Montgomery and Kassel[2] have recently calculated F^0 values for S_2 and the dissociation constant for the equilibrium $S_2 = 2S$. Their log K values are smaller by nearly 3 units than the experimental data of Nernst and v. Wartenberg[3] at 2290° and 2350° K. Although these latter values may be somewhat erroneous, it seems highly probable that they give the right order of magnitude. The necessary corrections to Montgomery and Kassel's calculations according to the data on vibrational and rotational levels[4] cannot explain this difference.

However, if we assume that the products of predissociation of S_2 at $4{\cdot}41 + 0{\cdot}02$ v.[5] (Montgomery and Kassel have used the value 4·45 v.) are $S(^3P) + S(^1D)$ instead of two normal ^3P atoms, we get $D_{S_2} = 3{\cdot}28$ v. and the dissociation constant falls within the limit of error of Nernst and v. Wartenberg's measurements.

The dissociation measurements of Nernst and v. Wartenberg allow also of the calculation of the dissociation energy of Se_2 and Te_2, although the necessary spectroscopic data are not yet sufficient for a high degree of accuracy. The accompanying table summarizes the thermochemical and spectroscopic values of the dissociation energies. In the case of sulphur, the normal state of the molecule is a $^3\Sigma$ state[4], whereas in the case of Se_2 and Te_2 it is not certain whether it is a $^3\Sigma$ or a $^1\Sigma$ state. In the table, the first value corresponds to the former, the second value to the latter case.

Dissociation energy in electron-volt

	from spectroscopic data	from equilibrium data at 2350° K.
S_2	$4{\cdot}41 \pm 0{\cdot}02$ or $3{\cdot}28 \pm 0{\cdot}02$	3·2
Se_2	$3{\cdot}1 \pm 0{\cdot}2$[6]	2·7 or 3·1
Te_2	$2{\cdot}3 \pm 0{\cdot}2$[7]	2·0 or 2·4

With the value $D_{S_2} = 3{\cdot}28$ v., the equilibrium measurements for the three equilibria would be in good agreement; they would also be consistent with the spectroscopic data. If $D_{S_2} = 4{\cdot}41$ v. is correct, however, we would have to assume a very considerable error in Nernst and v. Wartenberg's measurements in the case of S_2, although the agreement is satisfactory for Se_2 and Te_2.

On the other hand, the value $D_{S_2} = 3{\cdot}28$ v. would mean that the dissociation products in the upper level of the main S_2-band system are not $^3P + {}^1D$ as in the analogous levels of O_2, Se_2 and Te_2, but probably $^3P + {}^1S$. Although there is spectroscopic