ditions as well as (1). The normal stress Y is 'equivalent' to the complex system.

Comparison of the measured strains with the theory showed that in the duralumin of the plate the stress-strain parameter P obeyed the relationship,

$$\frac{1}{P} = fY, \qquad (3)$$

with f of value $3{\cdot}57 \times 10^{-12}$ (psi)$^{-2}$. In the 1945 theory[2] P was taken as the slope of the simple tensile stress-strain curve at stress Y. Thus for duralumin in simple tension f is of value 172×10^{-12} (psi)$^{-2}$, and if this value is used in the theory would give the curve shown in the figure. It is important to note that this erroneous assumption is involved in all the recent theories in which the stress-strain parameters are assumed as functions of only octahedral shear stress[5,6].

The duralumin is 'stiffer' under the compression-tension stresses in the expanded plug test than it is under simple tensile stress. This led me to analyse tests by Davis[7] on thin-walled tubes under axial tension and internal pressure inducing tangential tension. Under the tension-tension stress loading the steel was 'less stiff' than under simple tension. Thus it appears that the strain change accompanying a stress change depends on the signs and magnitudes of the orthogonal stress components as well as on the equivalent normal or octahedral shear stress[8].

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Genetics of Style-Length in *Oxalis*

AMONG the tristylic plants which have attracted the attention of geneticists, without the genetic situation being fully elucidated, is *Oxalis valdiviensis*. Two years ago, work was started in this Department by setting out twelve short-styled plants for open pollination by long, as this method had proved successful in the case of *Lythrum salicaria*.

Of the twelve progenies grown in 1947, six threw no mid-styled plants, giving 363 *L* : 319 *S*. The remaining six families, which contained mids, gave 24 *L* : 329 *M* : 336 *S*, showing that the short parent was segregating for a factor for mid style-length, though not so as to give a 1 : 1 : 2 ratio, as with *Lythrum salicaria*.

This result suggested the possibility that the genes for short and mid were rather closely linked, with about 6·8 per cent recombination, and that the shorts used had been double heterozygotes in repulsion. In order to test this view, we have grown in 1948 fifteen progenies from shorts from these families crossed again with long. On the linkage hypothesis, the expectation is that about 1 in 15 of such parents should have received the mid gene and that it, unlike its short parent, should be a double heterozygote in coupling, giving approximately 14 *L* : 1 *M* : 15 *S*.

The results of 1948 have completely verified this supposition. Fourteen of the progenies grown have given long and short only, in all 723 long and 675 short, while the remaining progeny has given 17 *L* : 2 *M* : 38 *S*, practically in the proportions anticipated.

These experiments do not complete the demonstration that *Oxalis valdiviensis* is disomic, unlike *Lythrum salicaria*, which has been shown to be tetrasomic. Such a conclusion is suggested by Lady Barlow's earlier work[1,2], and critical tests have been prepared for next year. If, however, the species proves to be disomic, the population maintained by legitimate pollination would contain one genotype long, two mid, heterozygous and homozygous respectively for the mid gene, and four short, including the two double heterozygotes in coupling and repulsion. Plants homozygous for the short gene could not be produced by legitimate pollination. In *Lythrum salicaria*, on the other hand, there are one genotype long, four mid and ten short[3].

In any event, the fact that the two controlling factors are here linked shows that the genetic situation is quite distinct from that in *Lythrum*, in spite of the two remarkable similarities that in both species the double recessives are long-styled, and in both the factor for short-style is epistatic to that for mid.

A detailed note of these experiments will be published in *Heredity*.

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Microflora of the Rumen of the Sheep

IN a previous communication[1], McGaughey and Sellers stated that sheep, with permanent rumen fistulæ, fed on hay and mangolds, develop a rumen microflora similar to that described by Quin[2] as occurring in sheep in South Africa. They pointed out that the organism found overwhelmingly predominant and apparently that termed *Schizo-saccharomyces ovis* by Quin is motile, and is apparently the same organism as that described by Woodcock and Lapage[3] and now known as *Selenomonas ruminantium* (Certes).

We believe that the organism is not a Schizosaccharomycete, as a result of (*a*) the study of its morphology, for example, characteristic wriggling motility, bean shape, pointed ends and absence of endospores; (*b*) failure to grow in media usually found to be adequate for the culture of Schizosaccharomycetes. Woodcock and Lapage[3] in their detailed examination of *Selenomonas ruminantium* did not overlook the possibility of it being a yeast; but after examination of authenticated strains of Schizosaccharomycetes, decided that they were not related. Moreover, they mentioned that Ledingham[4] was unable to cultivate *Selenomonas ruminantium* on various media; our attempts at cultivation have been equally unsuccessful. Thus, plating on potato dextrose agar of a centrifugate containing 10^{10} selenomonads per ml. yielded as the most numerous types of organisms: Rhodotorulæ 5×10^6/ml., *Aerobacter* 3×10^6/ml., yellow and white cocci 1×10^6/ml., Bacilli 1×10^5/ml., *Candida*-like organisms 1×10^2 to 10^3/ml. After incubation of rumen contents mixed with dextrose solution, several other