cross to obtain both genes segregating simultaneously. It is therefore not so astonishing that Mendel did not run into the complication of linkage, although he did not avoid it by choosing one gene from each chromosome.

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[1] Blixt, S., in *Handbook of Genetics*, **2** (edit. by King, R. C.), (Plenum, New York, 1974).

Why didn't Gregor Mendel find linkage?

IT is quite often said that Mendel was very fortunate not to run into the complication of linkage during his experiments. He used seven genes and the pea has only seven chromosomes. Some have said that had he taken just one more, he would have had problems. This, however, is a gross oversimplification. The actual situation, most probably, is shown in Table 1. This shows that Mendel worked with three genes in chromosome 4, two genes in chromosome 1, and one gene in each of chromosome 5 and 7. It seems at first glance that, out of the 21 dihybrid combinations Mendel theoretically could have studied, no less than four (that is, $a-i$, $v-fa$, $v-le$, $fa-le$) ought to have resulted in linkages. As found, however, in hundreds of crosses and shown by the genetic map of the pea[1], a and i in chromosome 1 are so distantly located on the chromosome that no linkage is normally detected. The same is true for v or le on the one hand, and fa on the other, in chromosome 4. This leaves $v-le$, which ought to have shown linkage.

Mendel, however, seems not to have published this particular combination and thus, presumably, never made the appropriate

Table 1 Relationship between modern genetic terminology and character pairs used by Mendel

Character pair used by Mendel	Alleles in modern terminology	Located in chromosome
Seed colour, yellow–green	$I-i$	1
Seed coat and flowers, coloured–white	$A-a$	1
Mature pods, smooth expanded–wrinkled indented	$V-v$	4
Inflorescences, from leaf axils–umbellate in top of plant	$Fa-fa$	4
Plant height, >1m–around 0.5 m	$Le-le$	4
Unripe pods, green–yellow	$Gp-gp$	5
Mature seeds, smooth–wrinkled	$R-r$	7