Practical 3

Natural selection and genetic drift

Practical 3

- R package:

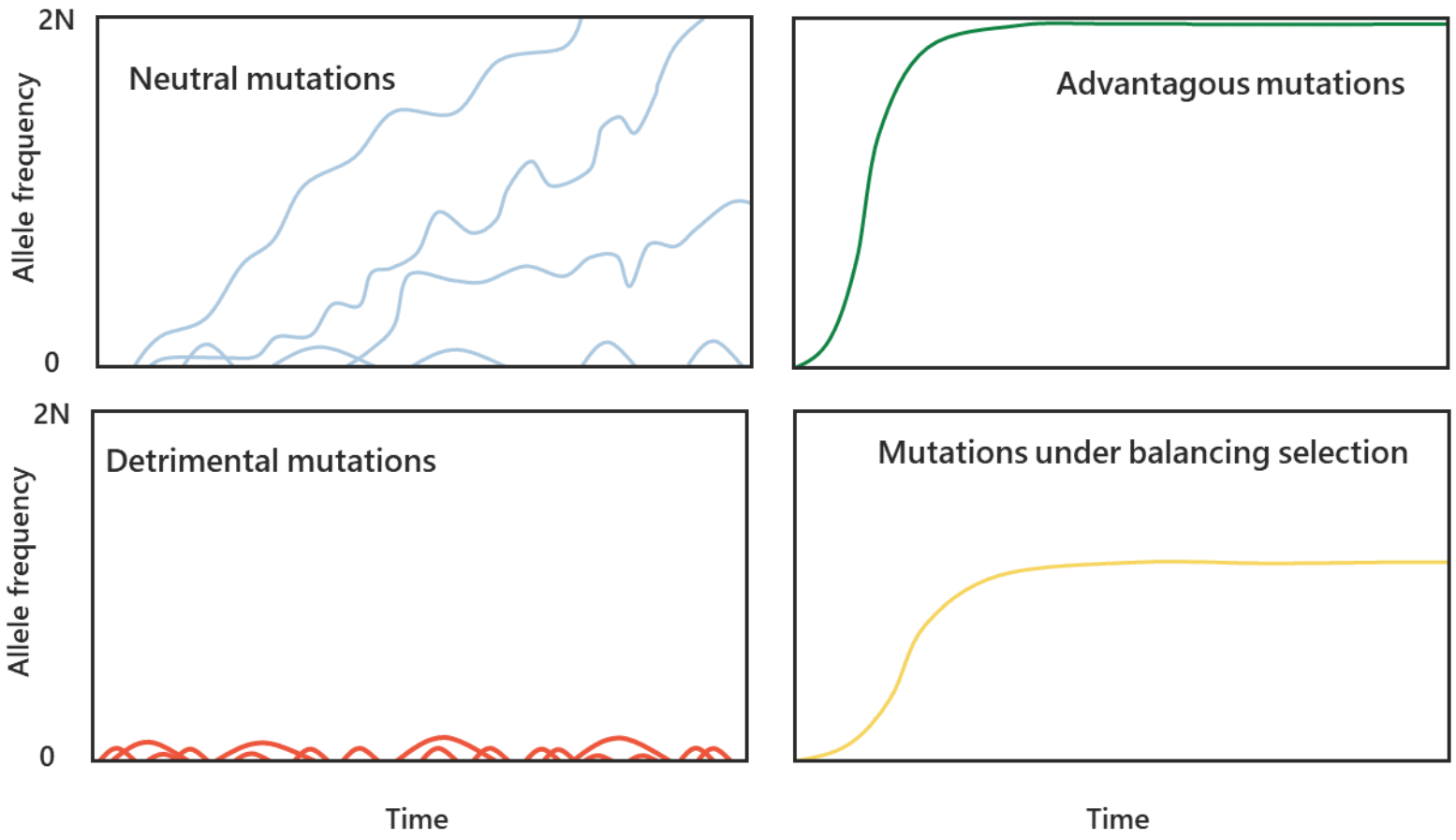
  `learnPopGen`

```
install.packages("learnPopGen")
library("learnPopGen")
```

- Learn how **natural selection** acts in a population of **finite size**

Practical 3

Genetic drift tends to **eliminate genetic variation**



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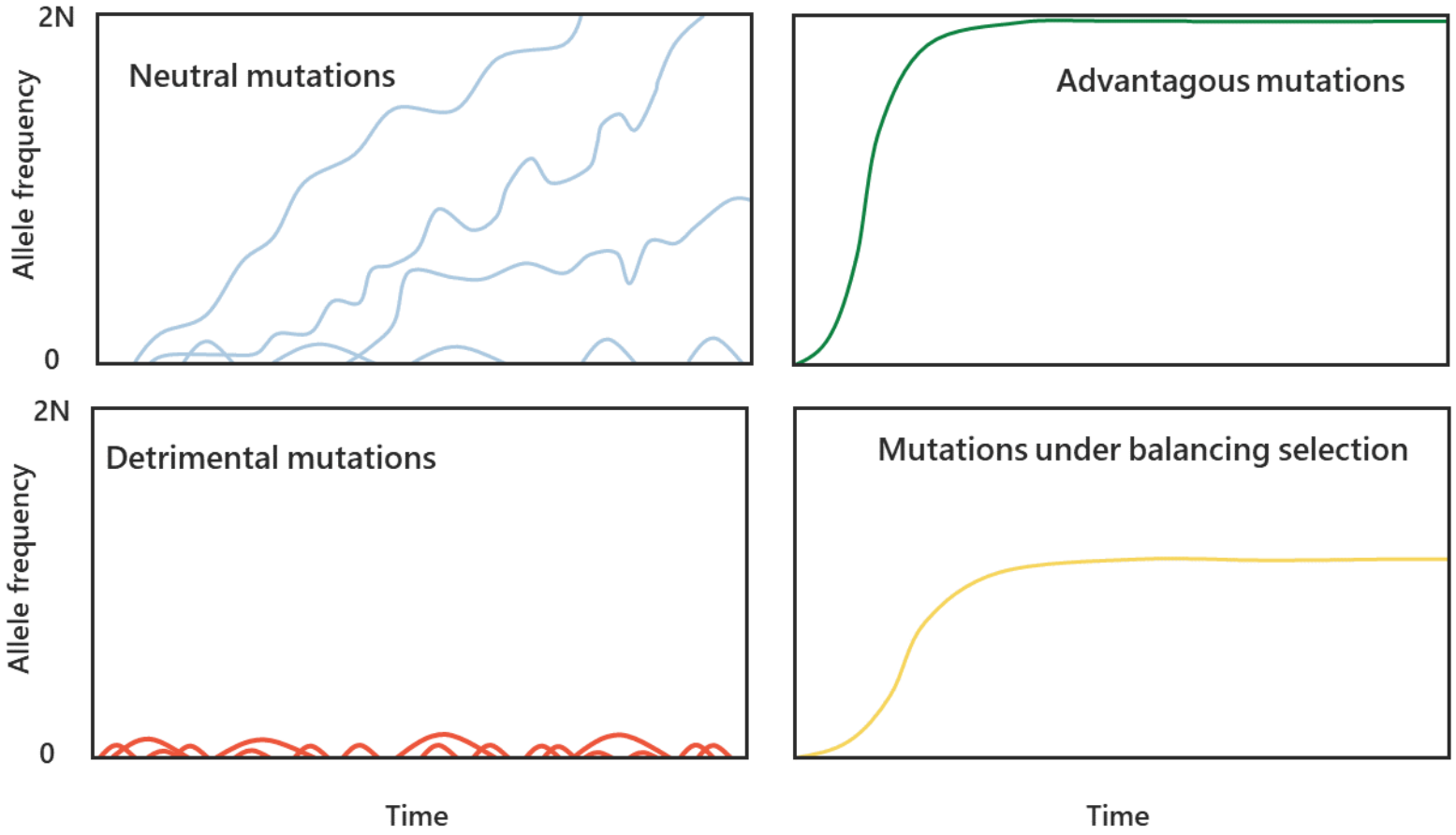
Genetic drift tends to **eliminate genetic variation**

Selection can **eliminate** or **maintain genetic variation**



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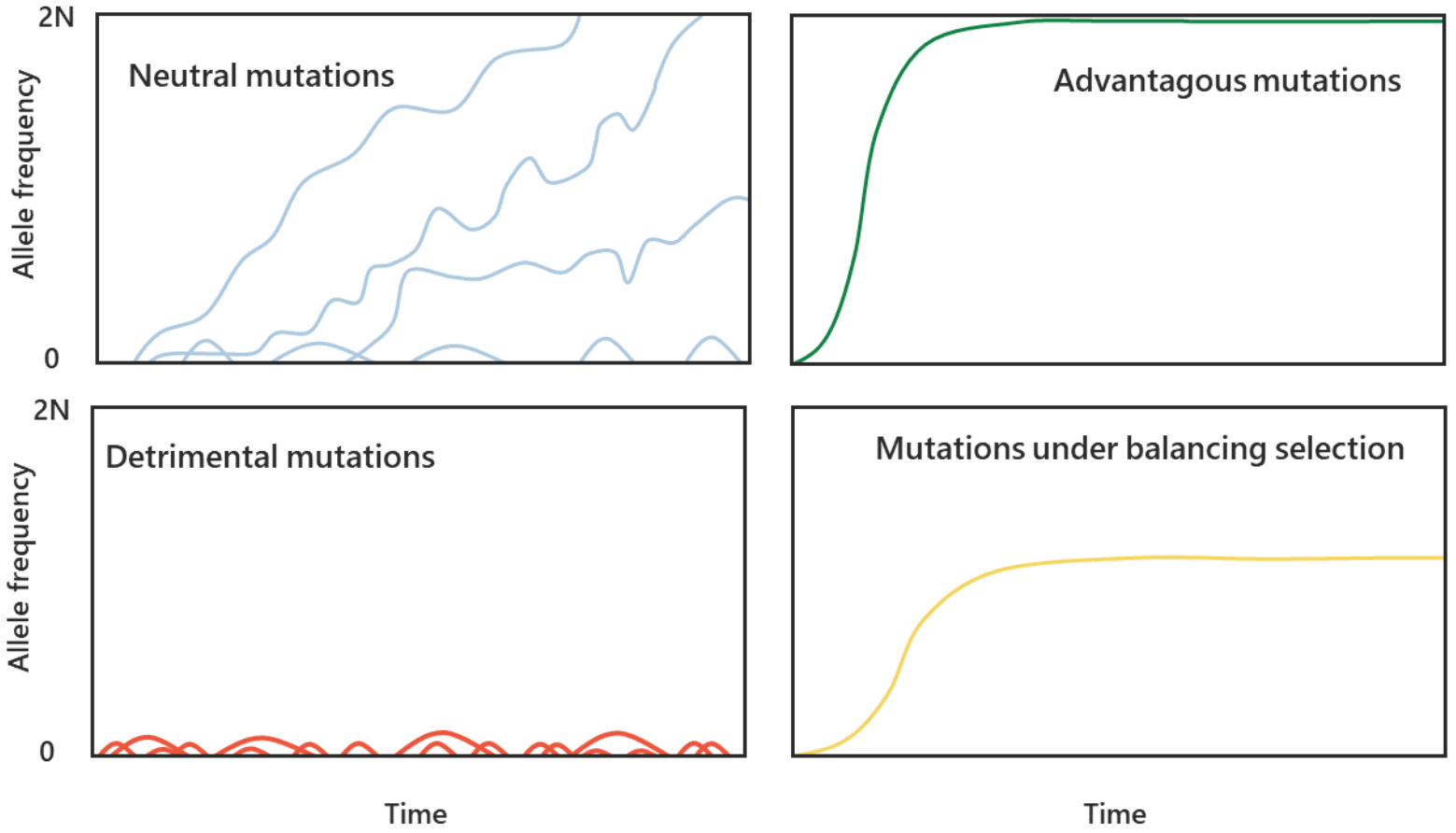

There is an **opposition** of **evolutionary forces** if the heterozygote is the fittest

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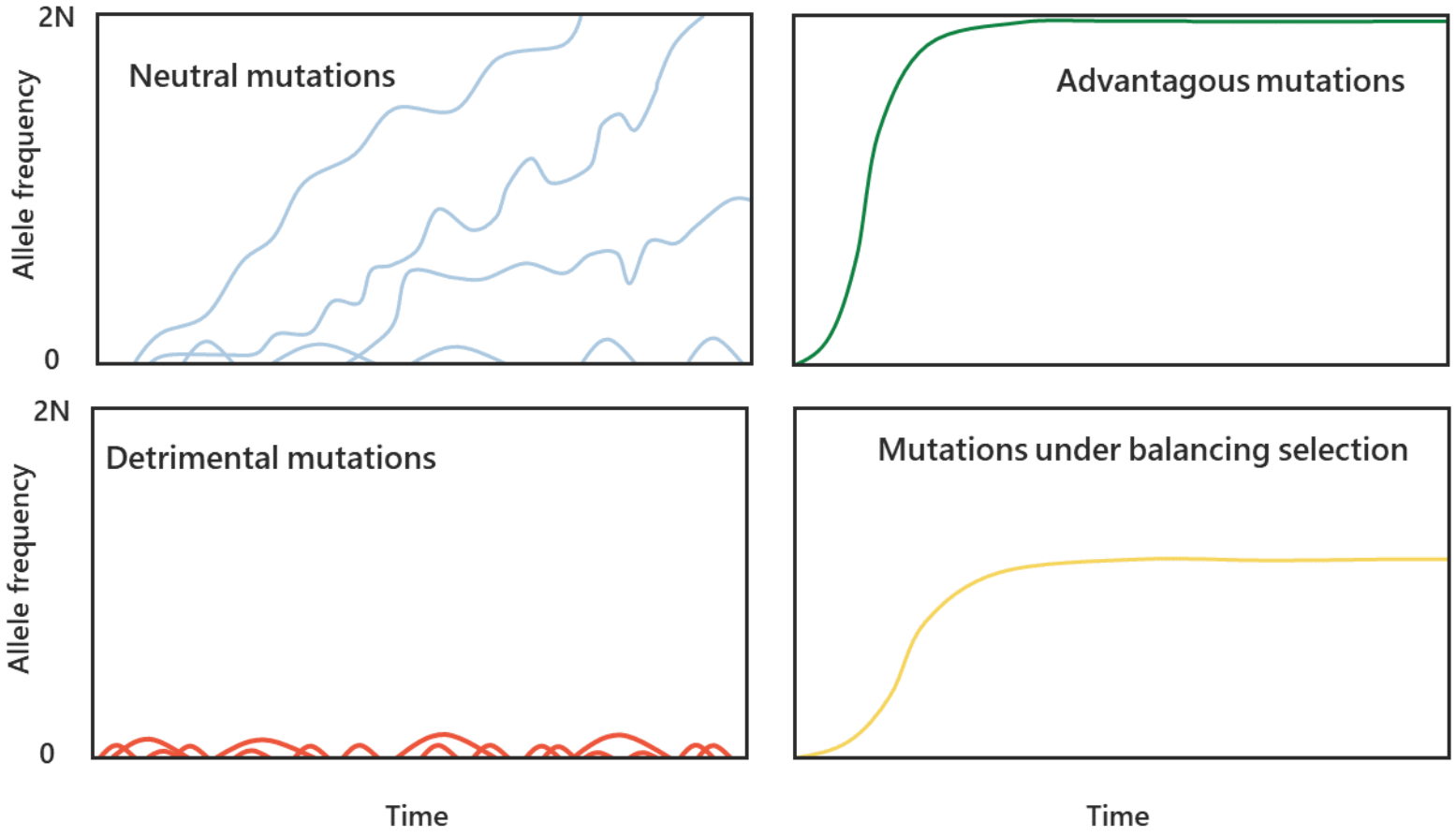
The predominant force will depend on the relative strength of the genetic drift and natural selection



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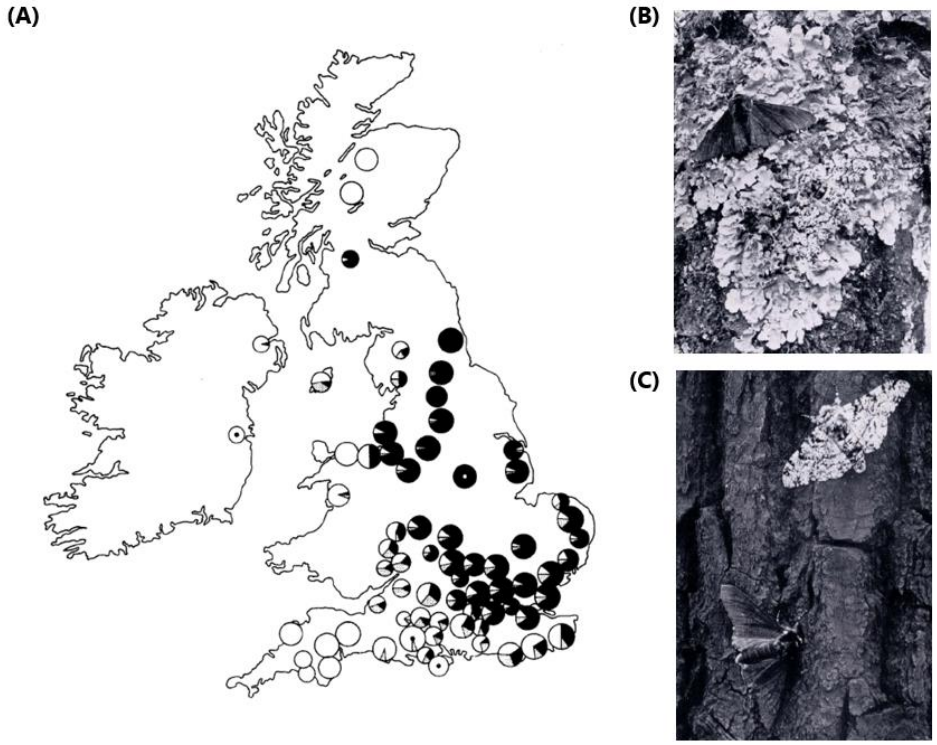
DIRECTIONAL SELECTION



Selection for industrial melanism in peppered moths.

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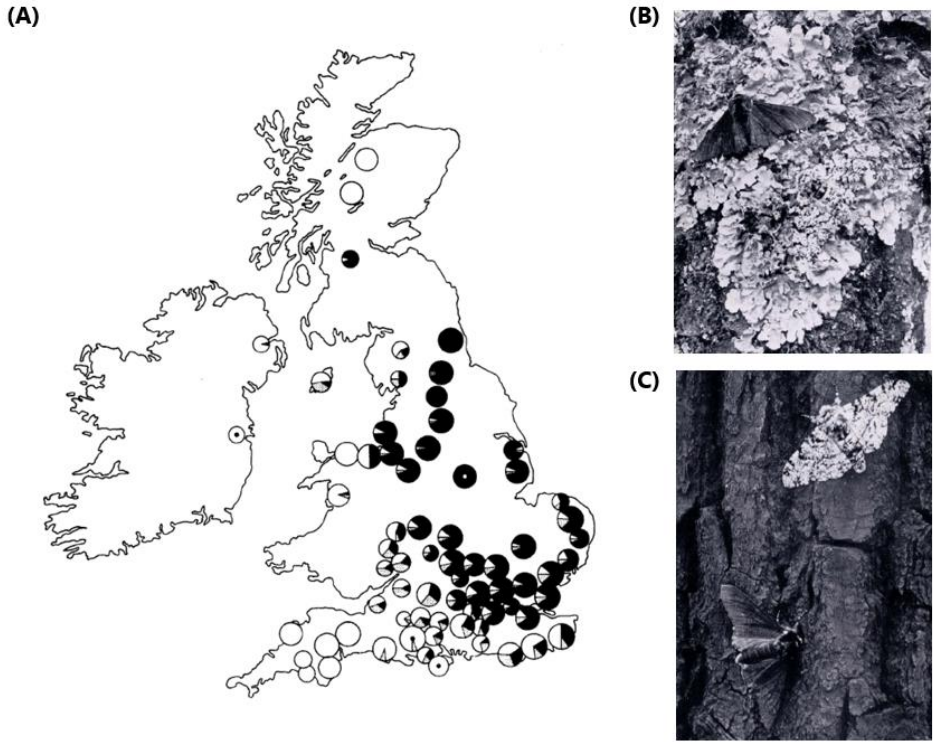
DIRECTIONAL SELECTION



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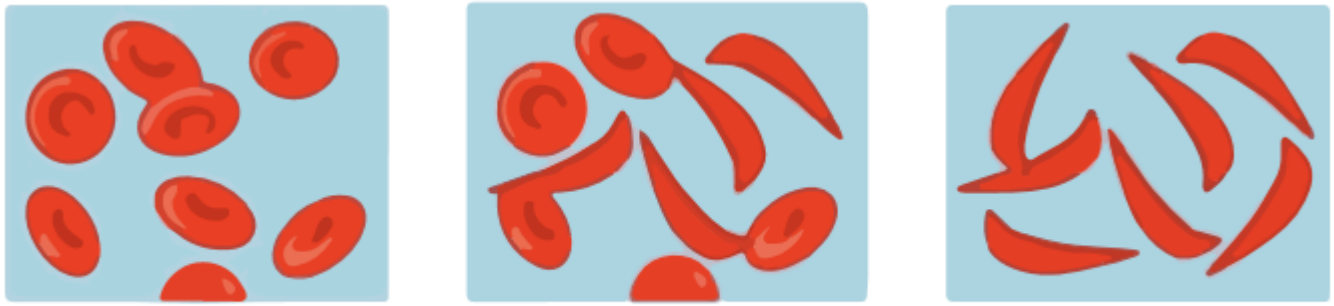
SELECTION IN FAVOR OF THE HETEROZYGOTE



The **sickle cell anemia** case:

Heterozygous individuals not suffer from severe sickle cell anemia, while present some **resistance to malaria.**

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