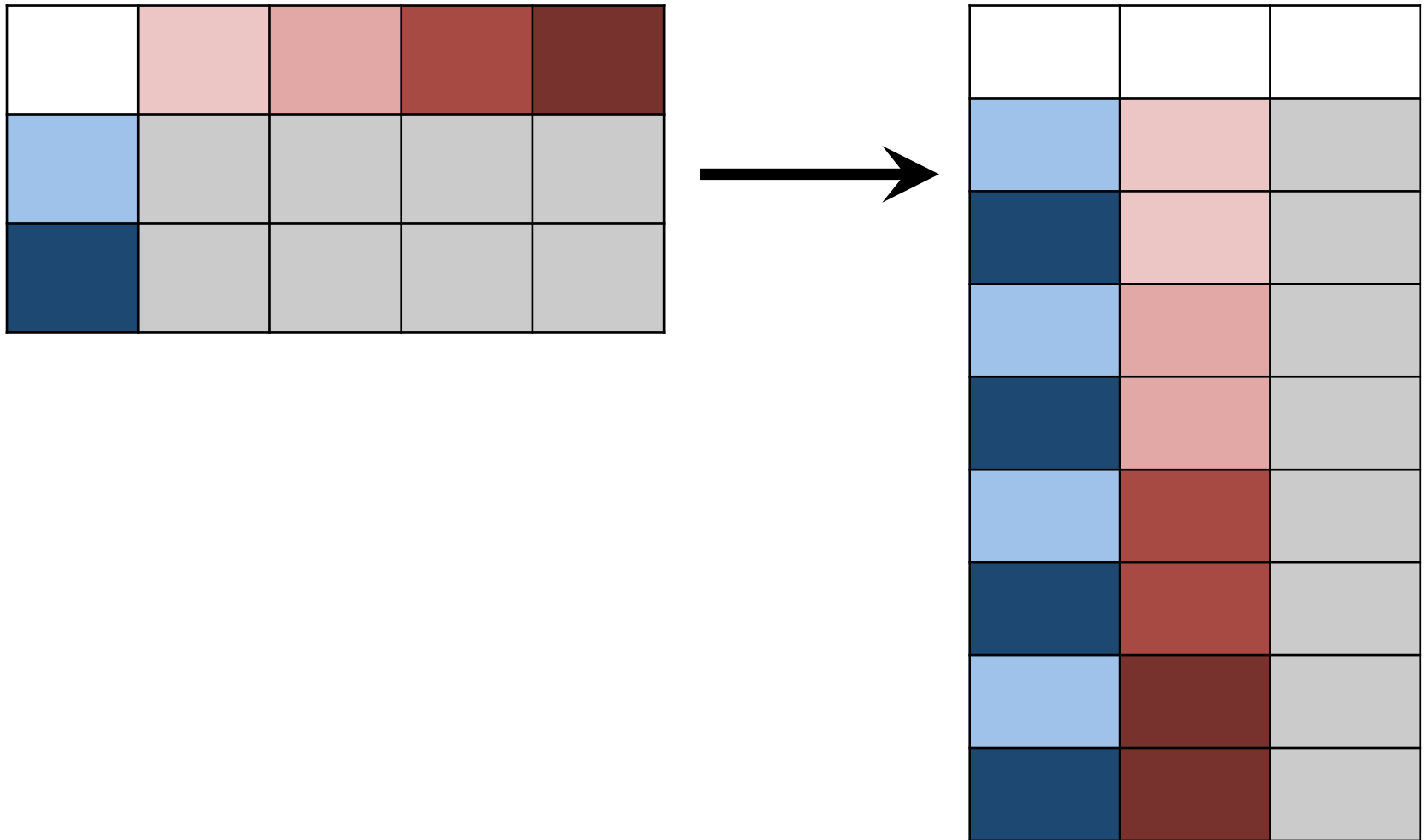# Making data sets tidy: tidyr
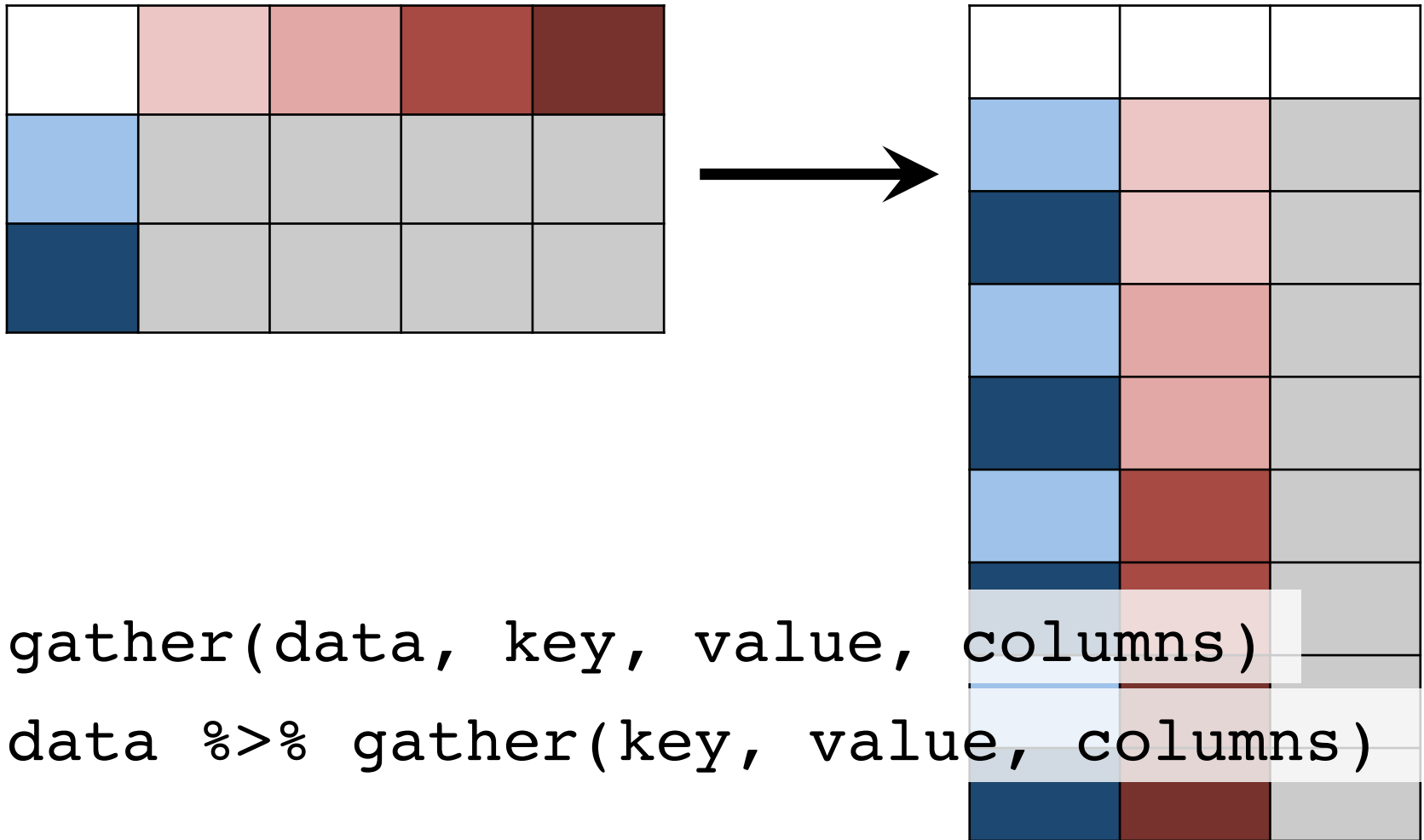
The package tidyr has basically 2 functions:

- `gather()` — make a wide table long
- `spread()` — make a long table wide
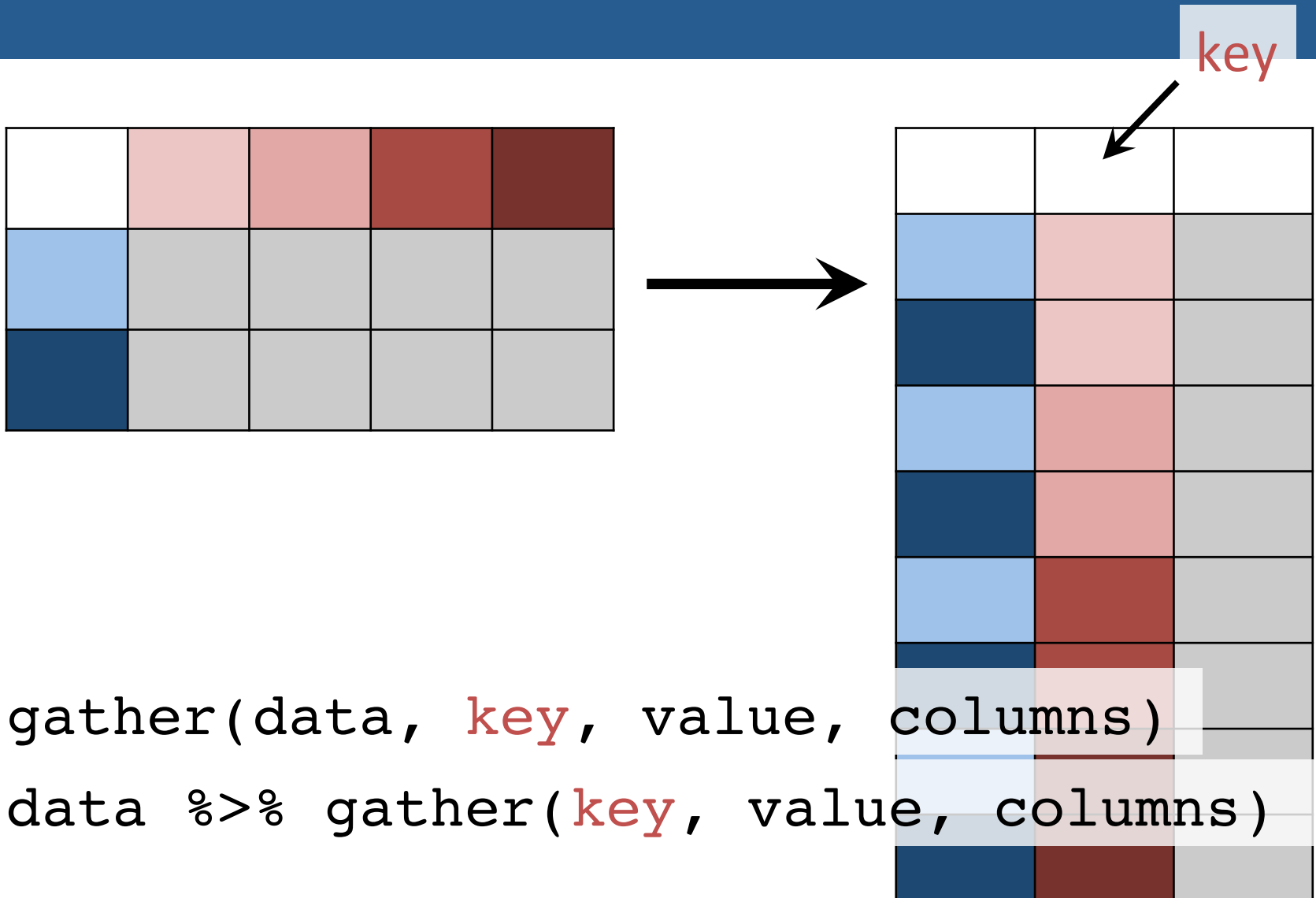
gather(): make wide table long
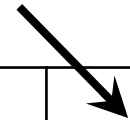
gather(): make wide table long


```
gather(data, key, value, columns)
data %>% gather(key, value, columns)
```
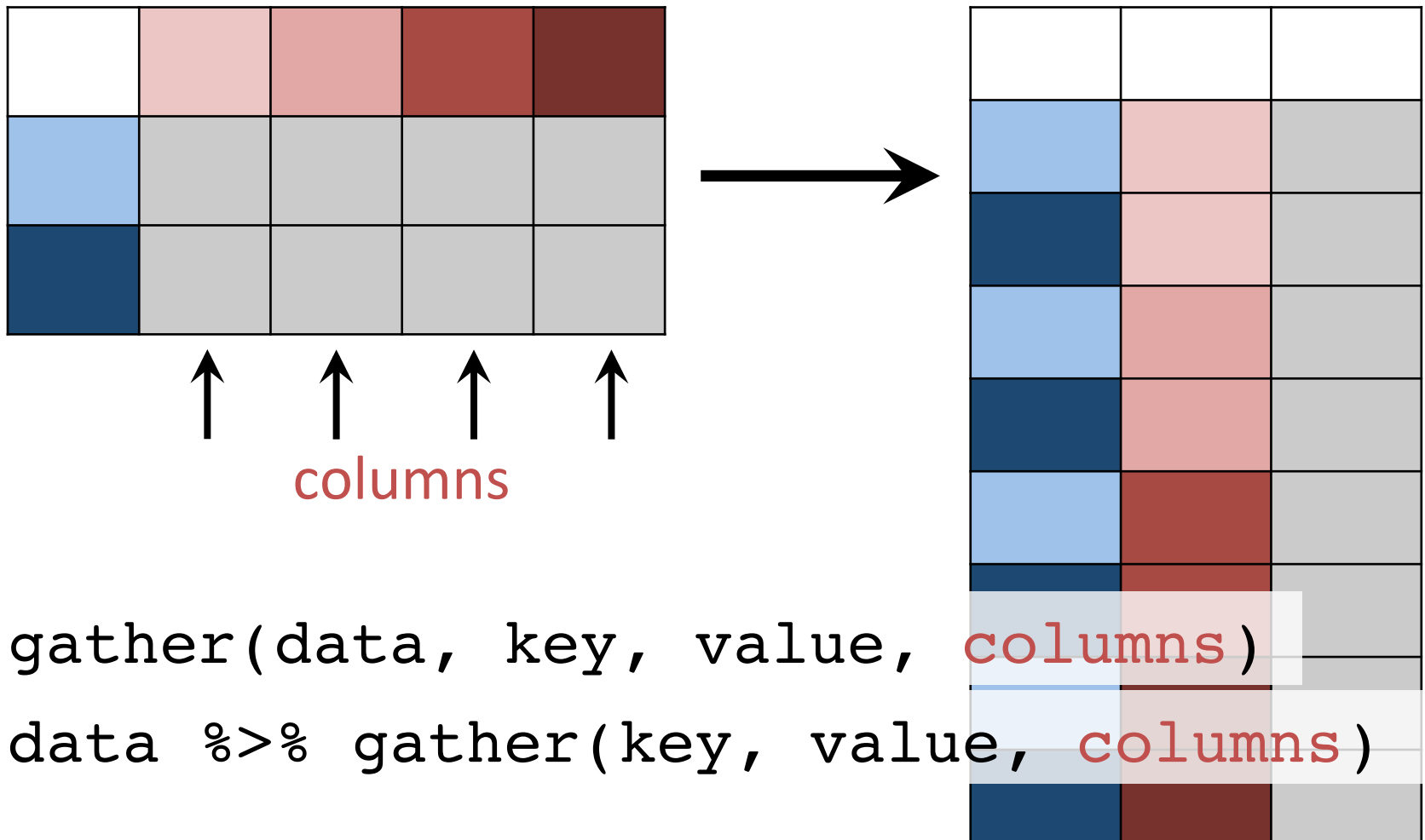
gather(): make wide table long

key


```
gather(data, key, value, columns)

data %>% gather(key, value, columns)
```

gather(): make wide table long

gather(data, key, value, columns)
data %>% gather(key, value, columns)

gather(): make wide table long

columns

```
gather(data, key, value, columns)
data %>% gather(key, value, columns)
```

Example: Let's recreate the Sitka data from a wide table

```
> head(sitka_wide)
  tree treat t152 t174 t201 t227 t258
1    1 ozone 4.51 4.98 5.41 5.90 6.15
2    2 ozone 4.24 4.20 4.68 4.92 4.96
3    3 ozone 3.98 4.36 4.79 4.99 5.03
4    4 ozone 4.36 4.77 5.10 5.30 5.36
5    5 ozone 4.34 4.95 5.42 5.97 6.28
6    6 ozone 4.59 5.08 5.36 5.76 6.00
```

Example: Let's recreate the Sitka data from a wide table

```
> head(sitka_wide)
  tree treat t152 t174 t201 t227 t258
1    1 ozone 4.51 4.98 5.41 5.90 6.15
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4    4 ozone 4.36 4.77 5.10 5.30 5.36
5    5 ozone 4.34 4.95 5.42 5.97 6.28
6    6 ozone 4.59 5.08 5.36 5.76 6.00


sitka_wide %>% gather(time, size, t152:t258)
```
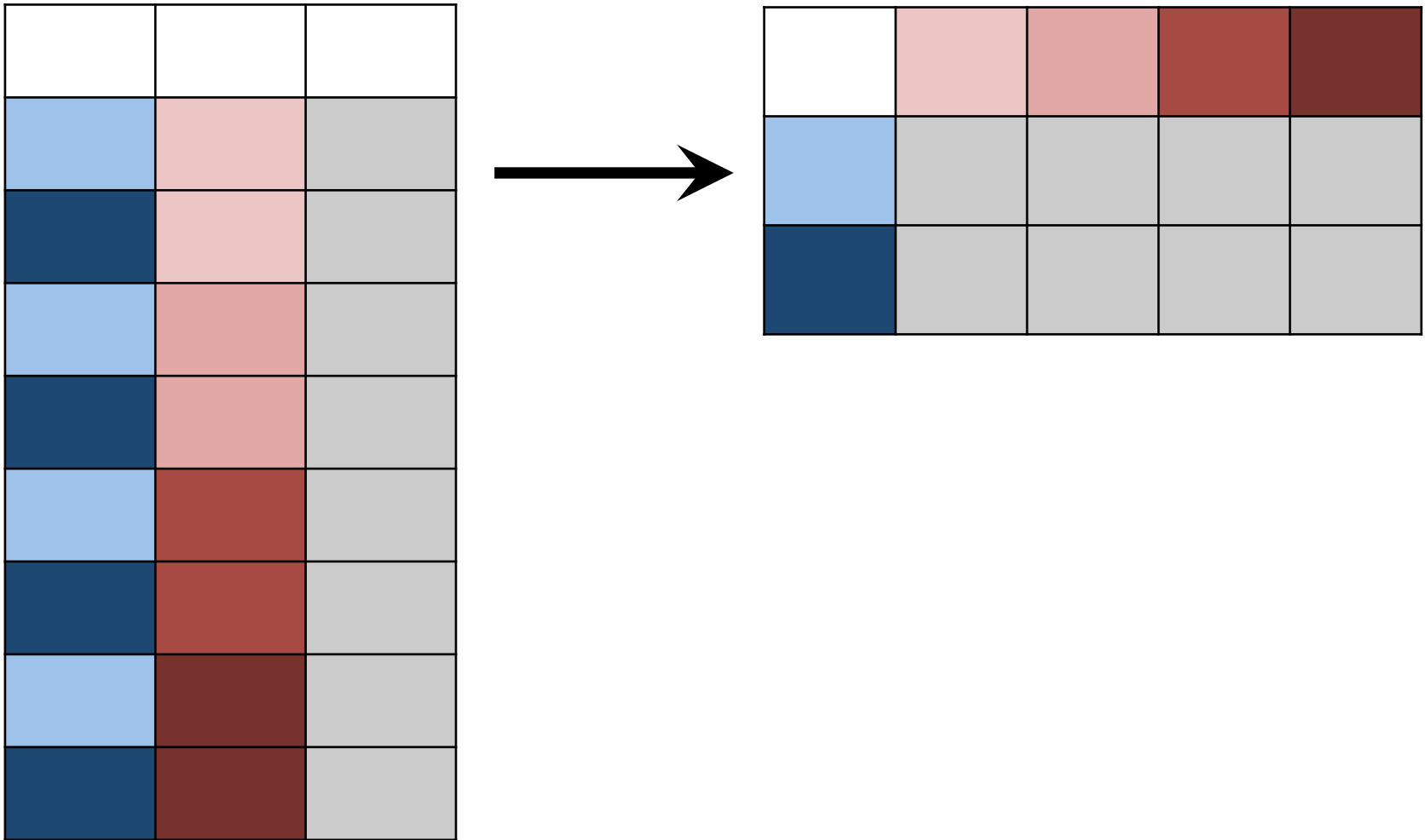
Example: Let's recreate the Sitka data from a wide table

```
> sitka_wide %>% gather(time, size, t152:t258) %>%
                                              head()
  tree treat time size
1    1 ozone t152 4.51
2    2 ozone t152 4.24
3    3 ozone t152 3.98
4    4 ozone t152 4.36
5    5 ozone t152 4.34
6    6 ozone t152 4.59
```
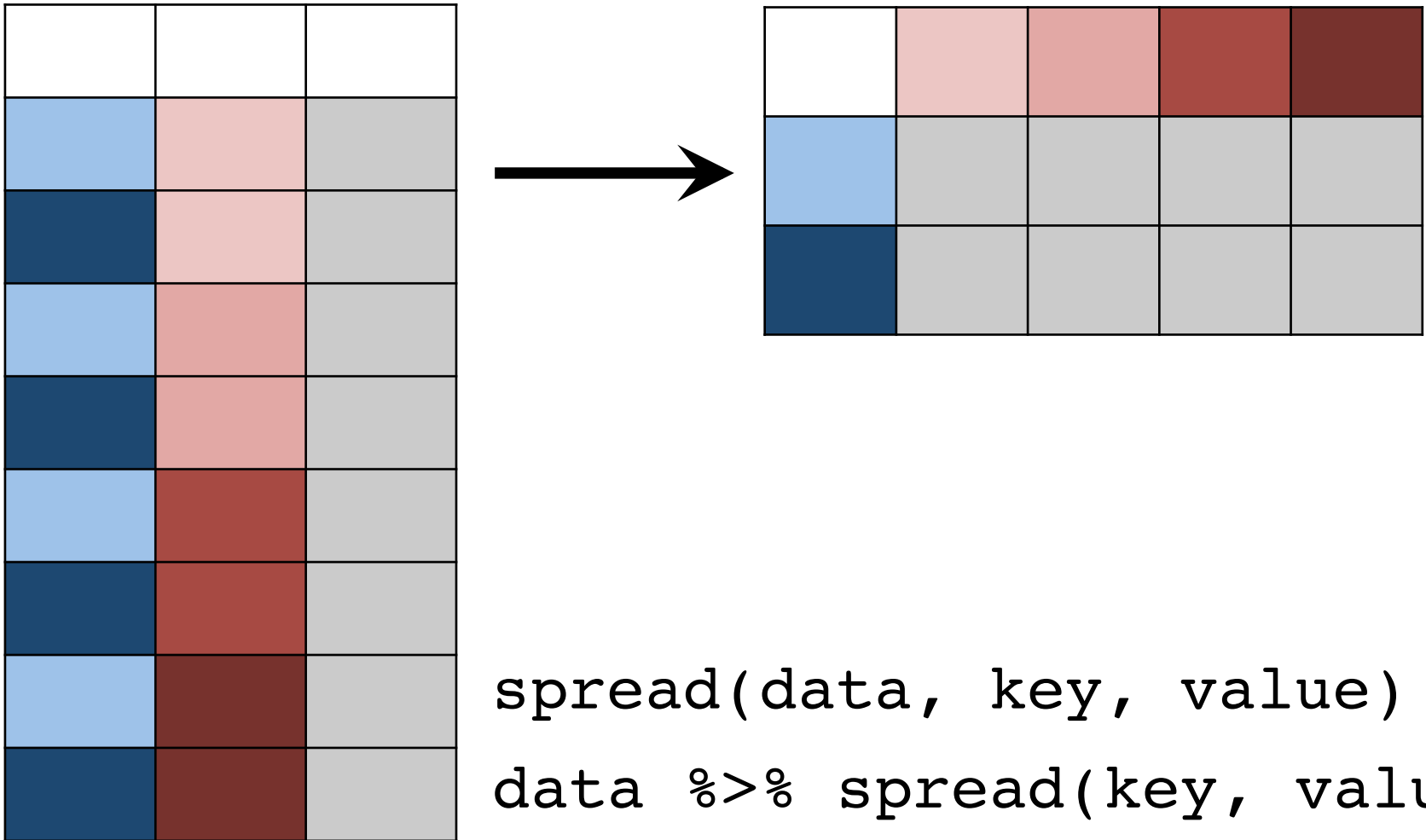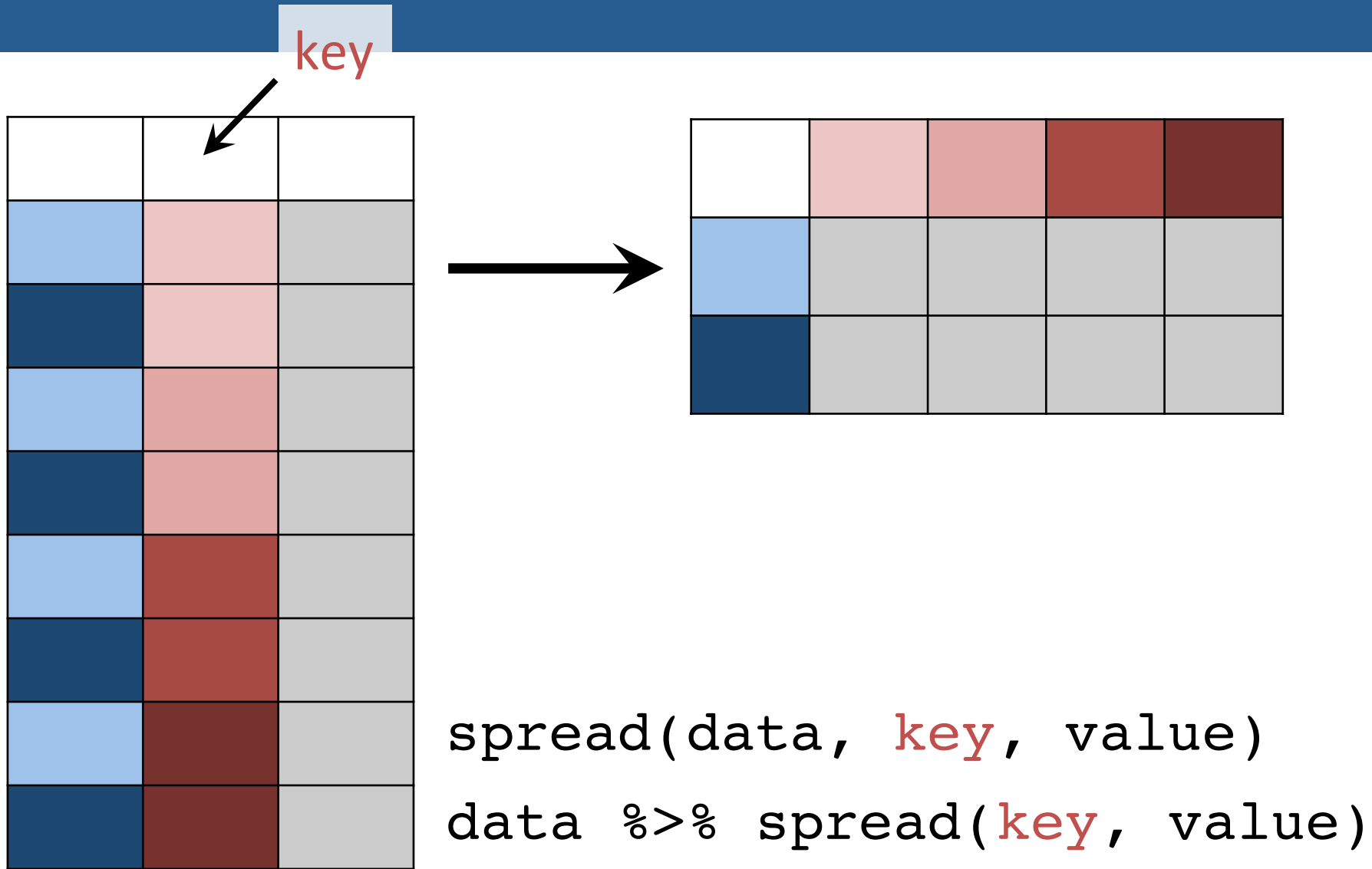
spread(): make long table wide

spread(): make long table wide
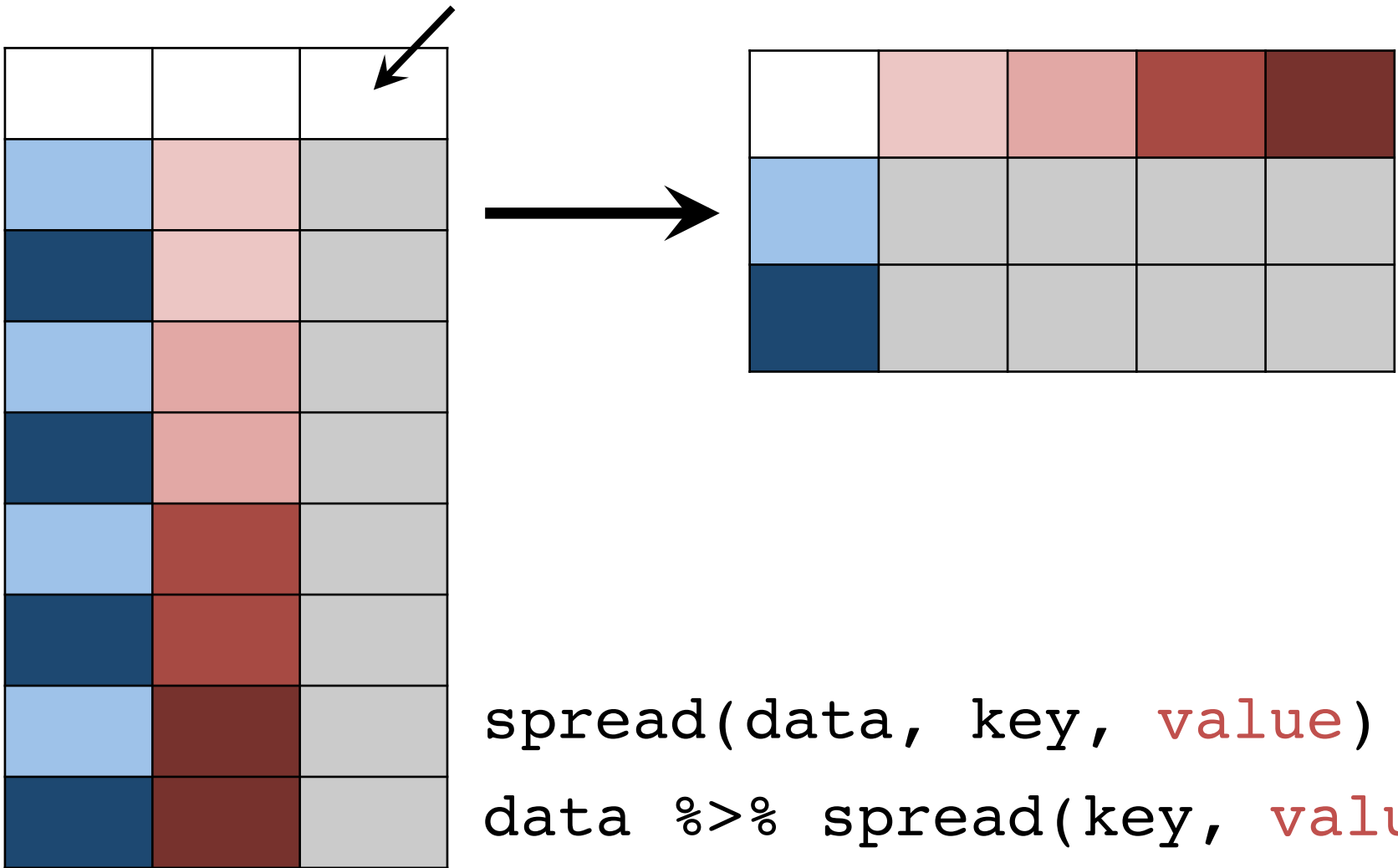

spread(data, key, value)

data %>% spread(key, value)

spread(): make long table wide

key

spread(data, key, value)

data %>% spread(key, value)

spread(): make long table wide

spread(data, key, value)

data %>% spread(key, value)

Example: Let's turn the Sitka data into a wide table

```
> head(Sitka)
  size Time tree treat
1 4.51  152    1 ozone
2 4.98  174    1 ozone
3 5.41  201    1 ozone
4 5.90  227    1 ozone
5 6.15  258    1 ozone
6 4.24  152    2 ozone


Sitka %>% spread(Time, size)
```

Example: Let's turn the Sitka data into a wide table

```
> Sitka %>% spread(Time, size) %>% head()
  tree treat  152  174  201  227  258
1    1 ozone 4.51 4.98 5.41 5.90 6.15
2    2 ozone 4.24 4.20 4.68 4.92 4.96
3    3 ozone 3.98 4.36 4.79 4.99 5.03
4    4 ozone 4.36 4.77 5.10 5.30 5.36
5    5 ozone 4.34 4.95 5.42 5.97 6.28
6    6 ozone 4.59 5.08 5.36 5.76 6.00
```