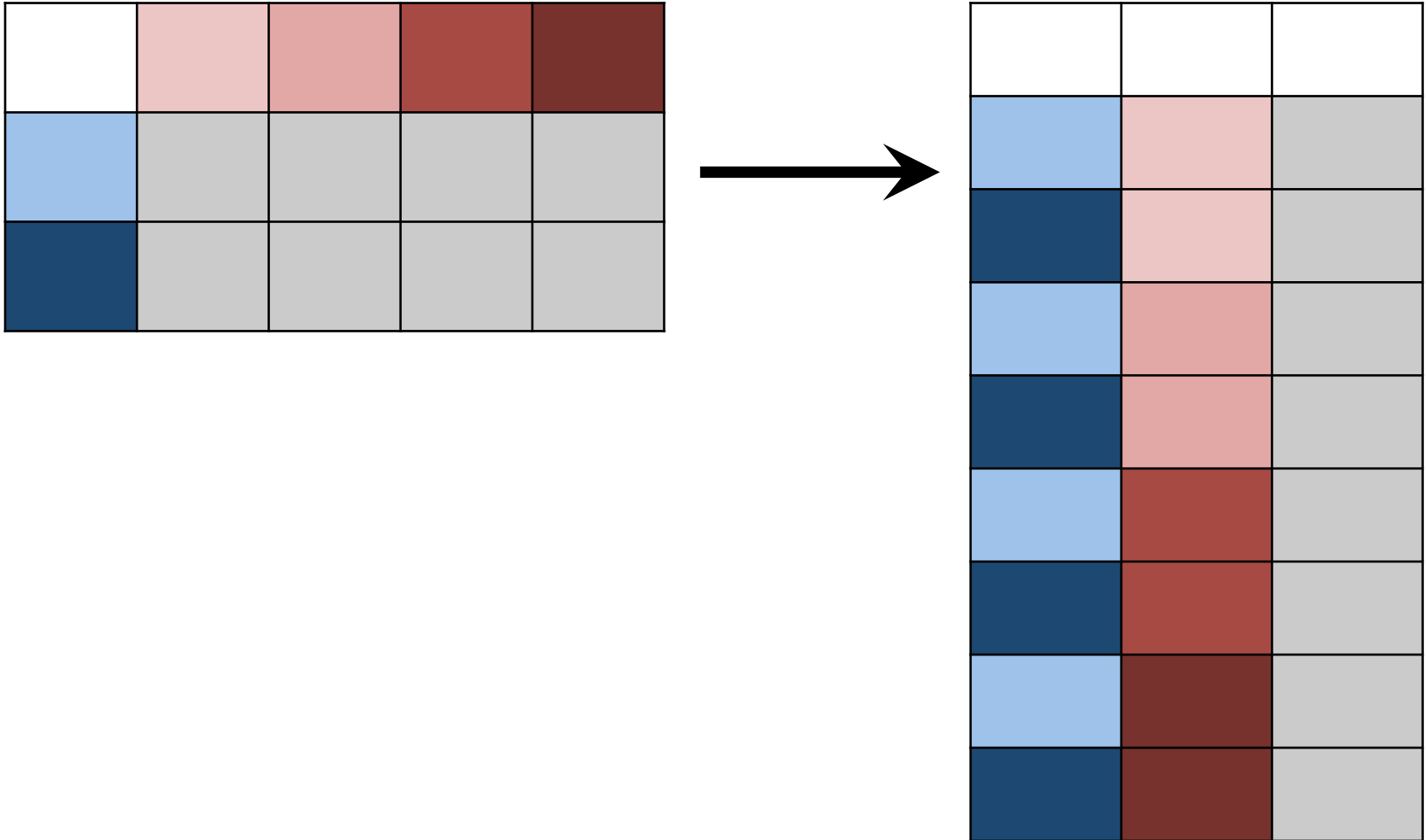


# Making data sets tidy: tidyr

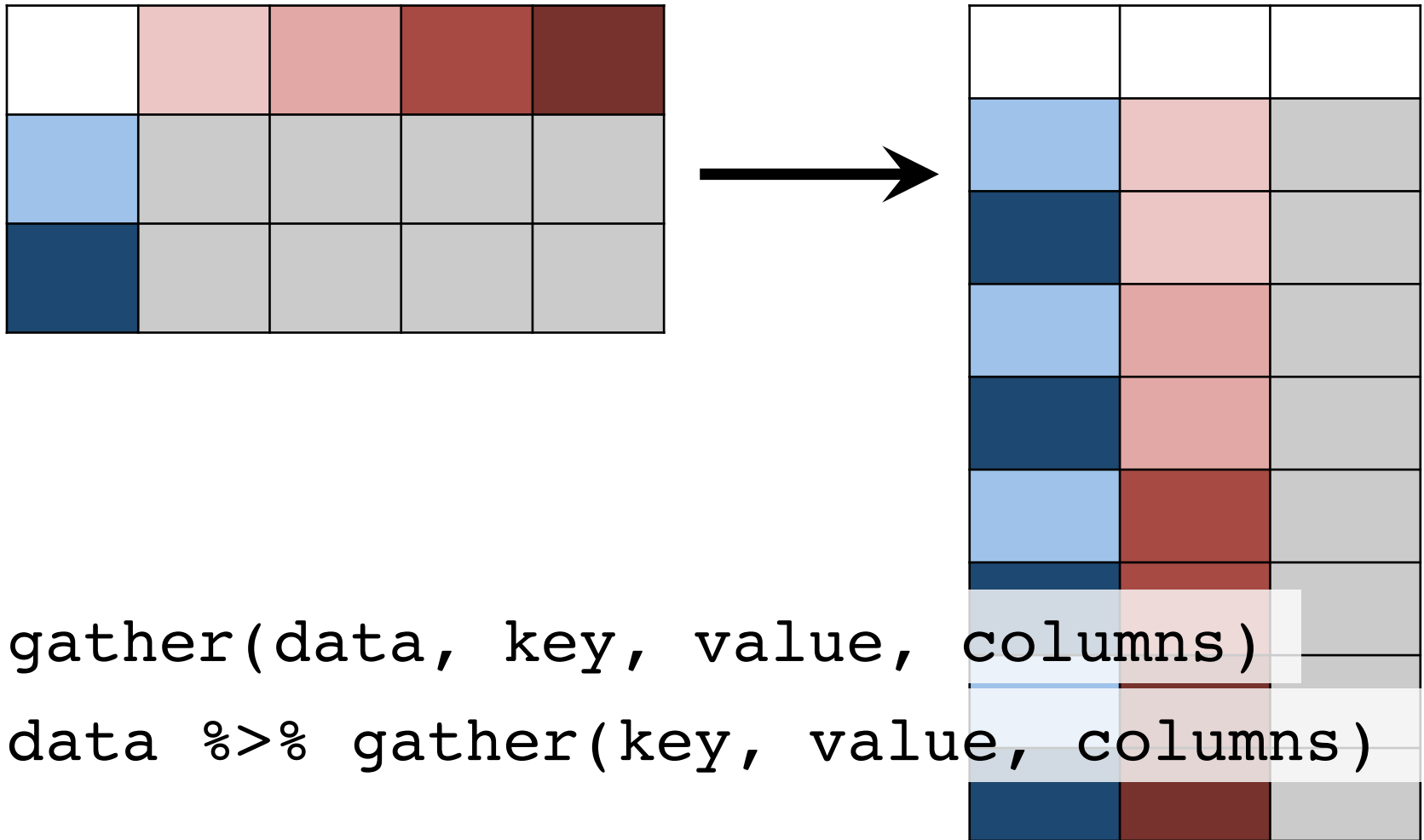
The package tidyr has basically 2 functions:

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

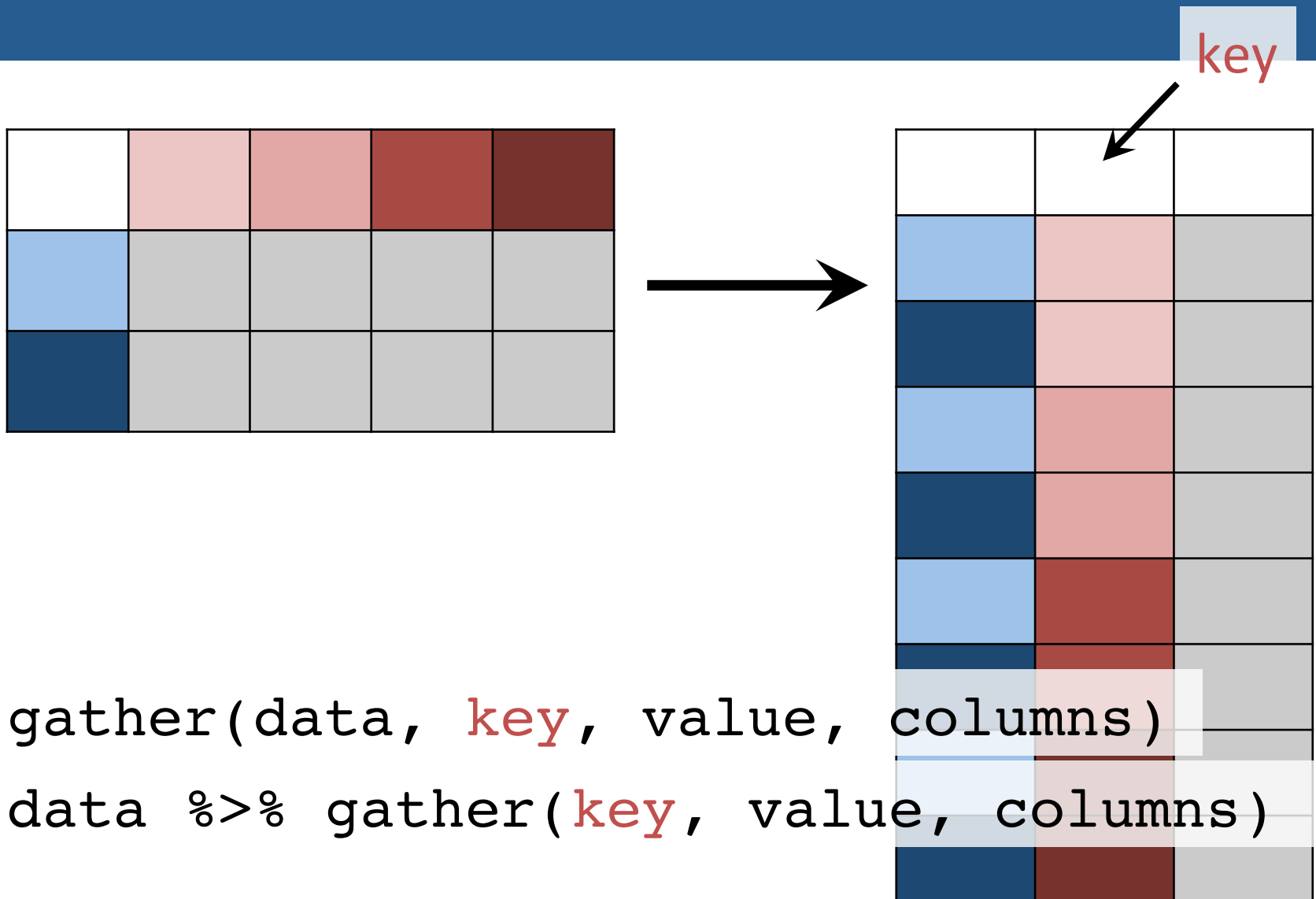
# gather ( ) : make wide table long



# gather ( ) : make wide table long



# gather ( ) : make wide table long



# gather ( ) : make wide table long

value

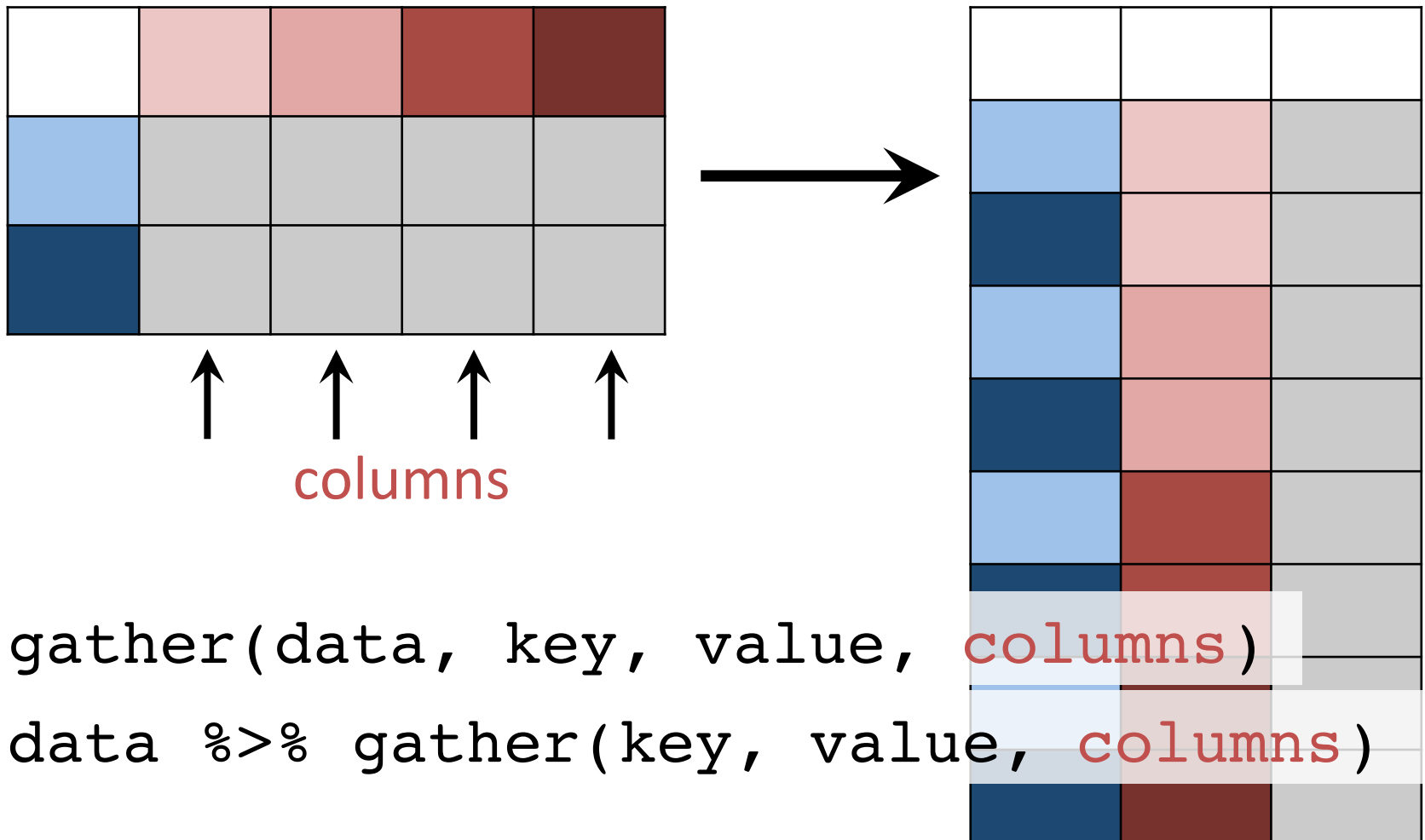




```
gather(data, key, value, columns)
```

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

# `gather()`: make wide table long



# 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
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

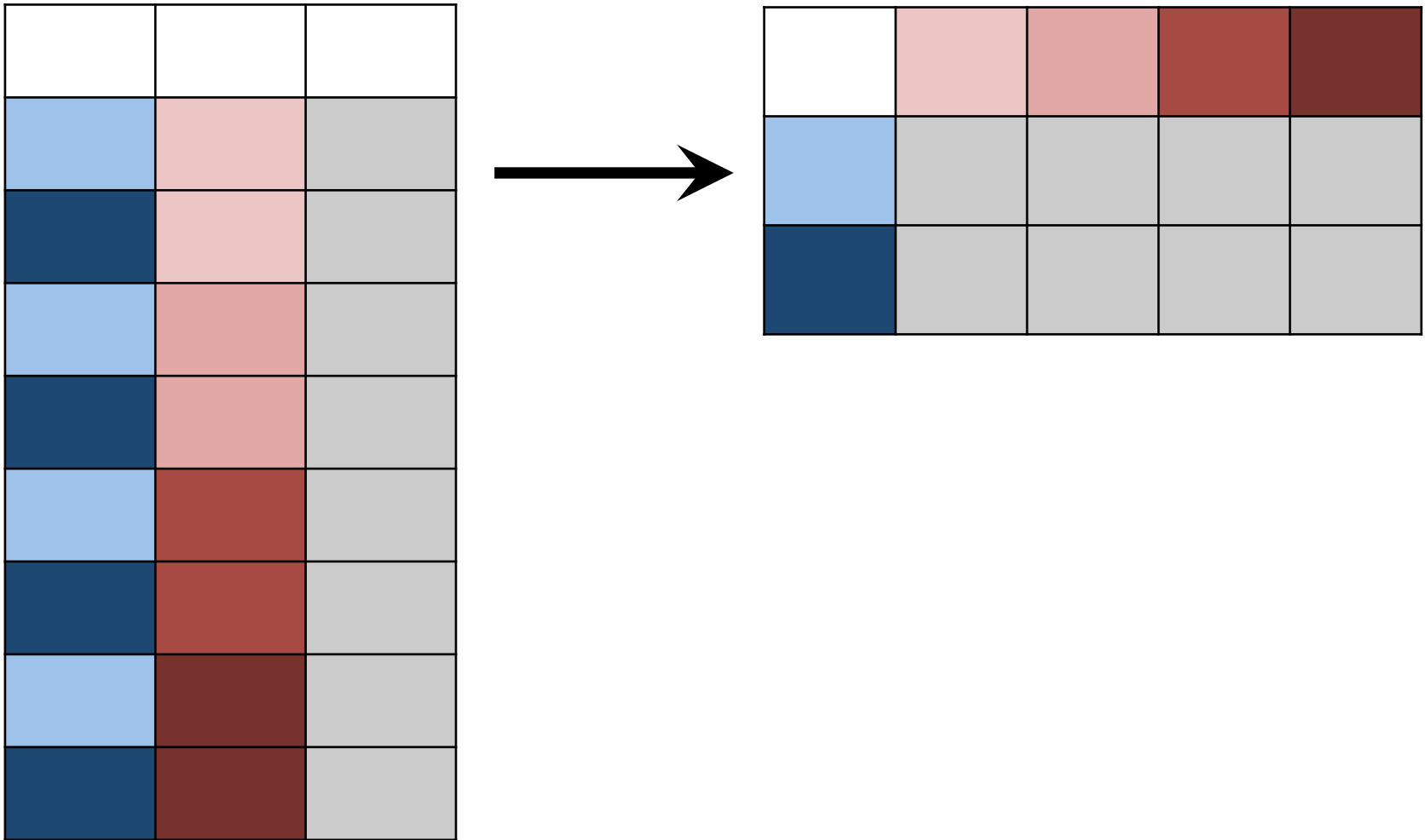
```
sitka_wide %>% gather(time, size, t152:t258)
```



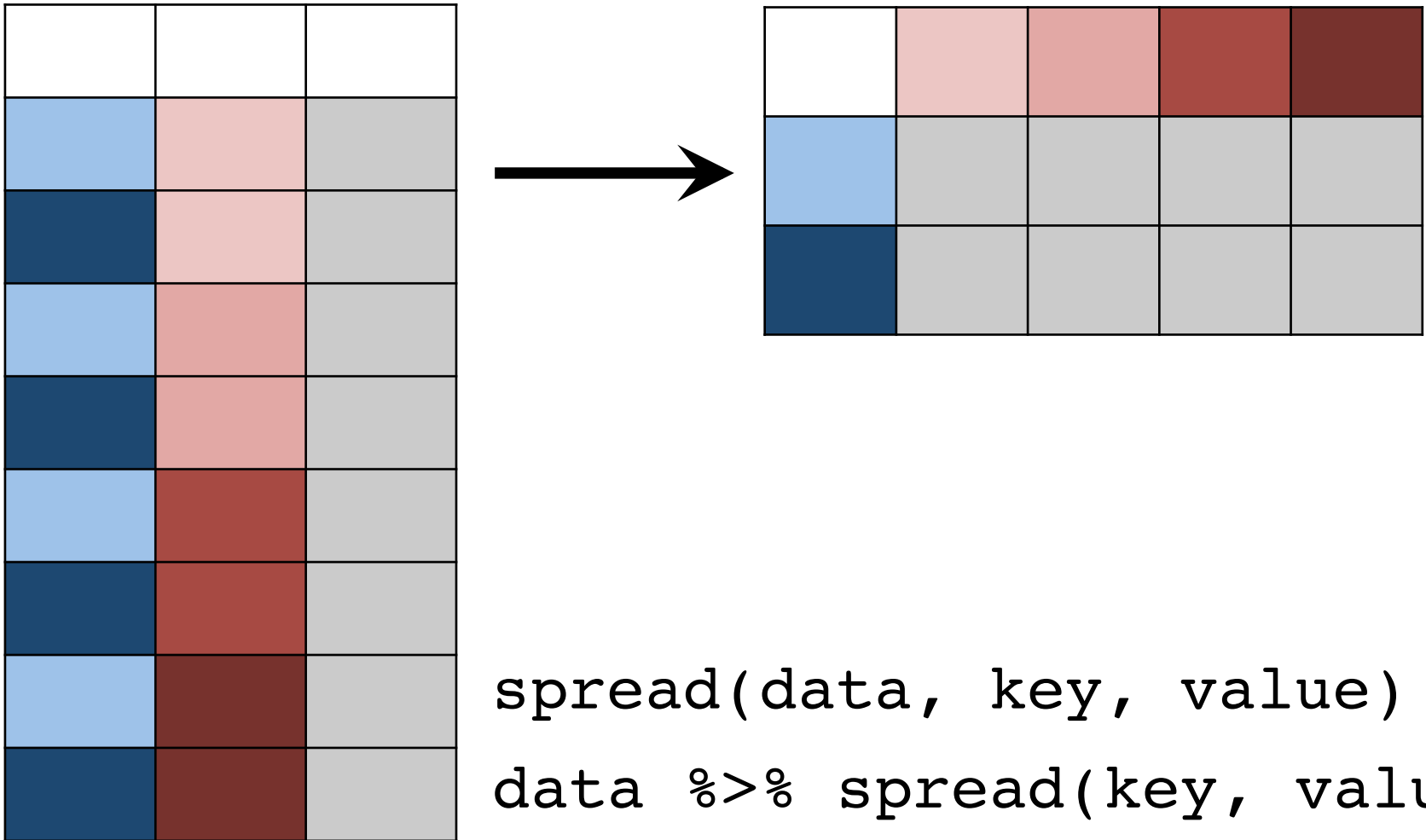
# Example: Let's recreate the Sitka data from a wide table

```
> 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
```

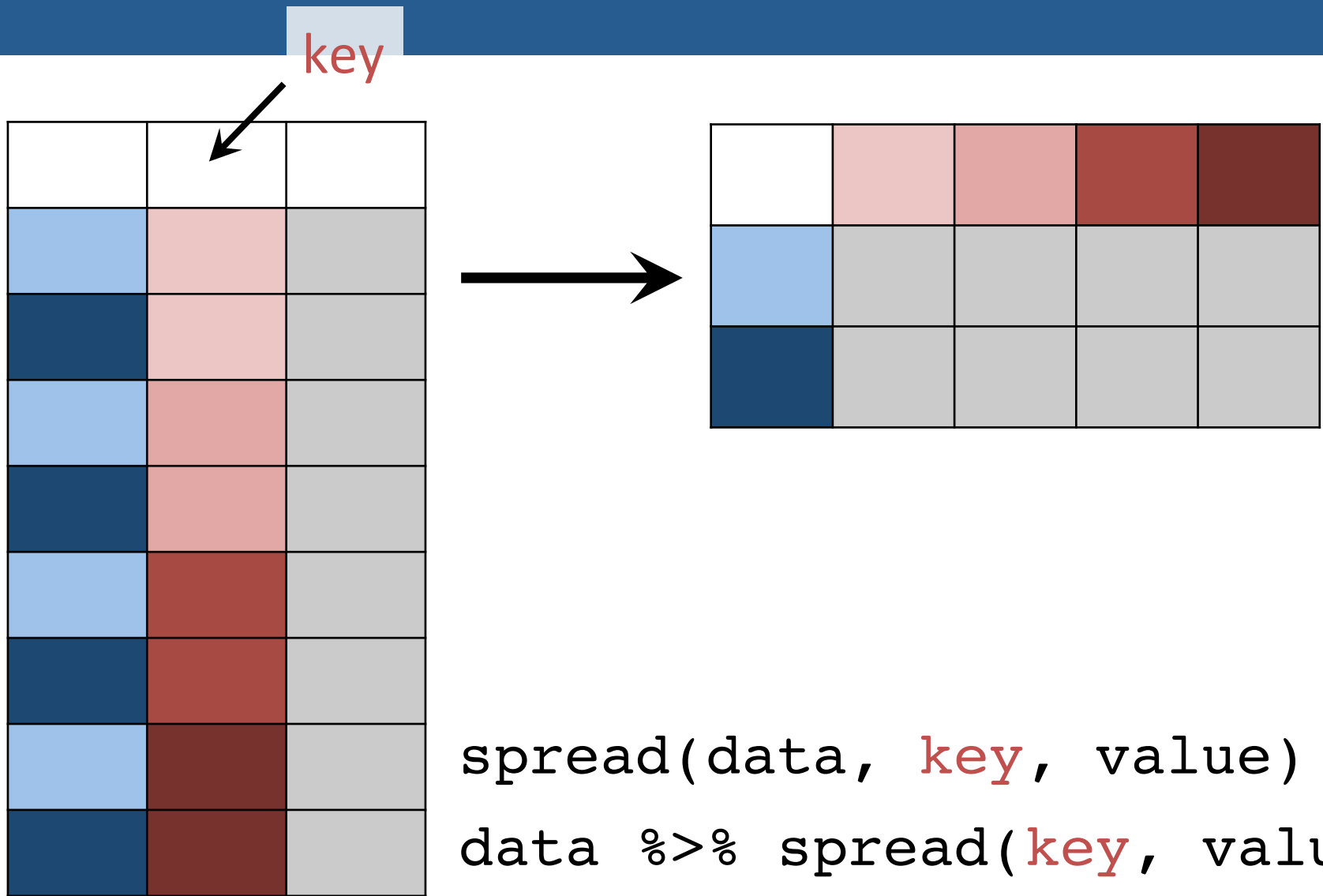
`spread( )`: make long table wide



# `spread()`: make long table wide

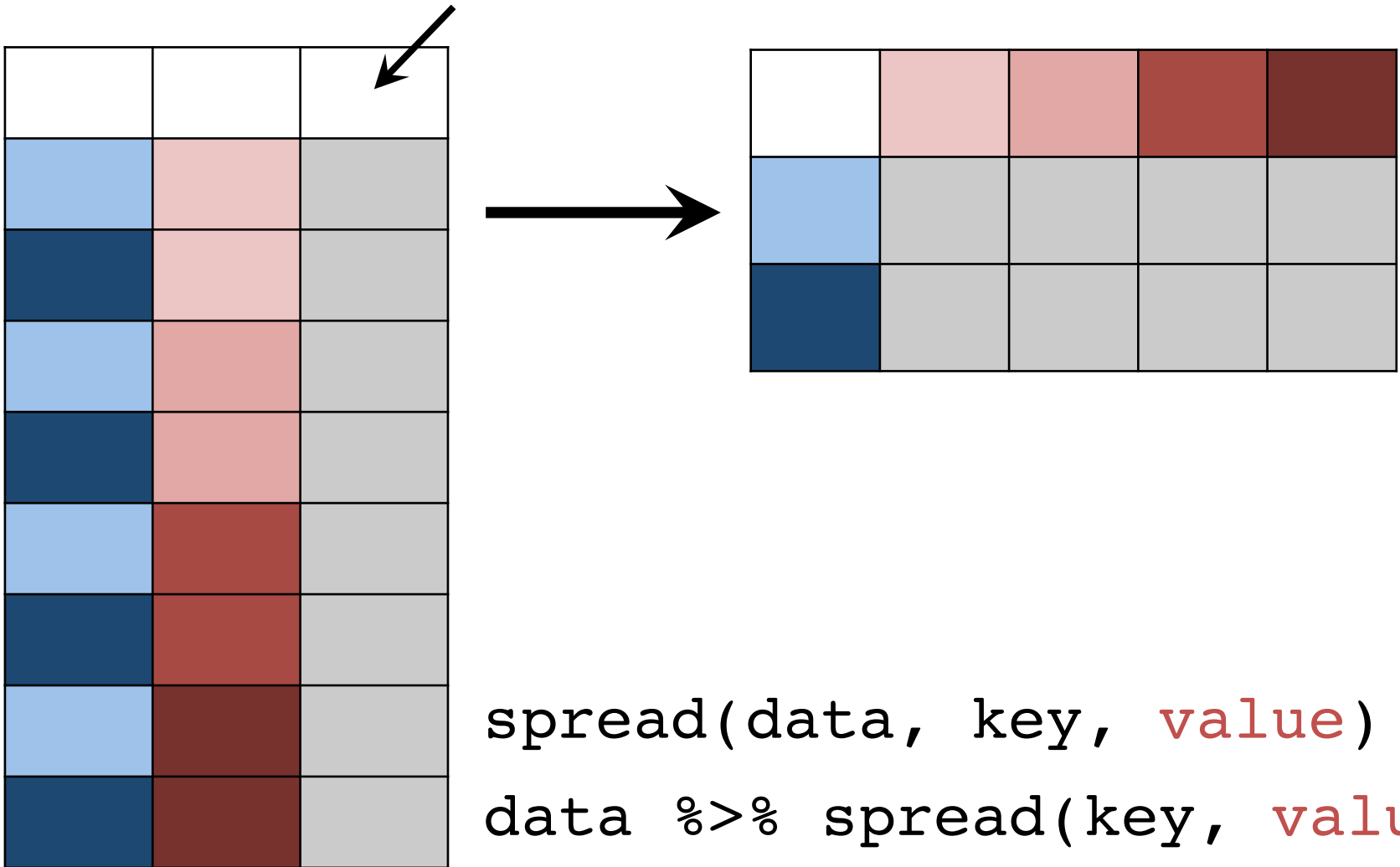


# spread(): make long table wide



# spread(): make long table wide

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
```