Reporting data results #1

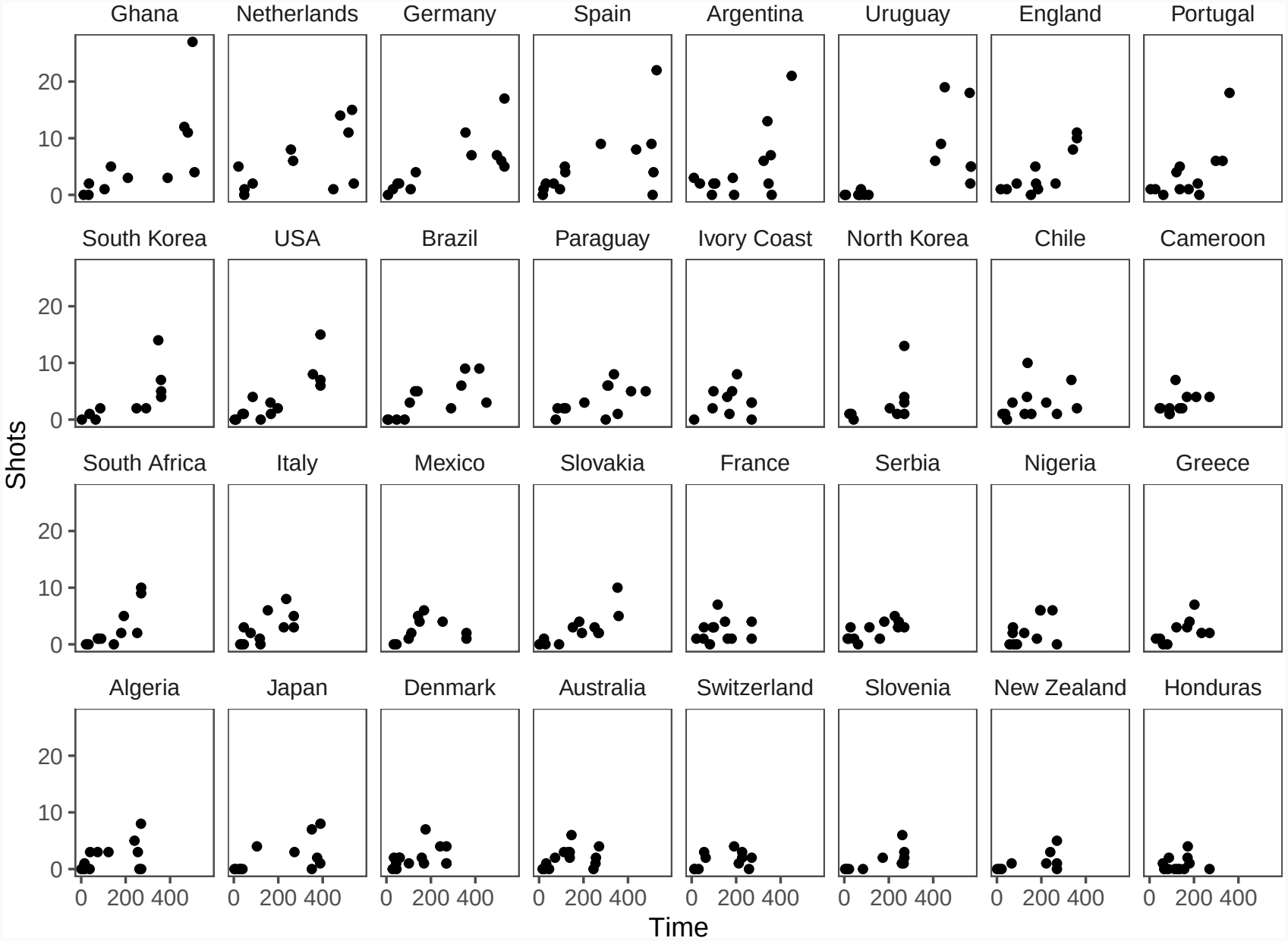
Small multiples

Small multiples

Guideline 5: **When possible, use small multiples.**

Small multiples are graphs that use many small plots showing the same thing for different facets of the data. For example, instead of using color in a single plot to show data for males and females, you could use two small plots, one each for males and females.

Typically, in small multiples, all plots with use the same x- and y-axes. This makes it easier to compare across plots, and it also allows you to save room by limiting axis annotation.


Ghana
Netherlands
Germany
Spain
Argentina
Uruguay
England
Portugal
South Korea
USA
Brazil
Paraguay
Ivory Coast
North Korea
Chile
Cameroon
South Africa
Italy
Mexico
Slovakia
France
Serbia
Nigeria
Greece
Algeria
Japan
Denmark
Australia
Switzerland
Slovenia
New Zealand
Honduras
Shots
0
10
20
0 200 400
Time

Small multiples

You can use the `facet` functions to create small multiples. This separates the graph into several small graphs, one for each level of a factor.

The `facet` functions are:

- `facet_grid()`
- `facet_wrap()`

Small multiples

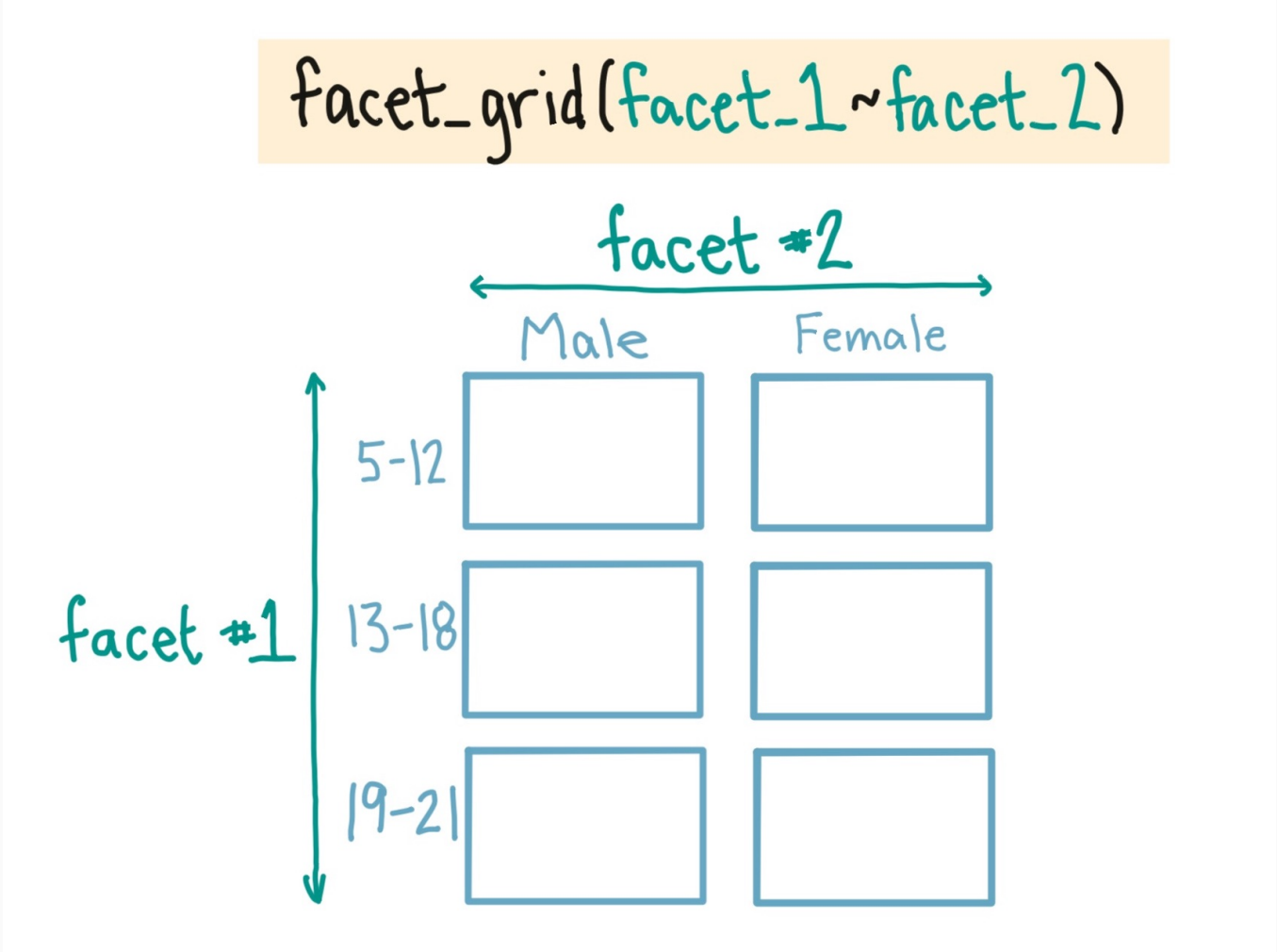
The `facet_grid` function can facet by one or two variables. One will be shown by rows, and one by columns:

```
## Generic code
facet_grid([factor for rows] ~ [factor for columns])
```

The `facet_wrap()` function can only facet by one variable, but it can "wrap" the small graphs for that variable, so the don't all have to be in one row or column:

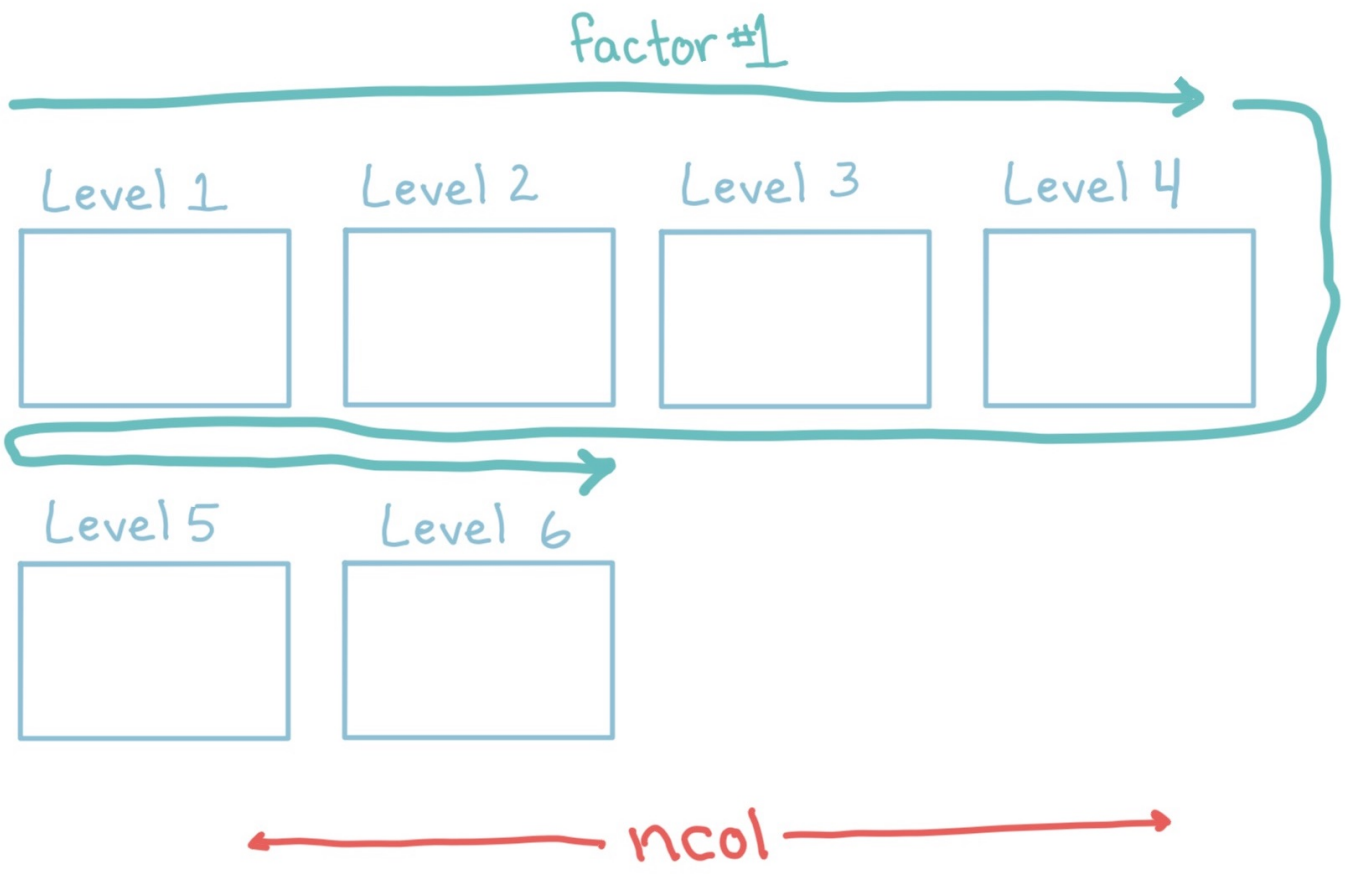
```
## Generic code
facet_wrap(~ [factor for faceting], ncol = [# of columns])
```

Small multiples



Small multiples

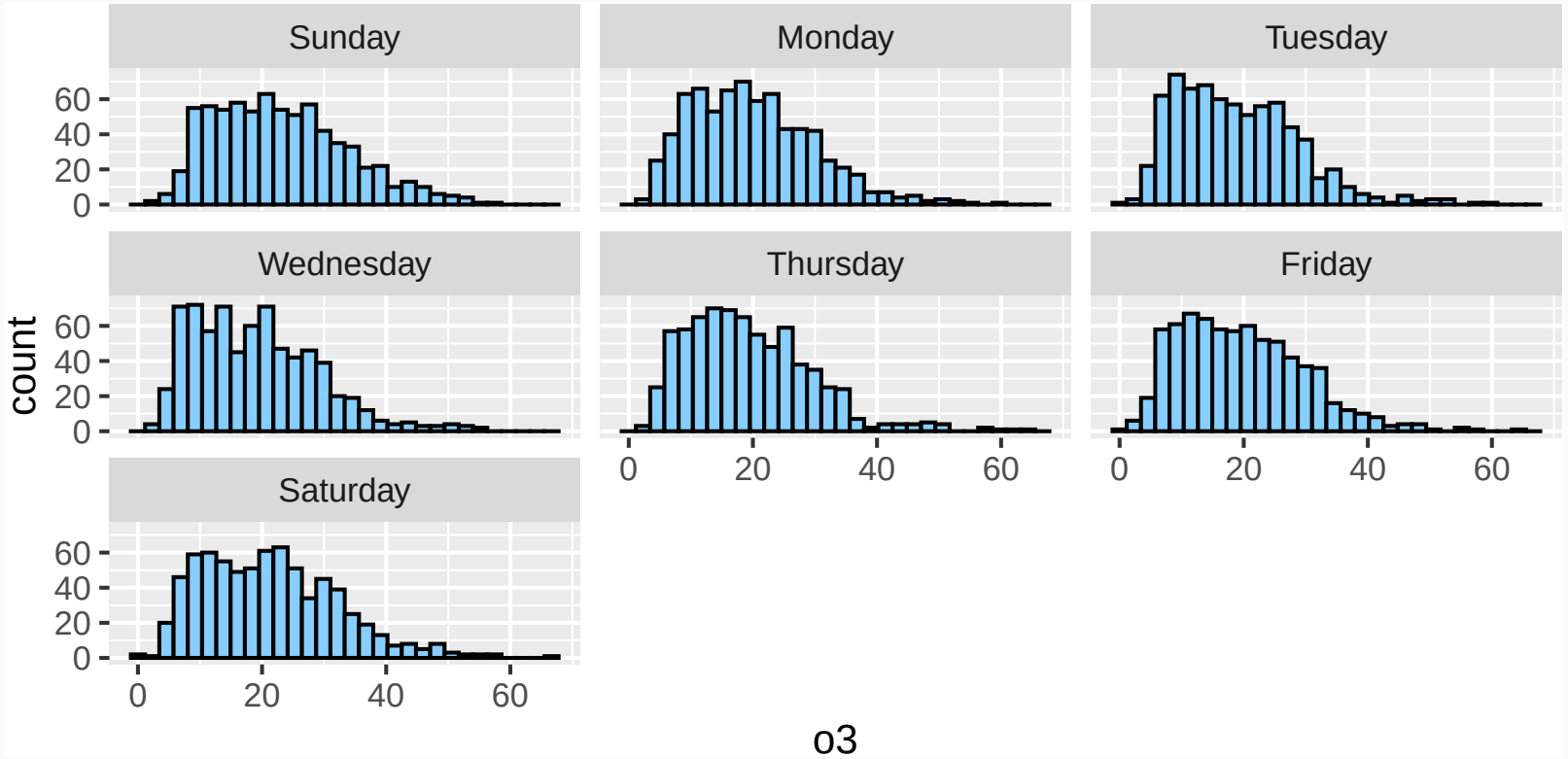
```
facet_wrap(~factor_1, ncol=4)
```



Small multiples

For example, to create small multiples of ozone concentration by day of week for the Chicago data, you can run:

```
chic %>%
  ggplot(aes(x = o3)) +
  geom_histogram(fill = "skyblue1", color = "black") +
  facet_wrap(~ dow)
```



Small multiples

To change the order of the facets, change the order of the factor levels for the factor you're using to facet.

Small multiples

For example, to move weekend days together, you could run:

```
library(forcats)
chic %>%
  mutate(dow = fct_relevel(dow, "Saturday")) %>%
  ggplot(aes(x = o3)) +
  geom_histogram(fill = "skyblue1", color = "black") +
  facet_wrap(~ dow)
```