```
g <- mtcars %>% ggplot()

g     %>%
# inspect data of most recent layer
                            layer_data(ifelse(
                            length(g$layers),1
```

```
   PANEL group
1      1    -1
2      1    -1
3      1    -1
4      1    -1
5      1    -1
6      1    -1
7      1    -1
8      1    -1
9      1    -1
10     1    -1
11     1    -1
12     1    -1
13     1    -1
14     1    -1
15     1    -1
16     1    -1
17     1    -1
18     1    -1
19     1    -1
20     1    -1
21     1    -1
22     1    -1
23     1    -1
24     1    -1
25     1    -1
26     1    -1
27     1    -1
28     1    -1
29     1    -1
30     1    -1
31     1    -1
32     1    -1
```

```
g <- mtcars %>% ggplot() +
  aes(x = cyl)

g     %>%
# inspect data of most recent layer
                           layer_data(ifelse(
                           length(g$layers),1
```

```
   x PANEL group
1  6     1    -1
2  6     1    -1
3  4     1    -1
4  6     1    -1
5  8     1    -1
6  6     1    -1
7  8     1    -1
8  4     1    -1
9  4     1    -1
10 6     1    -1
11 6     1    -1
12 8     1    -1
13 8     1    -1
14 8     1    -1
15 8     1    -1
16 8     1    -1
17 8     1    -1
18 4     1    -1
19 4     1    -1
20 4     1    -1
21 4     1    -1
22 8     1    -1
23 8     1    -1
24 8     1    -1
25 8     1    -1
26 4     1    -1
27 4     1    -1
28 4     1    -1
29 8     1    -1
30 6     1    -1
31 8     1    -1
32 4     1    -1
```

```
g <- mtcars %>% ggplot() +
  aes(x = cyl) +
  aes(y = wt)

g     %>%
# inspect data of most recent layer
                          layer_data(ifelse(
                          length(g$layers),1
```

```
       y x PANEL group
1  2.620 6     1    -1
2  2.875 6     1    -1
3  2.320 4     1    -1
4  3.215 6     1    -1
5  3.440 8     1    -1
6  3.460 6     1    -1
7  3.570 8     1    -1
8  3.190 4     1    -1
9  3.150 4     1    -1
10 3.440 6     1    -1
11 3.440 6     1    -1
12 4.070 8     1    -1
13 3.730 8     1    -1
14 3.780 8     1    -1
15 5.250 8     1    -1
16 5.424 8     1    -1
17 5.345 8     1    -1
18 2.200 4     1    -1
19 1.615 4     1    -1
20 1.835 4     1    -1
21 2.465 4     1    -1
22 3.520 8     1    -1
23 3.435 8     1    -1
24 3.840 8     1    -1
25 3.845 8     1    -1
26 1.935 4     1    -1
27 2.140 4     1    -1
28 1.513 4     1    -1
29 3.170 8     1    -1
30 2.770 6     1    -1
31 3.570 8     1    -1
32 2.780 4     1    -1
```

```
g <- mtcars %>% ggplot() +
  aes(x = cyl) +
  aes(y = wt) +
  stat_summary(geom = "pointrange",
               fun.data = mean_se)

g     %>%
# inspect data of most recent layer
                          layer_data(ifelse(
                          length(g$layers),1
```

```
  x group        y     ymin     ymax PANEL flipped_aes colour size linetype
1 4    -1 2.285727 2.113997 2.457457     1        FALSE  black  0.5        1
2 6    -1 3.117143 2.982457 3.251829     1        FALSE  black  0.5        1
3 8    -1 3.999214 3.796255 4.202174     1        FALSE  black  0.5        1
  shape fill alpha stroke
1    19   NA    NA      1
2    19   NA    NA      1
3    19   NA    NA      1
```

```
g <- mtcars %>% ggplot() +
  aes(x = cyl) +
  aes(y = wt) +
  stat_summary(geom = "pointrange",
               fun.data = mean_se) +
  geom_blank()

g     %>%
# inspect data of most recent layer
                          layer_data(ifelse(
                          length(g$layers),1
```

```
       y x PANEL group
1  2.620 6     1    -1
2  2.875 6     1    -1
3  2.320 4     1    -1
4  3.215 6     1    -1
5  3.440 8     1    -1
6  3.460 6     1    -1
7  3.570 8     1    -1
8  3.190 4     1    -1
9  3.150 4     1    -1
10 3.440 6     1    -1
11 3.440 6     1    -1
12 4.070 8     1    -1
13 3.730 8     1    -1
14 3.780 8     1    -1
15 5.250 8     1    -1
16 5.424 8     1    -1
17 5.345 8     1    -1
18 2.200 4     1    -1
19 1.615 4     1    -1
20 1.835 4     1    -1
21 2.465 4     1    -1
22 3.520 8     1    -1
23 3.435 8     1    -1
24 3.840 8     1    -1
25 3.845 8     1    -1
26 1.935 4     1    -1
27 2.140 4     1    -1
28 1.513 4     1    -1
29 3.170 8     1    -1
30 2.770 6     1    -1
31 3.570 8     1    -1
32 2.780 4     1    -1
```

```
g <- mtcars %>% ggplot() +
  aes(x = cyl) +
  aes(y = wt) +
  stat_summary(geom = "pointrange",
               fun.data = mean_se) +
  geom_blank() +
  geom_point(alpha = .3)

g     %>%
# inspect data of most recent layer
                          layer_data(ifelse(
                          length(g$layers),1
```

```
       y x PANEL group shape colour size fill alpha stroke
1  2.620 6     1    -1    19  black  1.5   NA   0.3    0.5
2  2.875 6     1    -1    19  black  1.5   NA   0.3    0.5
3  2.320 4     1    -1    19  black  1.5   NA   0.3    0.5
4  3.215 6     1    -1    19  black  1.5   NA   0.3    0.5
5  3.440 8     1    -1    19  black  1.5   NA   0.3    0.5
6  3.460 6     1    -1    19  black  1.5   NA   0.3    0.5
7  3.570 8     1    -1    19  black  1.5   NA   0.3    0.5
8  3.190 4     1    -1    19  black  1.5   NA   0.3    0.5
9  3.150 4     1    -1    19  black  1.5   NA   0.3    0.5
10 3.440 6     1    -1    19  black  1.5   NA   0.3    0.5
11 3.440 6     1    -1    19  black  1.5   NA   0.3    0.5
12 4.070 8     1    -1    19  black  1.5   NA   0.3    0.5
13 3.730 8     1    -1    19  black  1.5   NA   0.3    0.5
14 3.780 8     1    -1    19  black  1.5   NA   0.3    0.5
15 5.250 8     1    -1    19  black  1.5   NA   0.3    0.5
16 5.424 8     1    -1    19  black  1.5   NA   0.3    0.5
17 5.345 8     1    -1    19  black  1.5   NA   0.3    0.5
18 2.200 4     1    -1    19  black  1.5   NA   0.3    0.5
19 1.615 4     1    -1    19  black  1.5   NA   0.3    0.5
20 1.835 4     1    -1    19  black  1.5   NA   0.3    0.5
21 2.465 4     1    -1    19  black  1.5   NA   0.3    0.5
22 3.520 8     1    -1    19  black  1.5   NA   0.3    0.5
23 3.435 8     1    -1    19  black  1.5   NA   0.3    0.5
24 3.840 8     1    -1    19  black  1.5   NA   0.3    0.5
25 3.845 8     1    -1    19  black  1.5   NA   0.3    0.5
26 1.935 4     1    -1    19  black  1.5   NA   0.3    0.5
27 2.140 4     1    -1    19  black  1.5   NA   0.3    0.5
28 1.513 4     1    -1    19  black  1.5   NA   0.3    0.5
29 3.170 8     1    -1    19  black  1.5   NA   0.3    0.5
30 2.770 6     1    -1    19  black  1.5   NA   0.3    0.5
31 3.570 8     1    -1    19  black  1.5   NA   0.3    0.5
32 2.780 4     1    -1    19  black  1.5   NA   0.3    0.5
```

```r
g <- mtcars %>% ggplot() +
  aes(x = cyl) +
  aes(y = wt) +
  stat_summary(geom = "pointrange",
               fun.data = mean_se) +
  geom_blank() +
  geom_point(alpha = .3) +
  geom_boxplot(alpha = .2)

g     %>%
# inspect data of most recent layer
                          layer_data(ifelse(
                          length(g$layers),1
```

```
   ymin   lower middle upper ymax            outliers notchupper notchlower x
1 1.513 2.58125  3.325  3.61 4.07 5.250, 5.424, 5.345   3.612337   3.037663 6
  flipped_aes PANEL group ymin_final ymax_final xmin xmax xid newx new_width
1       FALSE     1    -1      1.513      5.424  4.2  7.8   1    6       3.6
  weight colour  fill size alpha shape linetype
1      1 grey20 white  0.5   0.2    19    solid
```

```r
g <- mtcars %>% ggplot() +
  aes(x = cyl) +
  aes(y = wt) +
  stat_summary(geom = "pointrange",
               fun.data = mean_se) +
  geom_blank() +
  geom_point(alpha = .3) +
  geom_boxplot(alpha = .2) +
  geom_boxplot(alpha = .4,
               color = "green",
               aes(group = cyl))

g     %>%
# inspect data of most recent layer
                          layer_data(ifelse(
                          length(g$layers),1
```

```
   ymin  lower middle   upper ymax            outliers notchupper notchlower x
1 1.513 1.8850  2.200 2.62250 3.19                       2.551336   1.848664 4
2 2.620 2.8225  3.215 3.44000 3.46                       3.583761   2.846239 6
3 3.170 3.5325  3.755 4.01375 4.07 5.250, 5.424, 5.345   3.958219   3.551781 8
  flipped_aes group PANEL ymin_final ymax_final xmin xmax xid newx new_width
1       FALSE     1     1      1.513      3.190 3.25 4.75   1    4       1.5
2       FALSE     2     1      2.620      3.460 5.25 6.75   2    6       1.5
3       FALSE     3     1      3.170      5.424 7.25 8.75   3    8       1.5
  weight colour  fill size alpha shape linetype
1      1  green white  0.5   0.4    19    solid
2      1  green white  0.5   0.4    19    solid
3      1  green white  0.5   0.4    19    solid
```

```r
g <- mtcars %>% ggplot() +
  aes(x = cyl) +
  aes(y = wt) +
  stat_summary(geom = "pointrange",
               fun.data = mean_se) +
  geom_blank() +
  geom_point(alpha = .3) +
  geom_boxplot(alpha = .2) +
  geom_boxplot(alpha = .4,
               color = "green",
               aes(group = cyl)) +
  geom_vline(xintercept = 5)

g     %>%
# inspect data of most recent layer
                          layer_data(ifelse(
                          length(g$layers),1
```

```
  xintercept PANEL group colour size linetype alpha
1          5     1    -1  black  0.5        1    NA
```

```
g <- mtcars %>% ggplot() +
  aes(x = cyl) +
  aes(y = wt) +
  stat_summary(geom = "pointrange",
               fun.data = mean_se) +
  geom_blank() +
  geom_point(alpha = .3) +
  geom_boxplot(alpha = .2) +
  geom_boxplot(alpha = .4,
               color = "green",
               aes(group = cyl)) +
  geom_vline(xintercept = 5) +
  geom_vline(aes(xintercept = mean(cyl)))

g     %>%
# inspect data of most recent layer
                          layer_data(ifelse(
                          length(g$layers),1
```

	xintercept	PANEL	group	colour	size	linetype	alpha
1	6.1875	1	-1	black	0.5	1	NA
2	6.1875	1	-1	black	0.5	1	NA
3	6.1875	1	-1	black	0.5	1	NA
4	6.1875	1	-1	black	0.5	1	NA
5	6.1875	1	-1	black	0.5	1	NA
6	6.1875	1	-1	black	0.5	1	NA
7	6.1875	1	-1	black	0.5	1	NA
8	6.1875	1	-1	black	0.5	1	NA
9	6.1875	1	-1	black	0.5	1	NA
10	6.1875	1	-1	black	0.5	1	NA
11	6.1875	1	-1	black	0.5	1	NA
12	6.1875	1	-1	black	0.5	1	NA
13	6.1875	1	-1	black	0.5	1	NA
14	6.1875	1	-1	black	0.5	1	NA
15	6.1875	1	-1	black	0.5	1	NA
16	6.1875	1	-1	black	0.5	1	NA
17	6.1875	1	-1	black	0.5	1	NA
18	6.1875	1	-1	black	0.5	1	NA
19	6.1875	1	-1	black	0.5	1	NA
20	6.1875	1	-1	black	0.5	1	NA
21	6.1875	1	-1	black	0.5	1	NA
22	6.1875	1	-1	black	0.5	1	NA
23	6.1875	1	-1	black	0.5	1	NA
24	6.1875	1	-1	black	0.5	1	NA
25	6.1875	1	-1	black	0.5	1	NA
26	6.1875	1	-1	black	0.5	1	NA
27	6.1875	1	-1	black	0.5	1	NA
28	6.1875	1	-1	black	0.5	1	NA
29	6.1875	1	-1	black	0.5	1	NA
30	6.1875	1	-1	black	0.5	1	NA
31	6.1875	1	-1	black	0.5	1	NA
32	6.1875	1	-1	black	0.5	1	NA

```r
g <- mtcars %>% ggplot() +
  aes(x = cyl) +
  aes(y = wt) +
  stat_summary(geom = "pointrange",
               fun.data = mean_se) +
  geom_blank() +
  geom_point(alpha = .3) +
  geom_boxplot(alpha = .2) +
  geom_boxplot(alpha = .4,
               color = "green",
               aes(group = cyl)) +
  geom_vline(xintercept = 5) +
  geom_vline(aes(xintercept = mean(cyl))) +
  stat_summary(geom = "point",
               color = "red",
               col = "goldenrod2",
               size = 8,
               fun.y = "mean")

g     %>%
# inspect data of most recent layer
                          layer_data(ifelse(
                          length(g$layers),1
```

```
  x group        y ymin ymax PANEL flipped_aes shape colour size fill alpha
1 4    -1 2.285727   NA   NA     1        FALSE    19    red    8   NA    NA
2 6    -1 3.117143   NA   NA     1        FALSE    19    red    8   NA    NA
3 8    -1 3.999214   NA   NA     1        FALSE    19    red    8   NA    NA
  stroke
1    0.5
2    0.5
3    0.5
```

```
g <- mtcars %>% ggplot() +
  aes(x = cyl) +
  aes(y = wt) +
  stat_summary(geom = "pointrange",
               fun.data = mean_se) +
  geom_blank() +
  geom_point(alpha = .3) +
  geom_boxplot(alpha = .2) +
  geom_boxplot(alpha = .4,
               color = "green",
               aes(group = cyl)) +
  geom_vline(xintercept = 5) +
  geom_vline(aes(xintercept = mean(cyl))) +
  stat_summary(geom = "point",
               color = "red",
               col = "goldenrod2",
               size = 8,
               fun.y = "mean")


g     %>%
# inspect data of most recent layer
                          layer_data(ifelse(
                          length(g$layers),1
```

```
  x group        y ymin ymax PANEL flipped_aes shape colour size fill alpha
1 4    -1 2.285727   NA   NA     1       FALSE    19    red    8   NA    NA
2 6    -1 3.117143   NA   NA     1       FALSE    19    red    8   NA    NA
3 8    -1 3.999214   NA   NA     1       FALSE    19    red    8   NA    NA
  stroke
1    0.5
2    0.5
3    0.5
```