line plot with multifacets

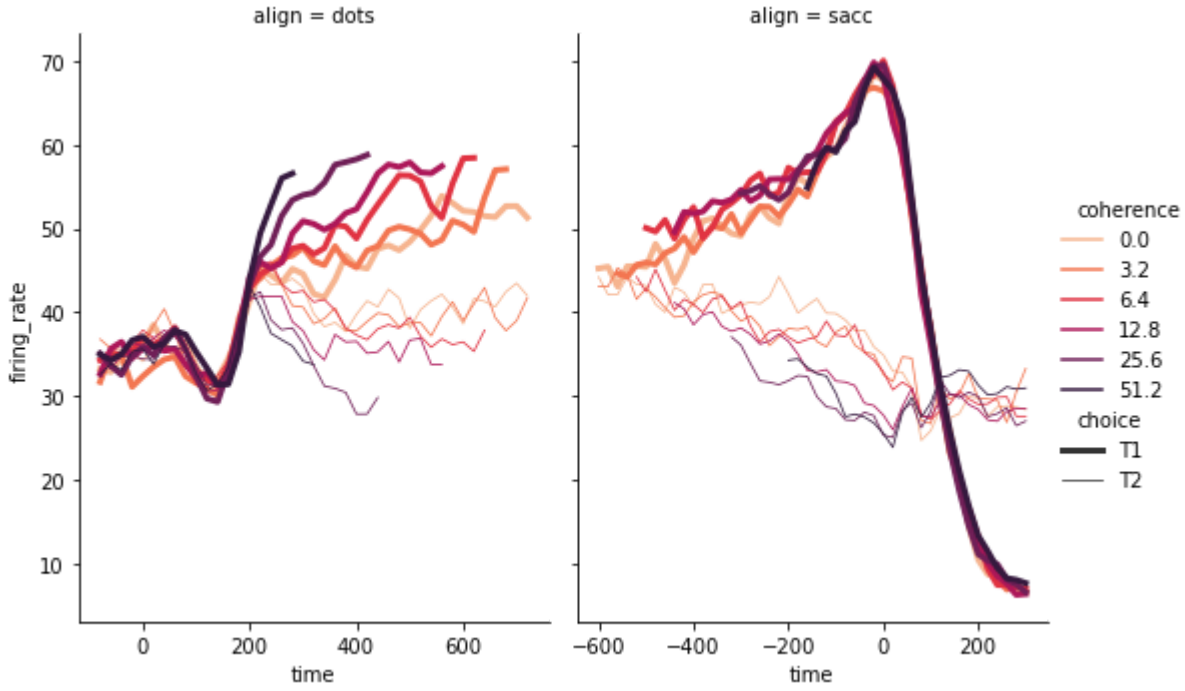
In [1]:
```
import seaborn as sns
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd

nuqta = sns.load_dataset("dots")
nuqta.head()
```

Out[1]:

	align	choice	time	coherence	firing_rate
0	dots	T1	-80	0.0	33.189967
1	dots	T1	-80	3.2	31.691726
2	dots	T1	-80	6.4	34.279840
3	dots	T1	-80	12.8	32.631874
4	dots	T1	-80	25.6	35.060487

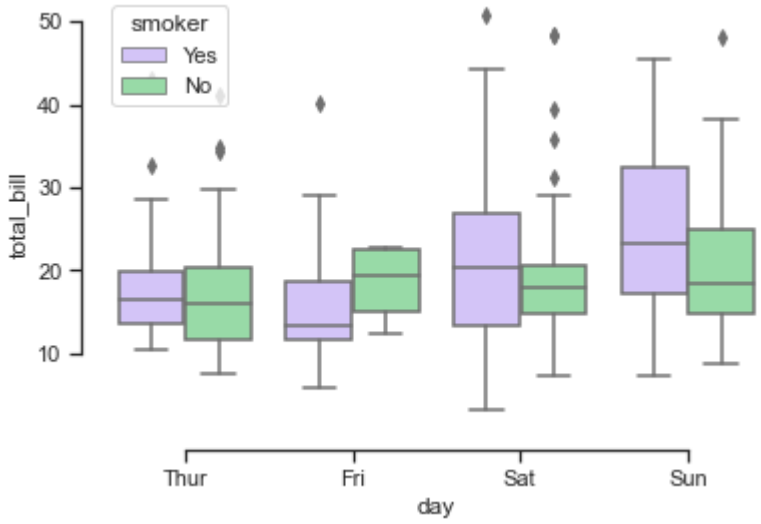
In [2]:
```
import seaborn as sns
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd

kashti = sns.load_dataset("titanic")

#defining a color pelette
p = sns.color_palette("rocket_r")

#plot lineplot

sns.relplot(
    data=nuqta,
    x="time", y="firing_rate",
    hue="coherence", size="choice", col="align",
    kind="line", size_order=["T1","T2"], palette=p,
    height=5, aspect=.75, facet_kws=dict(sharex=False),
)
```

Out[2]:
```
<seaborn.axisgrid.FacetGrid at 0x27e35e31070>
```



In [3]:

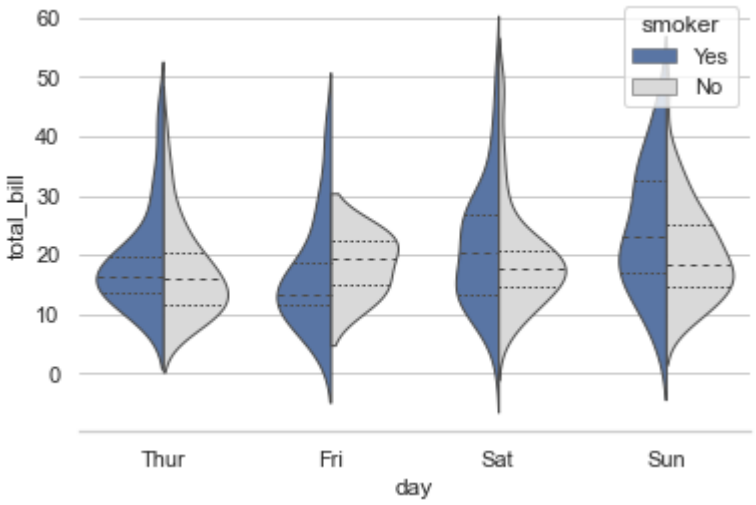
```
import seaborn as sns
sns.set_theme(style="ticks", palette="pastel")

#Load the example tips dataset
tips = sns.load_dataset("tips")

#draw a nested boxplot to show bills by day and time
sns.boxplot(x="day", y="total_bill",
            hue="smoker", palette=["m", "g"],
            data=tips)
sns.despine(offset=10, trim=True)
```



In [4]:

```
import seaborn as sns
sns.set_theme(style="whitegrid")

# Load the example tips dataset
tips = sns.load_dataset("tips")
```

```
# Draw a nested violinplot and split the violins for easier comparison
sns.violinplot(data=tips, x="day", y="total_bill", hue="smoker",
               split=True, inner="quart", linewidth=1,
               palette={"Yes": "b", "No": ".85"})
sns.despine(left=True)
```

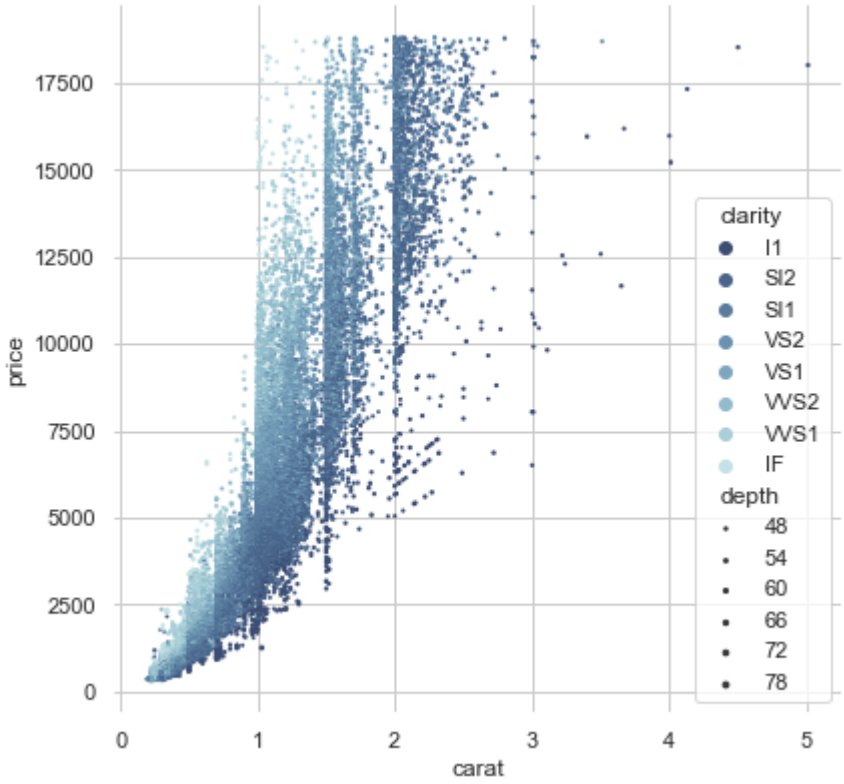


In [5]:

```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="whitegrid")

# Load the example diamonds dataset
diamonds = sns.load_dataset("diamonds")

# Draw a scatter plot while assigning point colors and sizes to different
# variables in the dataset
f, ax = plt.subplots(figsize=(6.5, 6.5))
sns.despine(f, left=True, bottom=True)
clarity_ranking = ["I1", "SI2", "SI1", "VS2", "VS1", "VVS2", "VVS1", "IF"]
sns.scatterplot(x="carat", y="price",
                hue="clarity", size="depth",
                palette="ch:r=-.2,d=.3_r",
                hue_order=clarity_ranking,
                sizes=(1, 8), linewidth=0,
                data=diamonds, ax=ax)
```

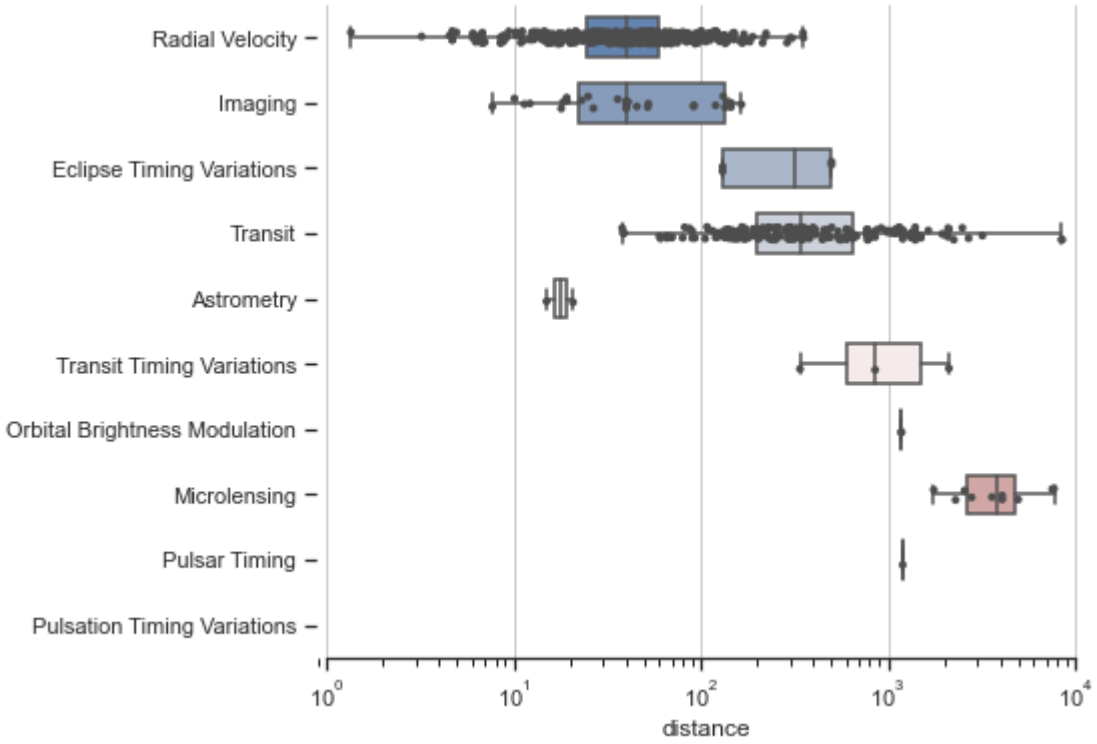
Out[5]:

```
<AxesSubplot:xlabel='carat', ylabel='price'>
```



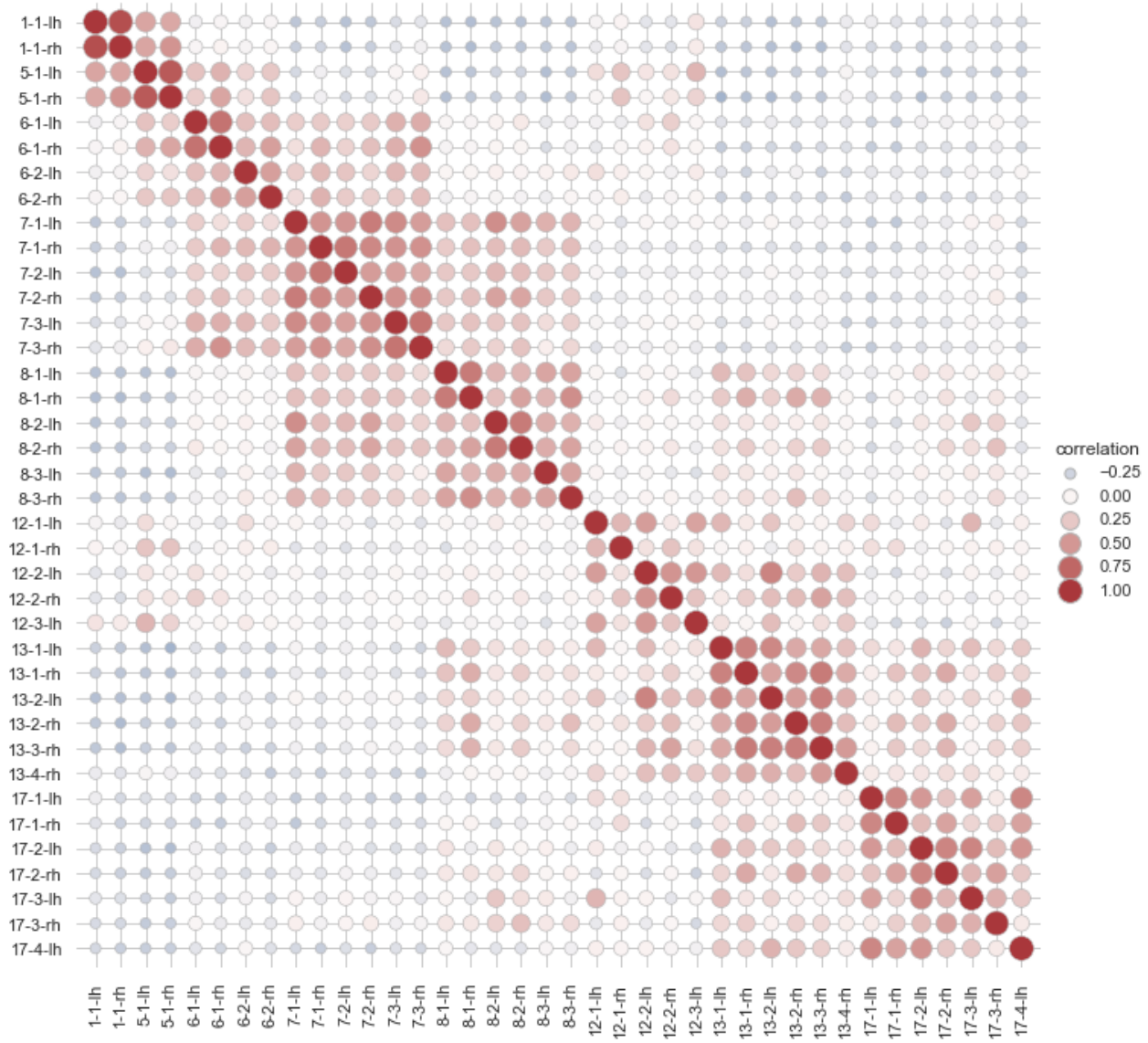
In [6]:

```
import seaborn as sns
import matplotlib.pyplot as plt

sns.set_theme(style="ticks")

# Initialize the figure with a logarithmic x axis
f, ax = plt.subplots(figsize=(7, 6))
ax.set_xscale("log")

# Load the example planets dataset
planets = sns.load_dataset("planets")

# Plot the orbital period with horizontal boxes
sns.boxplot(x="distance", y="method", data=planets,
            whis=[0, 100], width=.6, palette="vlag")

# Add in points to show each observation
sns.stripplot(x="distance", y="method", data=planets,
              size=4, color=".3", linewidth=0)

# Tweak the visual presentation
ax.xaxis.grid(True)
ax.set(ylabel="")
sns.despine(trim=True, left=True)
```



In [7]:

```
import seaborn as sns
sns.set_theme(style="whitegrid")

# Load the brain networks dataset, select subset, and collapse the multi-index
df = sns.load_dataset("brain_networks", header=[0, 1, 2], index_col=0)

used_networks = [1, 5, 6, 7, 8, 12, 13, 17]
used_columns = (df.columns
                  .get_level_values("network")
                  .astype(int)
                  .isin(used_networks))
df = df.loc[:, used_columns]

df.columns = df.columns.map("-".join)

# Compute a correlation matrix and convert to long-form
corr_mat = df.corr().stack().reset_index(name="correlation")

# Draw each cell as a scatter point with varying size and color
g = sns.relplot(
    data=corr_mat,
    x="level_0", y="level_1", hue="correlation", size="correlation",
    palette="vlag", hue_norm=(-1, 1), edgecolor=".7",
    height=10, sizes=(50, 250), size_norm=(-.2, .8),
)

# Tweak the figure to finalize
g.set(xlabel="", ylabel="", aspect="equal")
g.despine(left=True, bottom=True)
g.ax.margins(.02)
for label in g.ax.get_xticklabels():
    label.set_rotation(90)
for artist in g.legend.legendHandles:
    artist.set_edgecolor(".7")
```

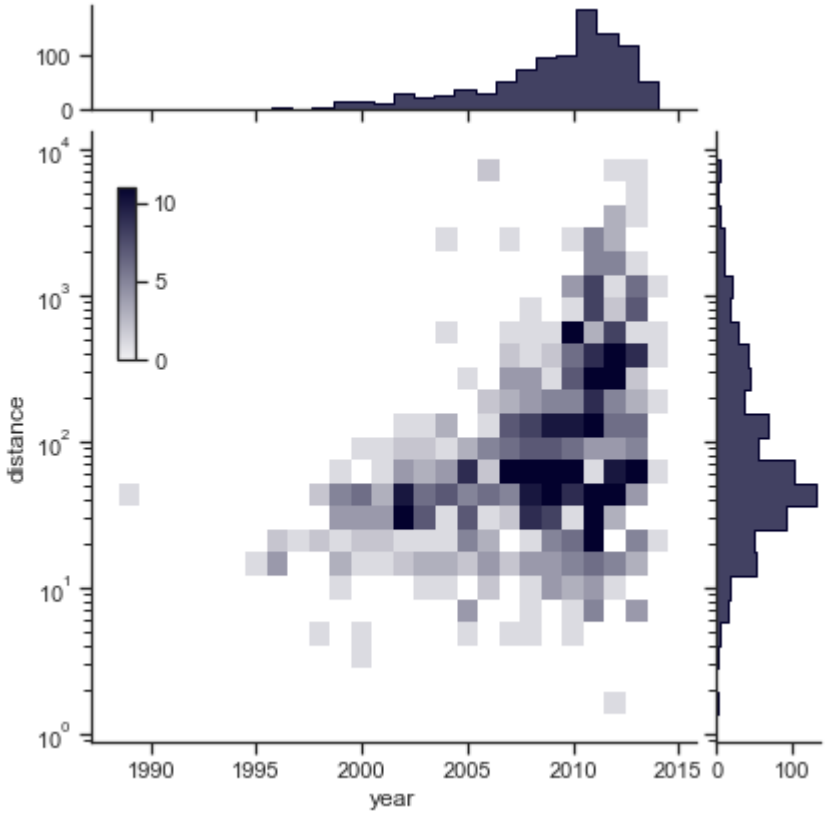


In [8]:

```
import seaborn as sns
sns.set_theme(style="ticks")

# Load the planets dataset and initialize the figure
planets = sns.load_dataset("planets")
g = sns.JointGrid(data=planets, x="year", y="distance", marginal_ticks=True)

# Set a log scaling on the y axis
g.ax_joint.set(yscale="log")

# Create an inset legend for the histogram colorbar
cax = g.figure.add_axes([.15, .55, .02, .2])

# Add the joint and marginal histogram plots
g.plot_joint(
    sns.histplot, discrete=(True, False),
    cmap="light:#03012d", pmax=.8, cbar=True, cbar_ax=cax
)
g.plot_marginals(sns.histplot, element="step", color="#03012d")
```

Out[8]:

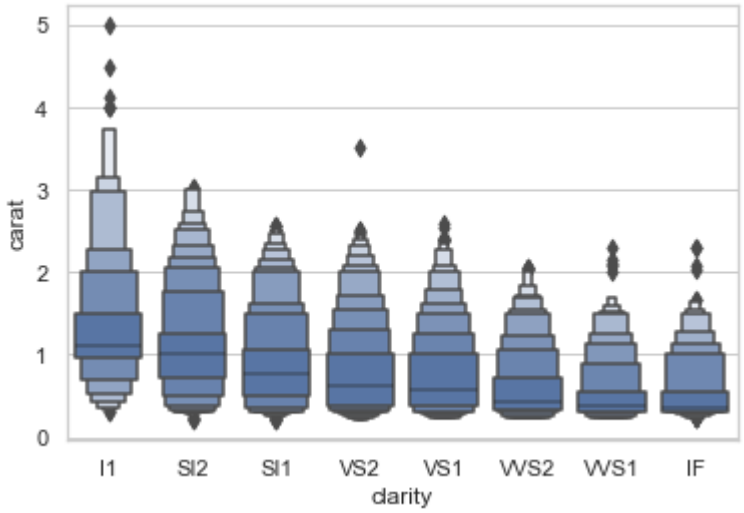
```
<seaborn.axisgrid.JointGrid at 0x27e3b804d90>
```



In [9]:

```
import seaborn as sns
sns.set_theme(style="whitegrid")

diamonds = sns.load_dataset("diamonds")
clarity_ranking = ["I1", "SI2", "SI1", "VS2", "VS1", "VVS2", "VVS1", "IF"]

sns.boxenplot(x="clarity", y="carat",
              color="b", order=clarity_ranking,
              scale="linear", data=diamonds)
```

Out[9]: <AxesSubplot:xlabel='clarity', ylabel='carat'>



In [10]:

```
import seaborn as sns
import numpy as np
import matplotlib.pyplot as plt
```

```
import pandas as pd

nuqta = sns.load_dataset("dots")
nuqta.head()
```

Out[10]:

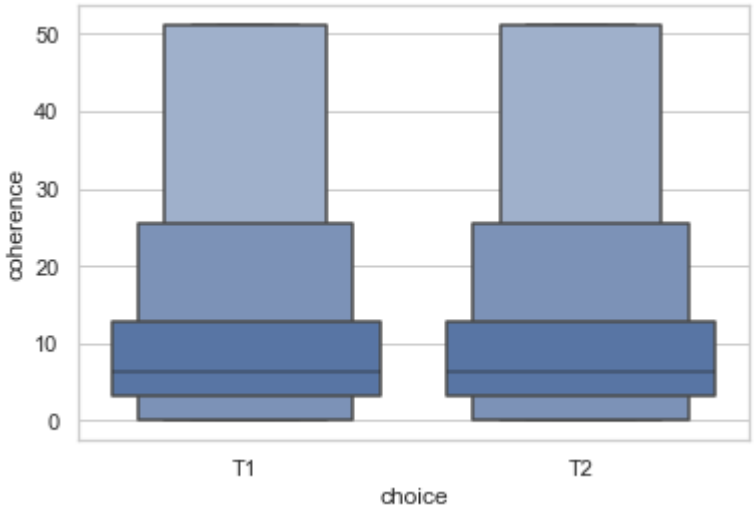
	align	choice	time	coherence	firing_rate
0	dots	T1	-80	0.0	33.189967
1	dots	T1	-80	3.2	31.691726
2	dots	T1	-80	6.4	34.279840
3	dots	T1	-80	12.8	32.631874
4	dots	T1	-80	25.6	35.060487

In [11]:

```
import seaborn as sns
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd

sns.set_theme(style="whitegrid")
nuqta = sns.load_dataset("dots")


#clarity_ranking = ["I1", "SI2", "SI1", "VS2", "VS1", "VVS2", "VVS1", "IF"]

sns.boxenplot(x="choice", y="coherence",
              color="b",
              scale="linear", data=nuqta)
```

Out[11]:

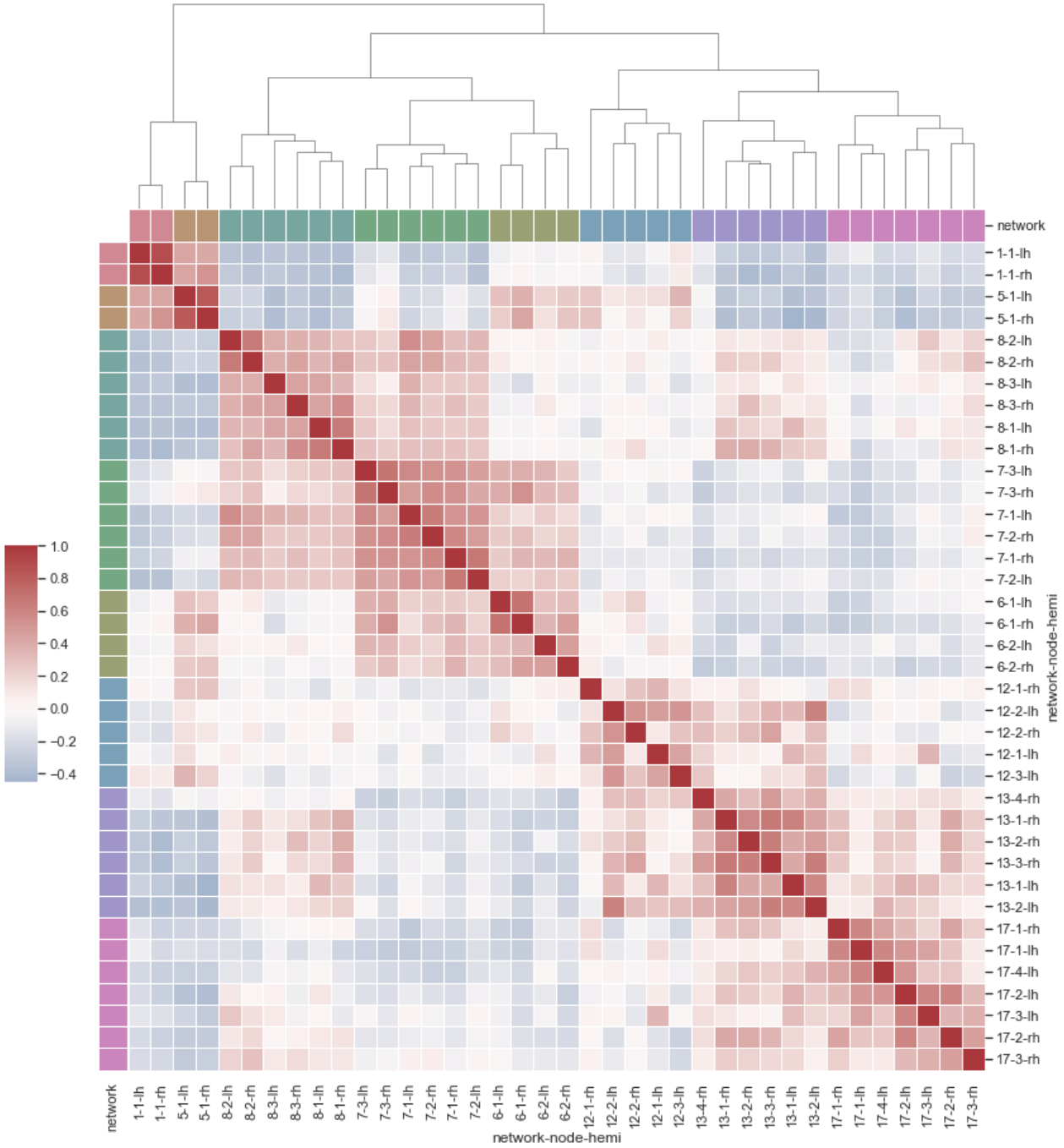
```
<AxesSubplot:xlabel='choice', ylabel='coherence'>
```



In [12]:

```
import pandas as pd
import seaborn as sns
sns.set_theme()

# Load the brain networks example dataset
df = sns.load_dataset("brain_networks", header=[0, 1, 2], index_col=0)
```

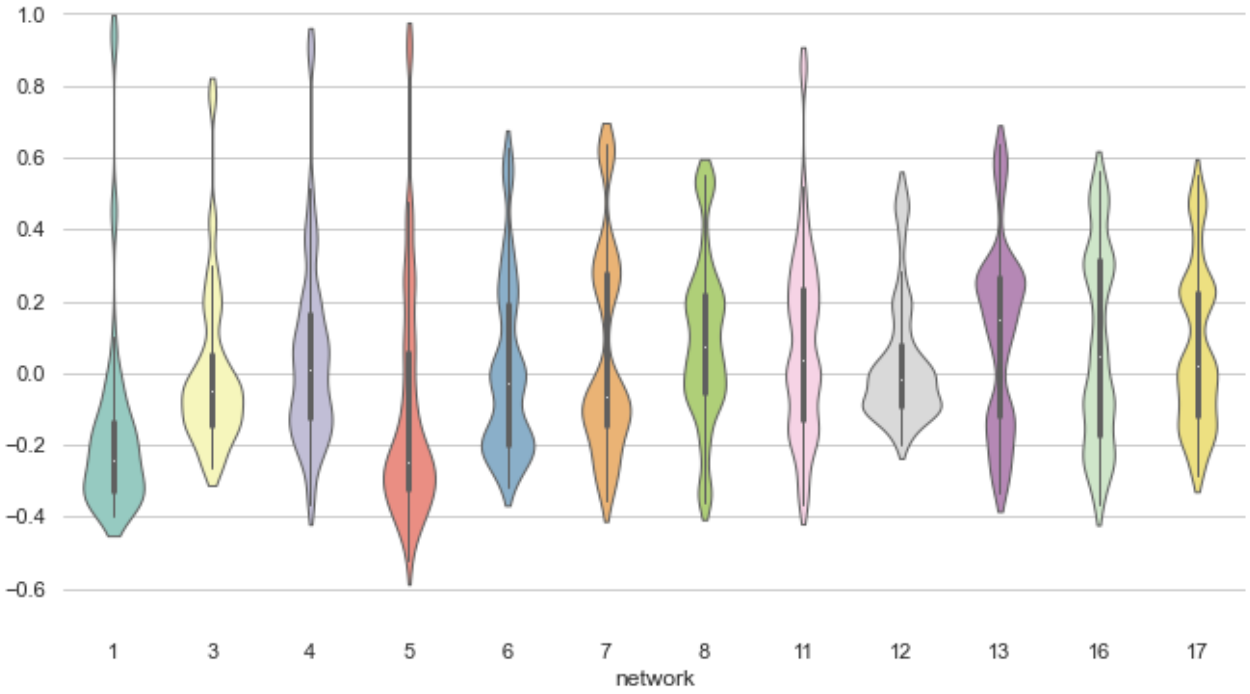
```
# Select a subset of the networks
used_networks = [1, 5, 6, 7, 8, 12, 13, 17]
used_columns = (df.columns.get_level_values("network")
                          .astype(int)
                          .isin(used_networks))
df = df.loc[:, used_columns]

# Create a categorical palette to identify the networks
network_pal = sns.husl_palette(8, s=.45)
network_lut = dict(zip(map(str, used_networks), network_pal))

# Convert the palette to vectors that will be drawn on the side of the matrix
networks = df.columns.get_level_values("network")
network_colors = pd.Series(networks, index=df.columns).map(network_lut)

# Draw the full plot
g = sns.clustermap(df.corr(), center=0, cmap="vlag",
                   row_colors=network_colors, col_colors=network_colors,
                   dendrogram_ratio=(.1, .2),
                   cbar_pos=(.02, .32, .03, .2),
                   linewidths=.75, figsize=(12, 13))

g.ax_row_dendrogram.remove()
```



In [13]:

```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="whitegrid")

# Load the example dataset of brain network correlations
df = sns.load_dataset("brain_networks", header=[0, 1, 2], index_col=0)

# Pull out a specific subset of networks
used_networks = [1, 3, 4, 5, 6, 7, 8, 11, 12, 13, 16, 17]
used_columns = (df.columns.get_level_values("network")
                          .astype(int)
                          .isin(used_networks))
df = df.loc[:, used_columns]

# Compute the correlation matrix and average over networks
corr_df = df.corr().groupby(level="network").mean()
```

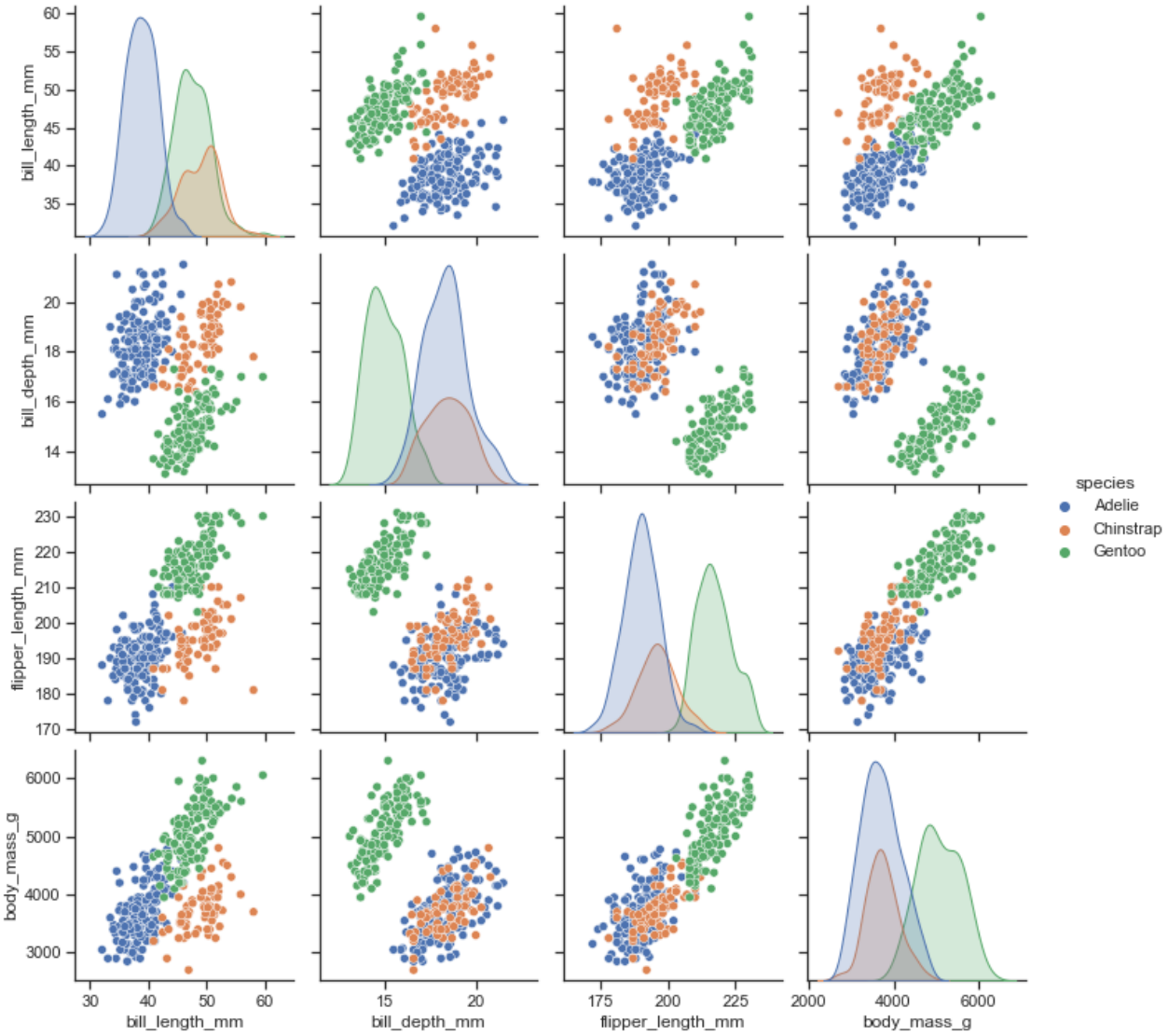
```
corr_df.index = corr_df.index.astype(int)
corr_df = corr_df.sort_index().T

# Set up the matplotlib figure
f, ax = plt.subplots(figsize=(11, 6))

# Draw a violinplot with a narrower bandwidth than the default
sns.violinplot(data=corr_df, palette="Set3", bw=.2, cut=1, linewidth=1)

# Finalize the figure
ax.set(ylim=(-.7, 1.05))
sns.despine(left=True, bottom=True)
```



In [14]:

```
import seaborn as sns
sns.set_theme(style="ticks")

df = sns.load_dataset("penguins")
sns.pairplot(df, hue="species")
```

Out[14]: <seaborn.axisgrid.PairGrid at 0x27e3d09f130>

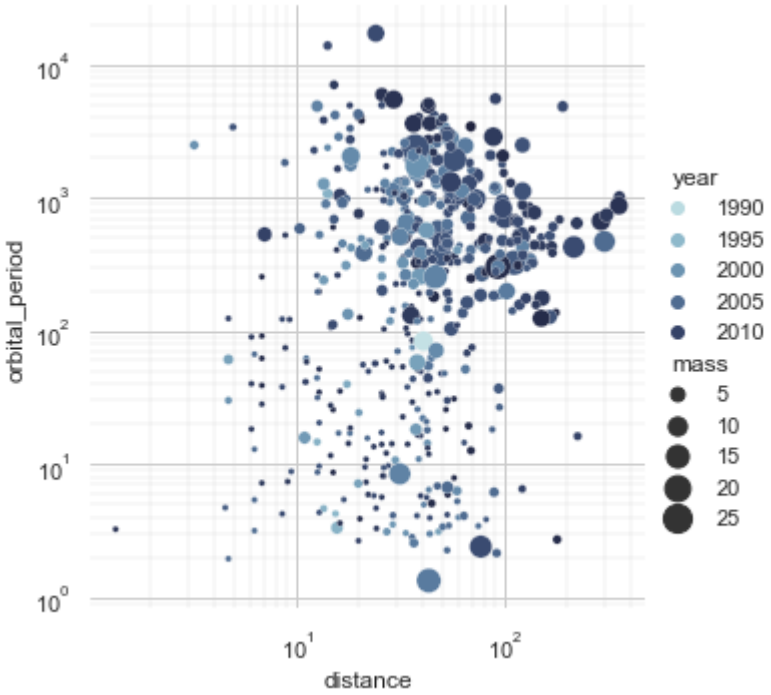


In [15]:

```
import seaborn as sns
sns.set_theme(style="whitegrid")

# Load the example planets dataset
planets = sns.load_dataset("planets")

cmap = sns.cubehelix_palette(rot=-.2, as_cmap=True)
g = sns.relplot(
    data=planets,
    x="distance", y="orbital_period",
    hue="year", size="mass",
    palette=cmap, sizes=(10, 200),
)
g.set(xscale="log", yscale="log")
g.ax.xaxis.grid(True, "minor", linewidth=.25)
g.ax.yaxis.grid(True, "minor", linewidth=.25)
g.despine(left=True, bottom=True)
```

Out[15]:

```
<seaborn.axisgrid.FacetGrid at 0x27e3b9d47f0>
```

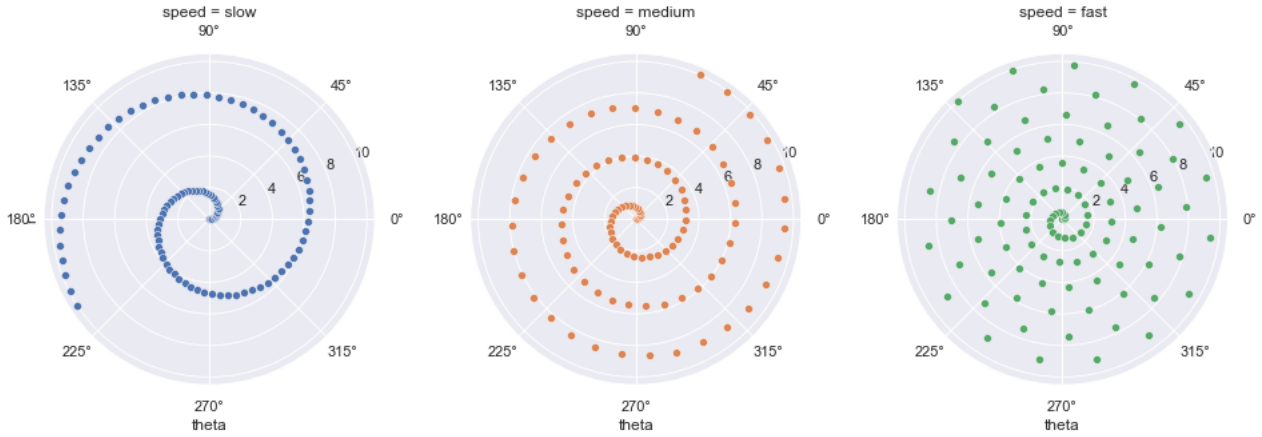


In [16]:

```
import numpy as np
import pandas as pd
import seaborn as sns

sns.set_theme()

# Generate an example radial datast
r = np.linspace(0, 10, num=100)
df = pd.DataFrame({'r': r, 'slow': r, 'medium': 2 * r, 'fast': 4 * r})

# Convert the dataframe to long-form or "tidy" format
df = pd.melt(df, id_vars=['r'], var_name='speed', value_name='theta')

# Set up a grid of axes with a polar projection
g = sns.FacetGrid(df, col="speed", hue="speed",
                  subplot_kws=dict(projection='polar'), height=4.5,
                  sharex=False, sharey=False, despine=False)

# Draw a scatterplot onto each axes in the grid
g.map(sns.scatterplot, "theta", "r")
```

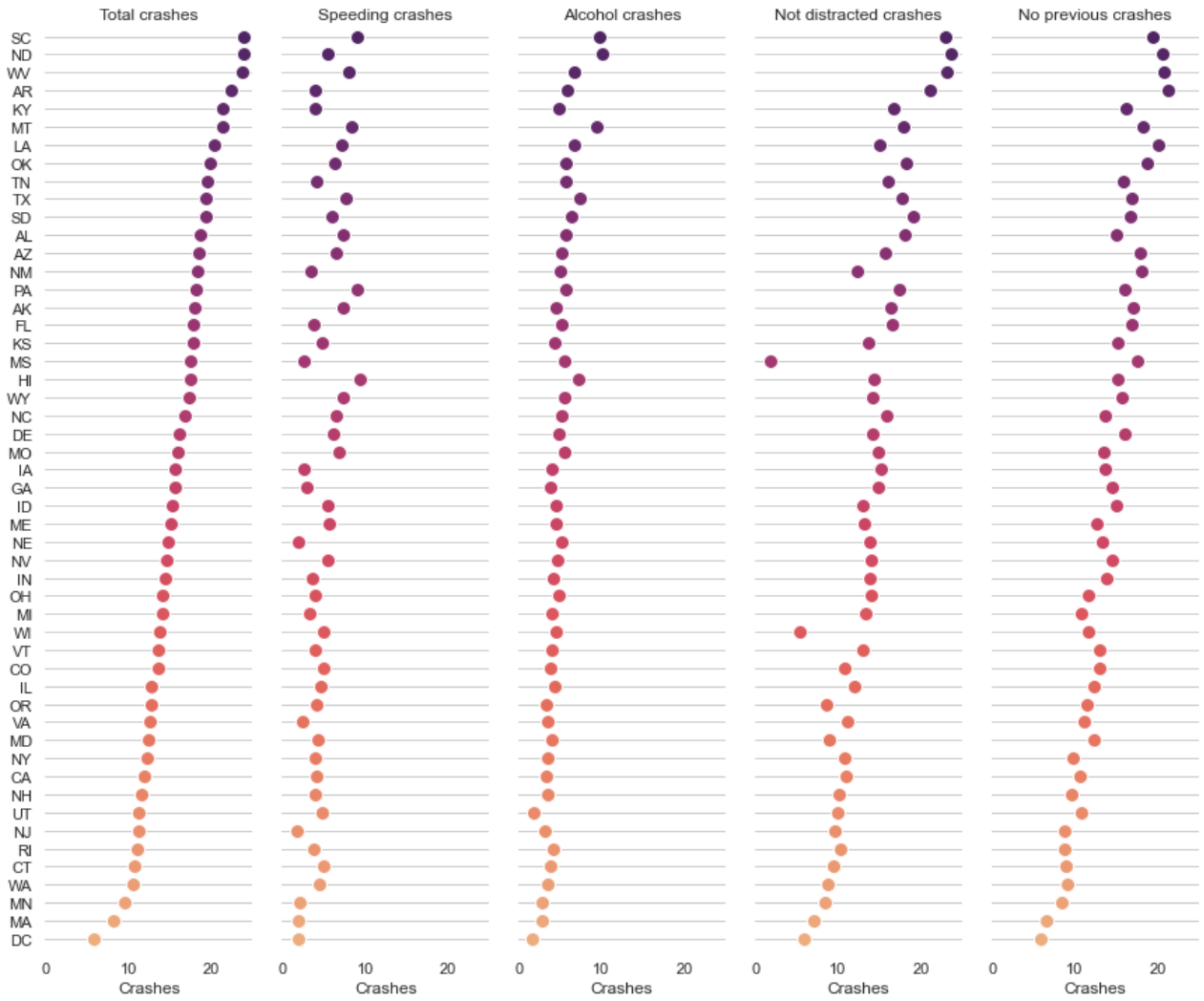
Out[16]:

```
<seaborn.axisgrid.FacetGrid at 0x27e3c801d60>
```



In [17]:

```
import seaborn as sns
sns.set_theme(style="whitegrid")

# Load the dataset
crashes = sns.load_dataset("car_crashes")

# Make the PairGrid
g = sns.PairGrid(crashes.sort_values("total", ascending=False),
                 x_vars=crashes.columns[:-3], y_vars=["abbrev"],
                 height=10, aspect=.25)

# Draw a dot plot using the stripplot function
g.map(sns.stripplot, size=10, orient="h", jitter=False,
      palette="flare_r", linewidth=1, edgecolor="w")

# Use the same x axis limits on all columns and add better labels
g.set(xlim=(0, 25), xlabel="Crashes", ylabel="")

# Use semantically meaningful titles for the columns
titles = ["Total crashes", "Speeding crashes", "Alcohol crashes",
          "Not distracted crashes", "No previous crashes"]

for ax, title in zip(g.axes.flat, titles):

    # Set a different title for each axes
    ax.set(title=title)

    # Make the grid horizontal instead of vertical
    ax.xaxis.grid(False)
    ax.yaxis.grid(True)

sns.despine(left=True, bottom=True)
```


Total crashes
Speeding crashes
Alcohol crashes
Not distracted crashes
No previous crashes
SC
ND
WV
AR
KY
MT
LA
OK
TN
TX
SD
AL
AZ
NM
PA
AK
FL
KS
MS
HI
WY
NC
DE
MO
IA
GA
ID
ME
NE
NV
IN
OH
MI
WI
VT
CO
IL
OR
VA
MD
NY
CA
NH
UT
NJ
RI
CT
WA
MN
MA
DC
0
10
20
Crashes