I Learned Data Viz in a Year, and You Can Too

How I went from making simple charts to running workshops, and what I learned along the way

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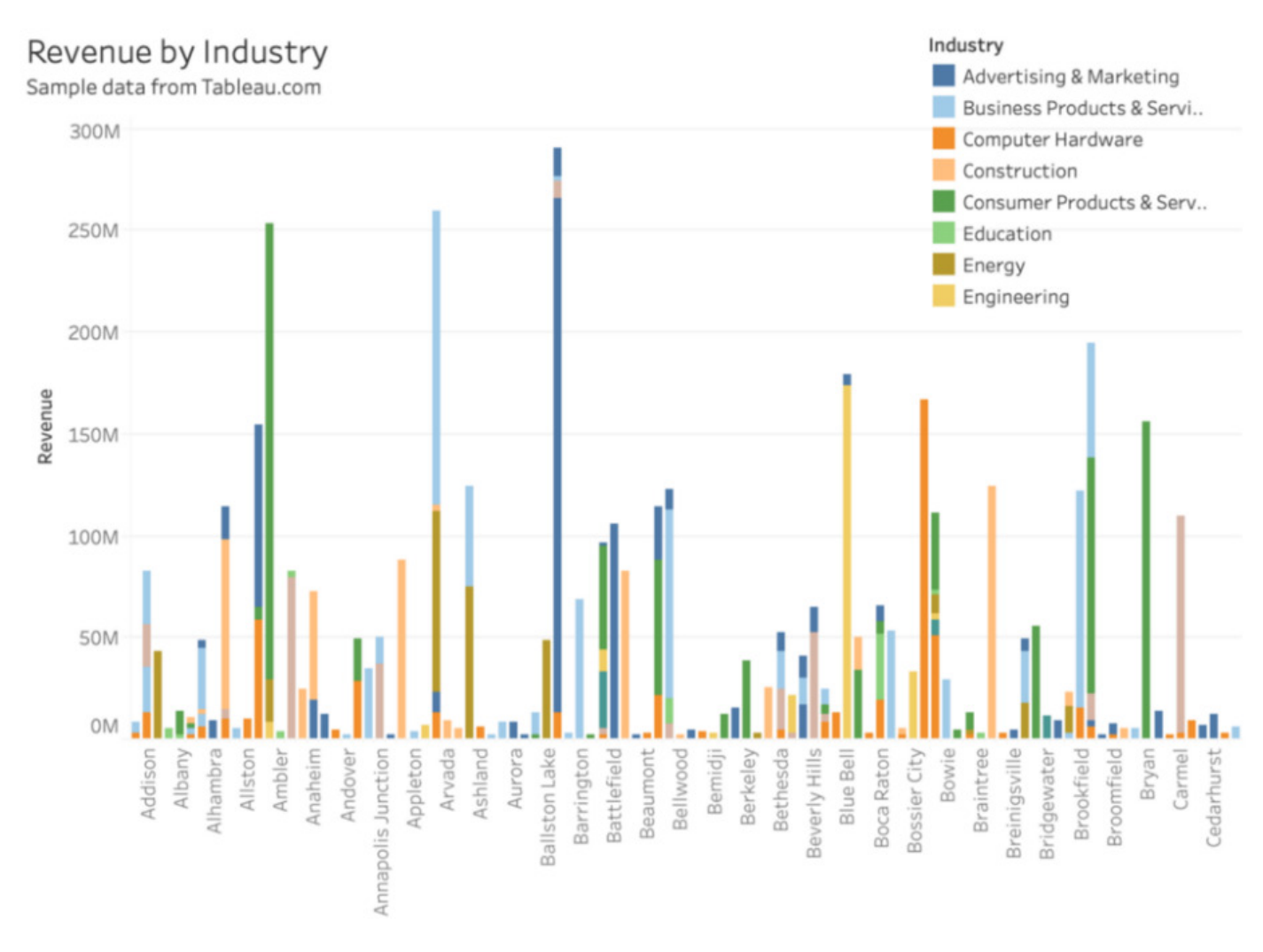
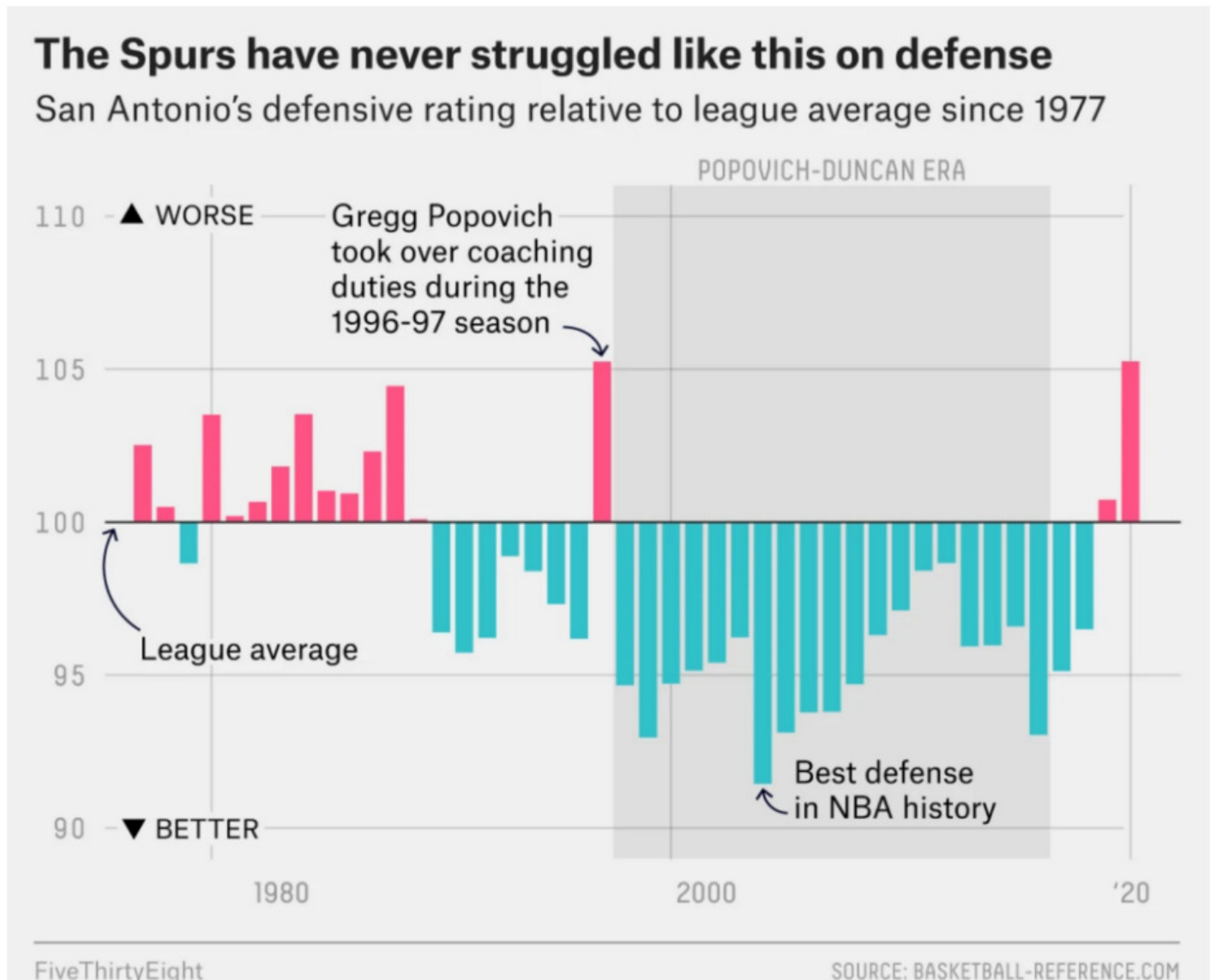
Mar 24 · 7 min read ★

The first important job of my career was that of a financial analyst. I worked at this position for five years and created many data visualisations (commonly known as data viz). Most of the time, I chose a chart recommended by Excel. This meant that I didn't pause to ask myself whether the reader could easily understand the data behind it. Ten-colour stacked bar charts and multiple pies seemed fine at the time.



The kind of design I used to be OK with. Can you understand anything in it?

It all shifted when I started learning Python for data analysis in early 2019. Since interpreting data is part of data analysis, visualisation is very important. Multiple tools and templates exist to help Python programmers design data visualisations. While I was learning about them on Data Camp, I discovered how powerful and beautiful a data viz can be. My favourite design is that of FiveThirtyEight. I've included an example below. Isn't it stunning? Three things stand out in all their designs: simplicity, effective use of colour, and informative annotations.



An example of a @FiveThirtyEight chart.

Once I discovered that a graph can be this pretty (and easy to make!), things unraveled quickly. I started reading books, following blogs and twitter feeds of visualisation experts. I convinced my team at work to start using Tableau, taught them the tool and wrote a beginner's guide to Tableau. By the end of the year, I was running data visualisation workshops for the entire department. Today, I call myself a data visualisation enthusiast. I create charts and dashboards nearly every day for both work and personal research, and cannot imagine my life without them.

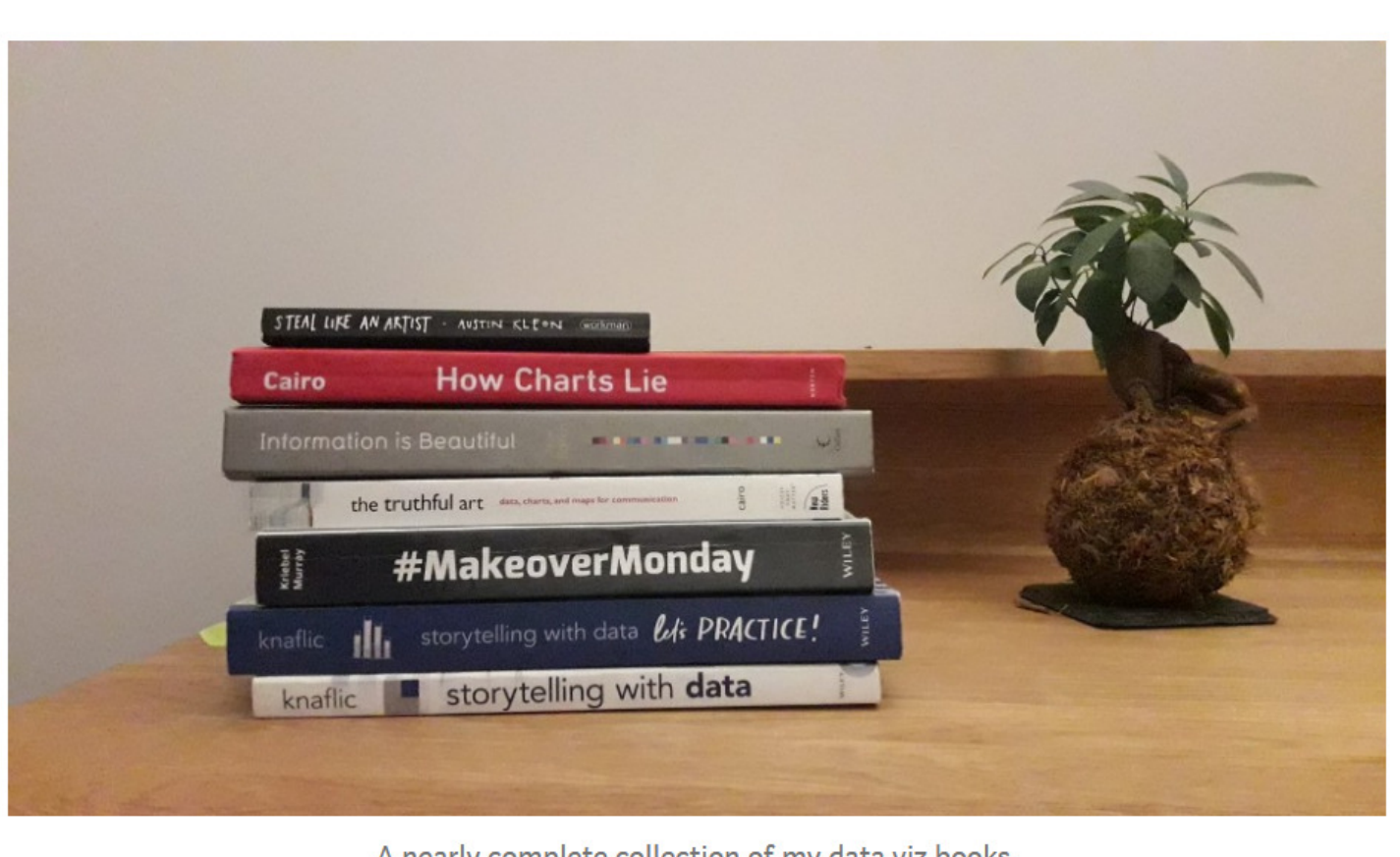
But how could I have learned so much in a single year?

The learning tools

Books

Cole Nussbaumer Knaflic's *Storytelling with Data* was the first data visualisation book I got my hands on. This book forever changed the way I make graphs. Cole taught me to put data first by removing clutter (think borders and gridlines), to use colour only with purpose and sparingly, to align elements in charts by following Gestalt principles of perception, and much more.

I enjoyed Cole's book so much that I read many more on the topic in the months that followed.



A nearly complete collection of my data viz books.

Below, I've shared a comprehensive list of my starter kit. I hope it may also help you pick up data visualisation!

- *Storytelling with Data* by Cole Nussbaumer Knaflic. The first book is on the basics, and the second contains a list of exercises for your personal practice and for teaching others.

A Review of 'Storytelling With Data'
Cole Nussbaumer Knaflic's book is an accessible resource for data viz practitioners, clients, and everyone in between
medium.com

- Alberto Cairo's *The Truthful Art*. This book shows you how to create effective charts and ensure that your analyses are correct. It's a bit of a technical read but worth your time.
- Alberto Cairo's latest book — *How Charts Lie*. This one will help you better understand and avoid data visualisation pitfalls.
- *The Big Book of Dashboards* (missing from the picture above!). Steve Wexler, Jeffrey Shafer and Andy Cotgreave present multiple examples of effective dashboards. I go back to it for inspiration on how to put different KPIs together into a powerful ensemble.
- A fun resource on how to learn and develop your portfolio is Austin Kleon's *Steal Like an Artist*.
- Last but not least, *Makeover Monday* written by Andy Kriebel and Eva Murray. This book is an amazing collection of community charts and best practices.

While books are a great way to acquire new knowledge as a beginner, nothing beats learning by doing. A lot.

Makeover Monday

Last August, I discovered a wonderful project in the data viz world — Makeover Monday — that allows you to just do that. Here's how it works:

- Each Sunday, a data set is posted on data.world. The data can cover any topic, from politics to sunshine to squirrels.
- For the next three days, data viz enthusiasts around the world analyse the data set and post visuals on Twitter. Those who wish to receive feedback use a special hashtag.
- On Wednesday afternoons, the hosts of the project run a live webinar. For an hour, they review the tagged work and provide expert feedback: what works and what could be improved.
- At the end of the week, the hosts announce their weekly favourites.

Participating in Makeover Monday has helped me improve my visualisations big time. It has also become a weekly habit, a fun safe space to go to on every Sunday afternoon.

Below is a glimpse into my weekly charts since last August:

Most of the interactive versions are available on my Tableau Public profile.

A huge thanks to Eva Murray, Charlie Hutcheson and Andy Kriebel for their dedication to the project. They provide a space for regular practice on diverse topics, which is crucial for anyone learning data visualisation. They also show us that teaching is part of the learning journey: when we give constructive feedback to others, we solidify our own understanding and learn from what others created.

Teaching

Frank Friedman Oppenheimer said that the best way to learn is to teach. I agree. Even though it may feel a little uncomfortable to transmit something you've just learned yourself, it's great for your progress.

As soon as I knew how to create foundational visualisations in Tableau, I started teaching my colleagues how to use the tool. When I didn't have answers to their questions, I'd go online and find out. After reading lots of material on data visualisation, I offered to share this new knowledge through a beginner's guide to Tableau and a series of workshops. The idea was very well received and we covered topics such as use of colour, layout, and chart type choices. This resulted is much more consistent and effective dashboards throughout the department!

If you still have the image of a traditional teacher in your head — someone who's studied the topic for years and has written multiple books on it — step out of it. In today's knowledge economy, everyone knows something others don't and can teach it. As long as you're curious and passionate about the topic, you can too!

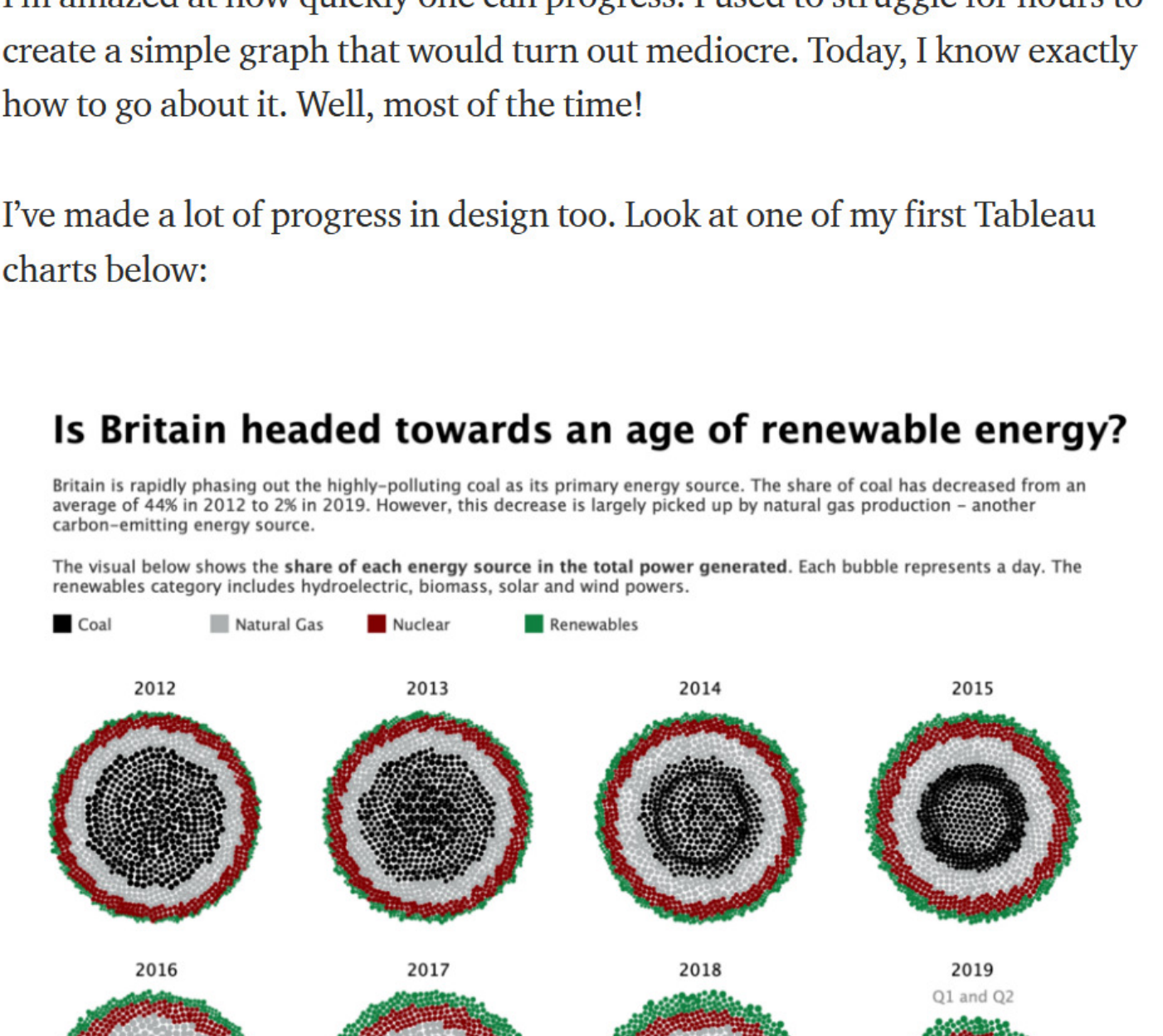
Takeaways

Here are my main takeaways from this year of data viz for fellow learners out there.

1. You can learn a lot in a short period of time

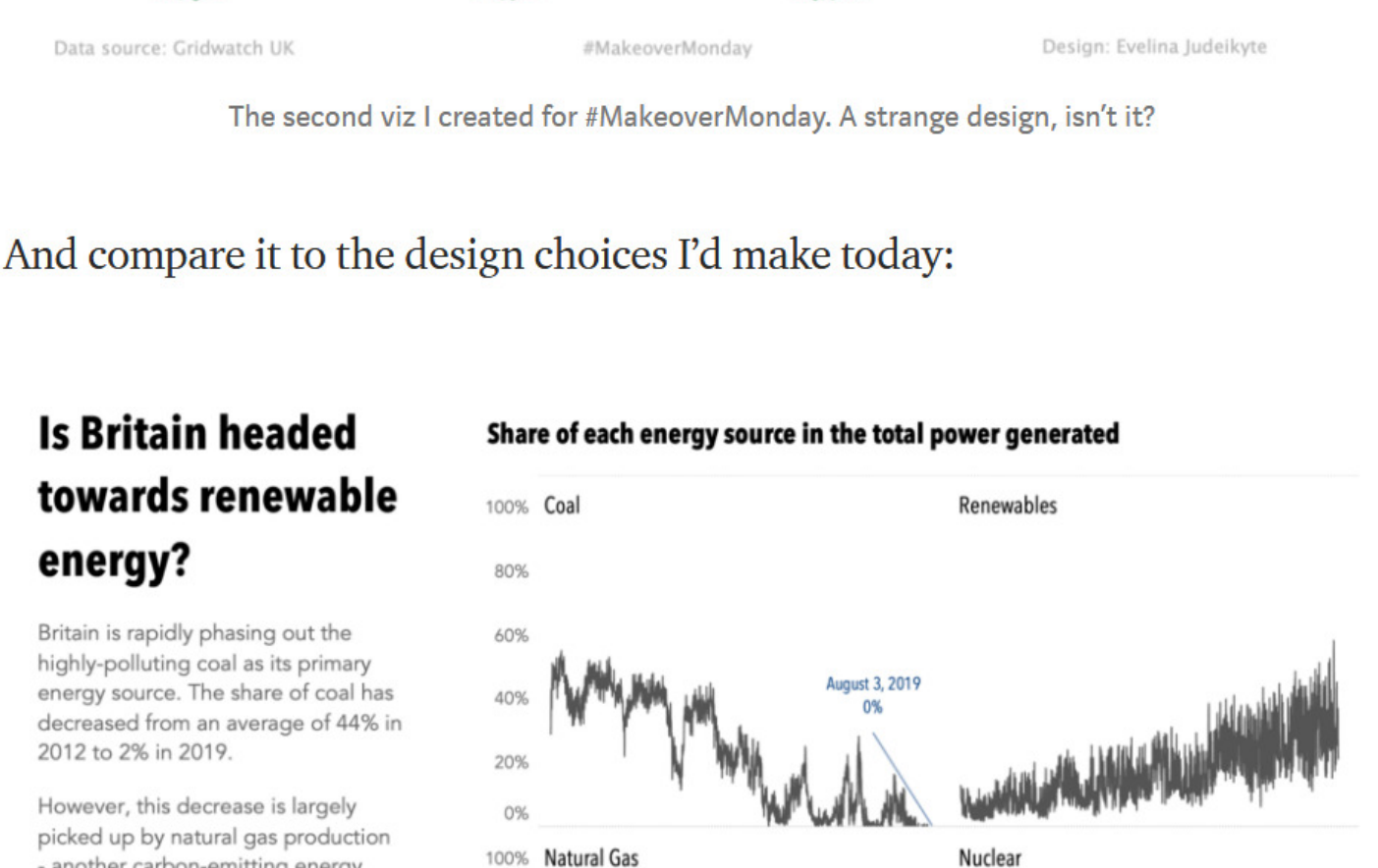
I'm amazed at how quickly one can progress. I used to struggle for hours to create a simple graph that would turn out mediocre. Today, I know exactly how to go about it. Well, most of the time!

I've made a lot of progress in design too. Look at one of my first Tableau charts below:



The second viz I created for #MakeoverMonday. A strange design, isn't it?

And compare it to the design choices I'd make today:



A much cleaner design this March, only half a year after the first one above.

2. Expensive one-off trainings may not be the best way to learn

Community-led initiatives will help you commit to continuous practice. I mentioned Makeover Monday above, but you can take part in many more similar projects. The Tableau Student Guide provides a comprehensive list.

3. Always seek feedback

For every visualisation you create, solicit at least one person's feedback. Whether it's from an expert, your spouse, or your kid, it's crucial to know how another human being perceives what you created. Make sure it's someone who won't be afraid to tell you the truth. I show my work to my boyfriend who sometimes tells me "uh, this makes no sense." I then adjust the graphs and they *always* turn out better!

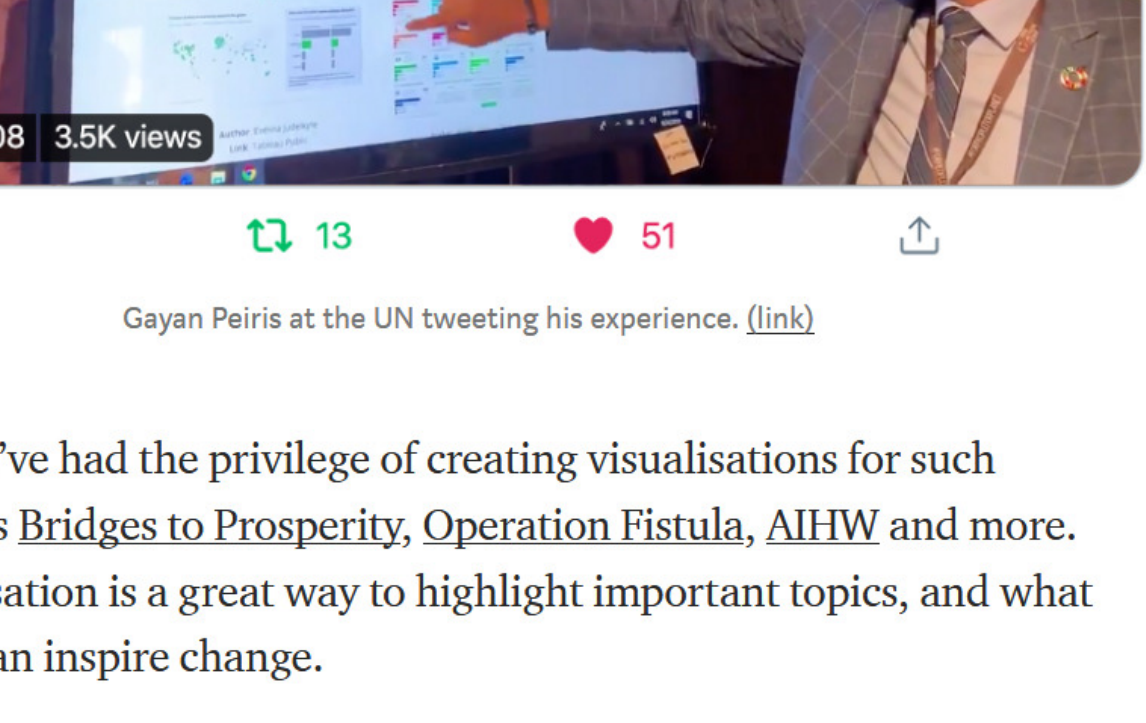
4. Keep an inspirations folder

Or, as Austin Kleon calls it, a *steal* folder. It can include extracts from books, visualisations, infographics, favourite blogs, or perhaps your grafiti or pinterest favourites? Anything that can inspire you when you're working on a new visualisation.

5. You don't need to be a famous data viz expert to create impact with your work

The very first time my dashboard got picked as a Makeover Monday favourite, it ended up at the United Nations General Assembly:

Gayan Peiris @GayanPeiris · Sep 24, 2019
Visualizations of @SDGaction commitments by event industry were on display today at the #SDGActionZone at the #UNGA. These were done by great minds in the #makeovermonday community using #Tableau and #Exasol. All visualizations are available at makeovermonday.co.uk/week-38-2019/



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Gayan Peiris at the UN tweeting his experience. (link)

Since then, I've had the privilege of creating visualisations for such nonprofits as Bridges to Prosperity, Operation Fistula, AIHW and more. Data visualisation is a great way to highlight important topics, and what you create can inspire change.

The curiosity to learn can lead us to a new passion. I hope my story and the content I share inspires you to take data visualisation head on, or even revisit some of my favourite learning content. This upcoming year, I plan to dive deeper into my newly discovered passion for data viz. Visualisations on topics with social impact and a new tool are on my list. What about you?