The Emerging Genre of Data Comics

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As we rely more and more on data to understand our world, and as problems require global solutions, we need to effectively communicate that data to enable people to make informed decisions.

Visualization can be effective in showing data, but a single picture alone may not be able to explain or to engage an audience in decoding a message.

There are many ways of data-driven storytelling:

- Magazine Style
- Animated Chart
- Paper Chart
- Slide Show
- Billboard Poster
- Fact/Infographic

One of them being comics.

Although comics are familiar to everyone, they are vastly underexplored for data-driven storytelling.

This comic presents our viewpoint on data comics and how to leverage comics to tell stories with data.
Here, we explore data comics as a new genre, inspired by how comics function, to convey information in data, tell a story, and communicate through visualizations.

Early examples of data comics paved the way...

Four Essential Components of Data Comics

Visualization
Flow
Narration
Words and Pictures

Our goal will be to spot the Island of Data Comics...

... in the ocean of storytelling.

We believe it is timely to start this journey now. We start exploring different angles, trying to describe what makes data comics special and show their potential.
Data comics are inspired by other visual forms concerned with the presentation of change and sequence:

We call this component visualization, ranging from iconic realistic pictures to abstract and conceptual visualizations.

While all of these pictures are visualizations, not all of them show data.

Data visualizations provide a visual form to something otherwise invisible.

In fact, data does not actually have to exist,

nor can we be sure the representation is true.

Data comics can vary in style and detail to support a message

or use alternative representations to highlight a different point.

A chosen visualization must fit the data, but

most importantly, it must be understood by readers,

even those who have never seen a visualization.

Data visualizations are designed to allow for a variety of discoveries and insights:
In storytelling, it is important that people understand the presented content easily, especially when data and visualizations are complex.

Yet, comics offer a fascinating and simple way.

We call this component flow, ranging from an undirected nonexplicit flow to a directed flow indicated by the order of the panels.

Undirected  Flow  Directed

No reading order requires readers to explore by themselves.

Comics can explain complex processes by splitting them into less complex units.

Linear order provides guidance and aids argumentation.

This requires transition.

For example:

Visualization-to-Visualization

Moment-to-Moment

Detail-to-Detail

Level-of-Detail

But sometimes, a linear order is not desired or just too simple.
However, sequential visualizations do not yet make a good story nor explanation.

A good story has a rhythm, it draws readers in, it immerses.

But most important, it has a message to the world.

We call this component narration, ranging from factual arrays of visualizations to richly narrated graphic novels.

Data never comes alone, data always has a context. Context creates story which wants to be narrated.

A good narration requires balance.

It can use different types of narrators:

It makes use of transitions between panels and separates the important from the detail.

But storytelling is an old art and learning from the masters can help to create truly dramatic walkthroughs.
The narrative power of comics comes from pictures and words in symbiosis.

Words can be considered the realm of the verbal:
- the logical
- the sequential
- the abstract
- the learned
- the slow

Pictures can be considered the nonverbal:
- the factual
- the parallel
- the concrete
- the perceived
- the fast

We call this component **Word and Picture**, ranging from almost entirely verbal, to nonverbal and visual.

**Verbal**  
| ![Diagram](image)

**Words and Pictures**  
| ![Diagram](image)

**Nonverbal**  
| ![Diagram](image)

In data comics, pictures are mostly visualizations that show evidence in data.

Pictures can be mere reference to the logic in the words or can stand alone where no words are required to convey the intention.*

*Understanding can come from context, but more text may be better than less.

Data comics embrace both words and pictures to create a better understanding.

A combination can mean associating paragraphs with pictures or integrating text into pictures, or pictures into text.

We can show an increase or any other pattern in temporal data. Others showed soccer games, or the amount of change in data changes in networks and email maps.

Eventually, text can become mere annotations, leaving more space for the visualization and for the observers to explore.
References


5. E. Segel and J. Heer, “Narrative Visualization: Telling

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