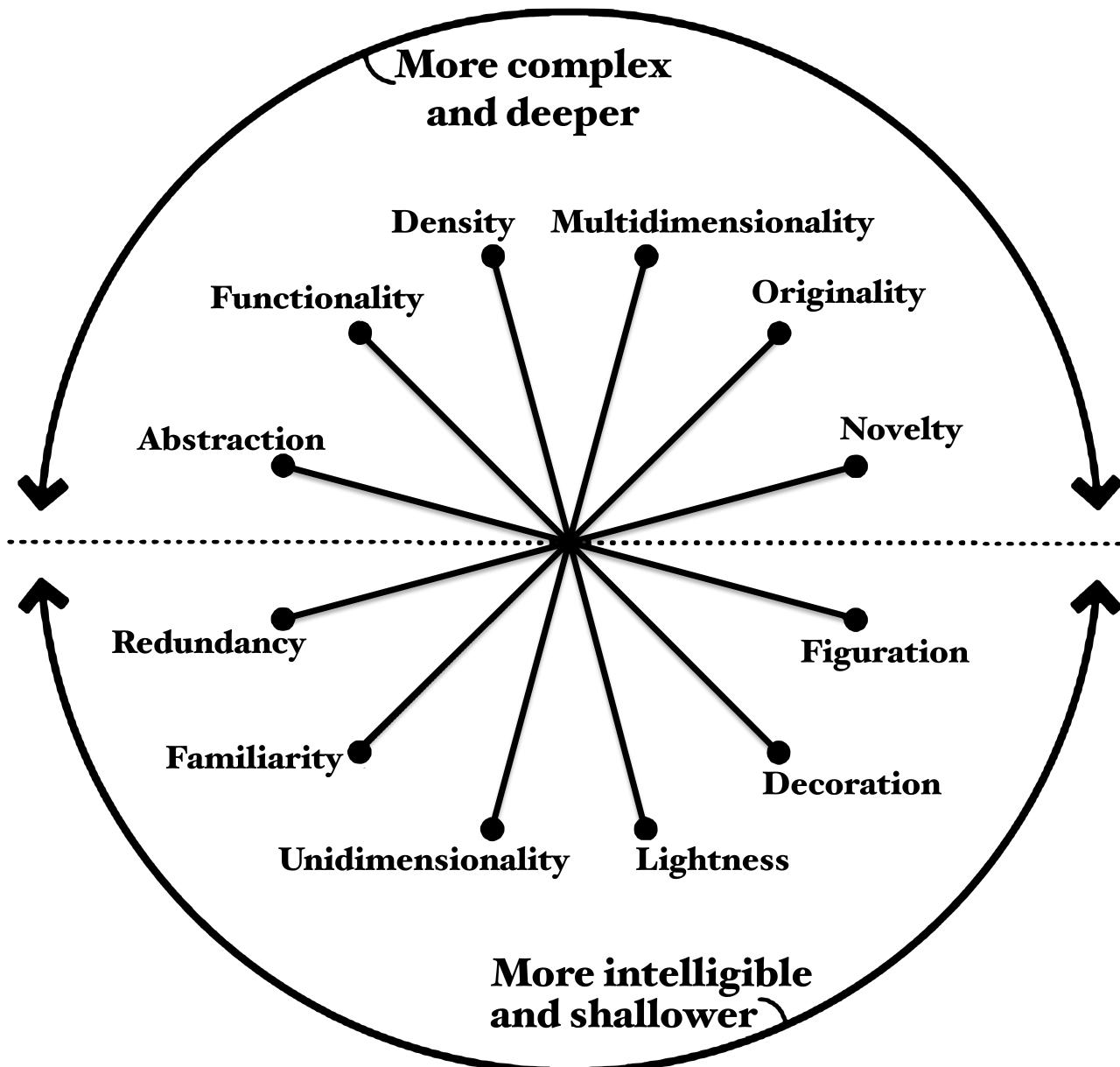
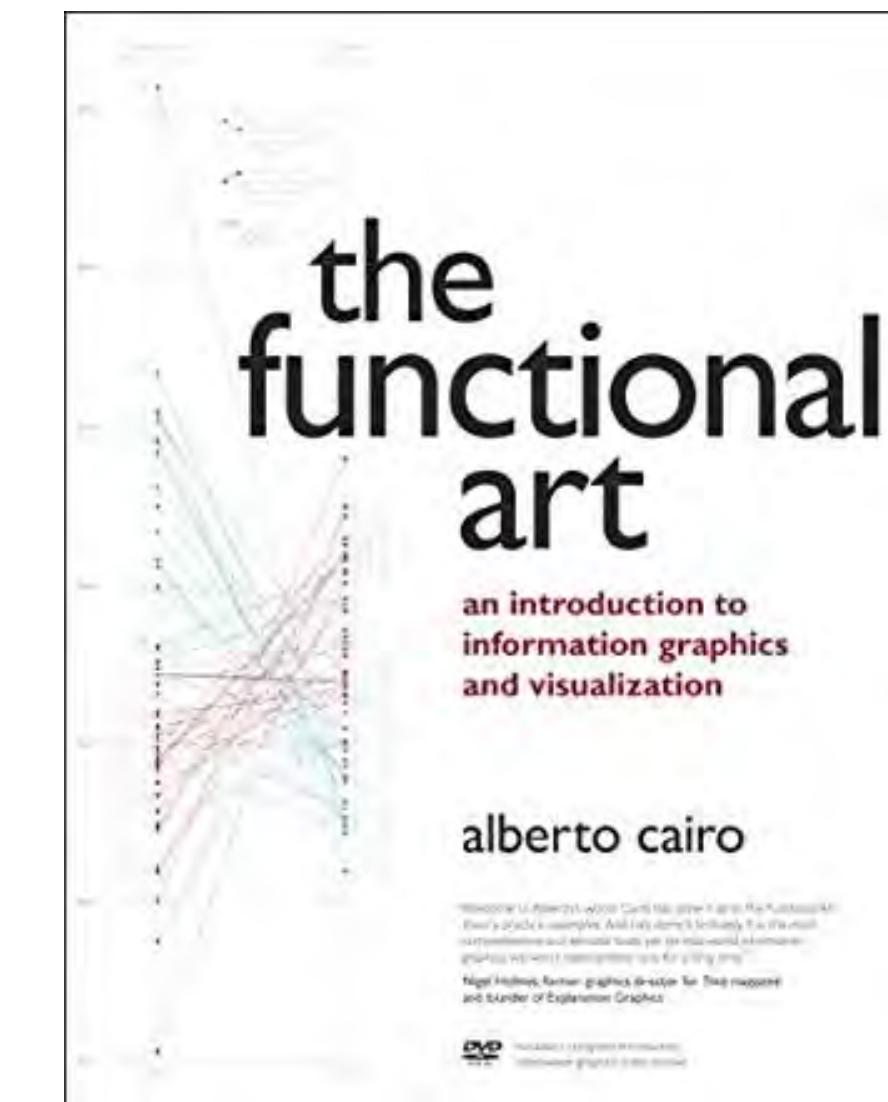


# Visualization Wheel



- Alberto Cairo; the functional art



# Visualization Wheel Dimensions

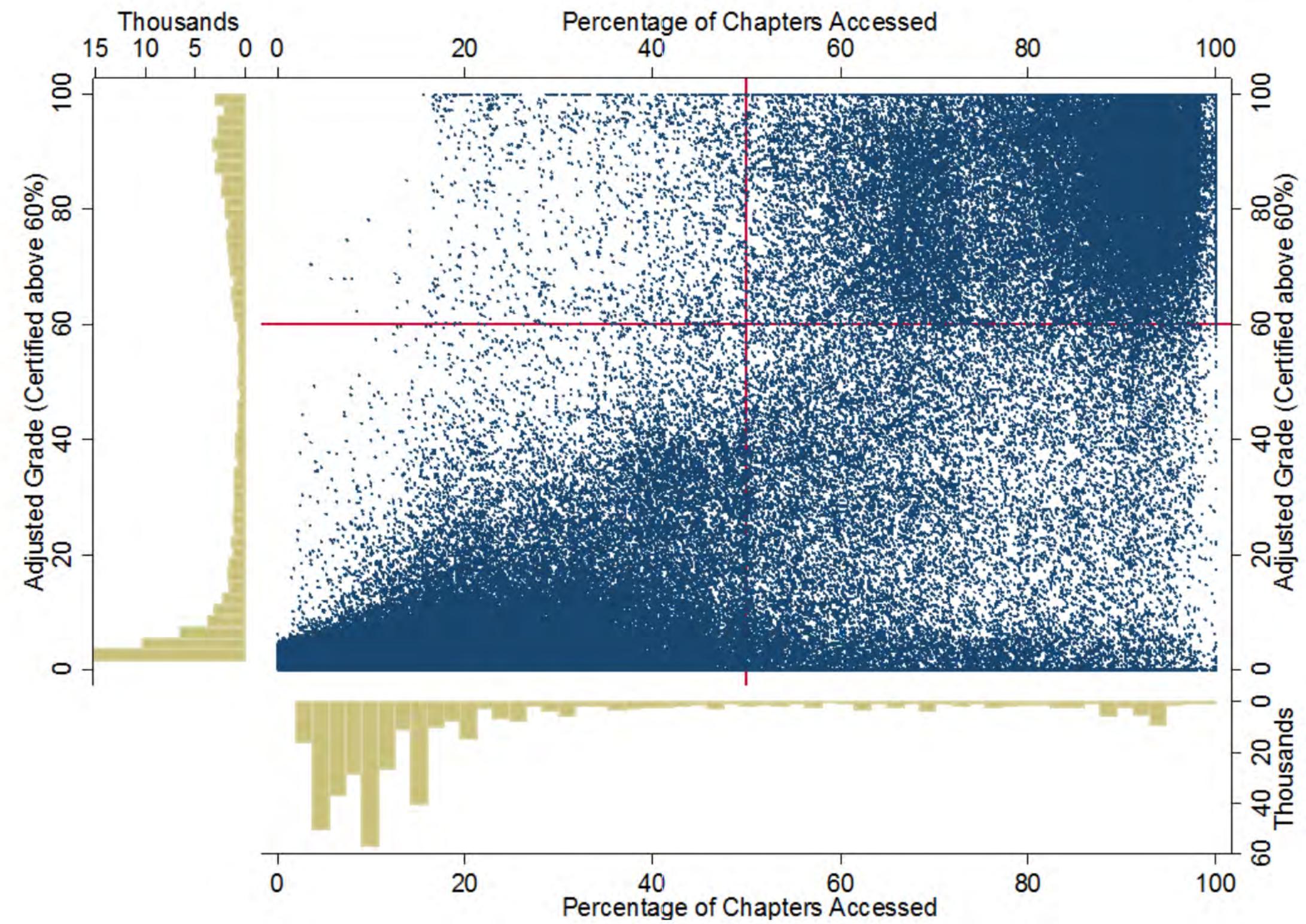
- **Abstraction – Figuration**
  - *Boxes and charts (abstraction) or real-world physical objects (figuration)*

# Visualization Wheel Dimensions

- **Abstraction – Figuration**
  - *Boxes and charts (abstraction) or real-world physical objects (figuration)*
- **Functionality – Decoration**
  - *No embellishments (functionality) or artistic embellishments (decoration)*

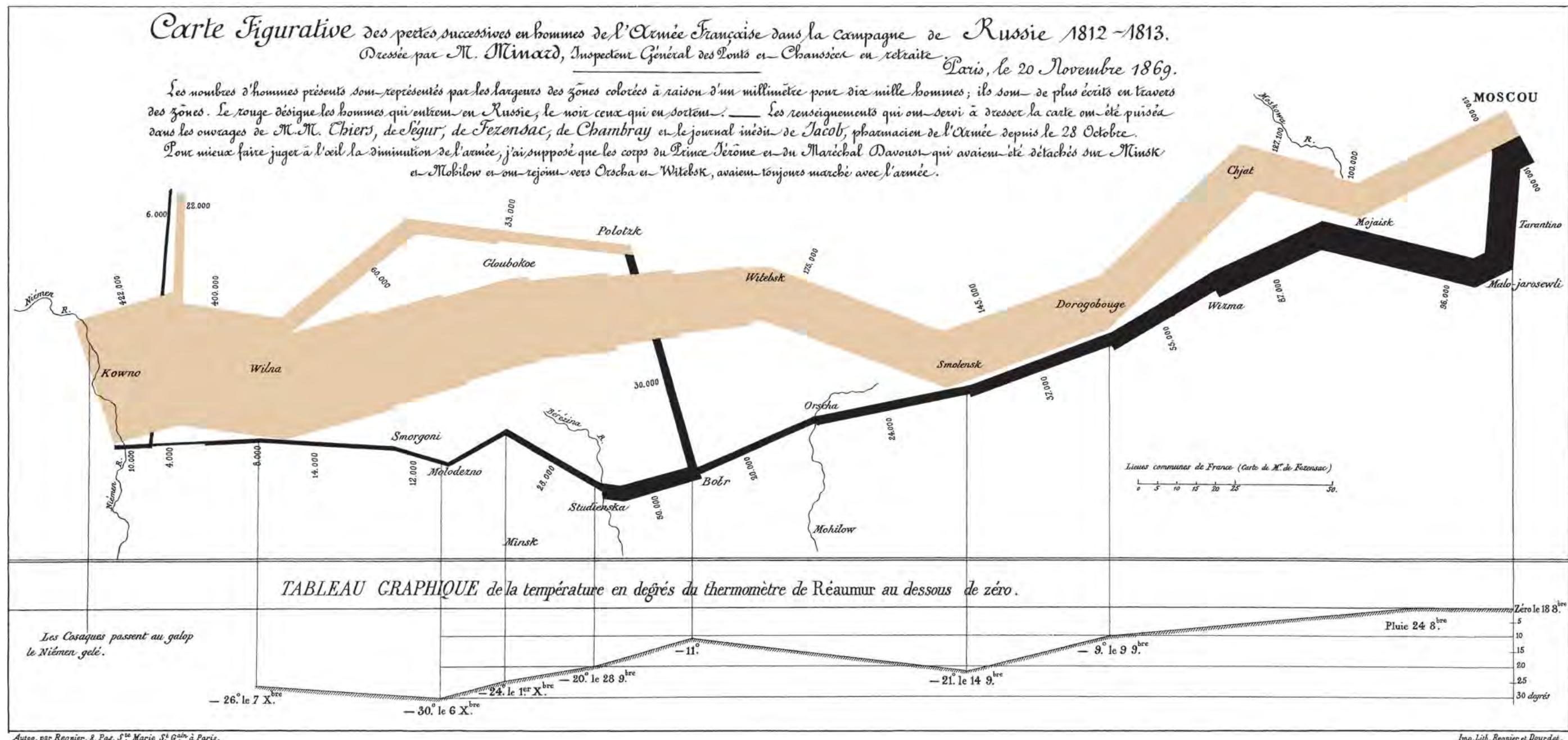
# Visualization Wheel Dimensions

- **Abstraction – Figuration**
  - *Boxes and charts (abstraction) or real-world physical objects (figuration)*
- **Functionality – Decoration**
  - *No embellishments (functionality) or artistic embellishments (decoration)*
- **Density – Lightness**
  - *Must be studied in depth (density) or understandable at a glance (lightness)*



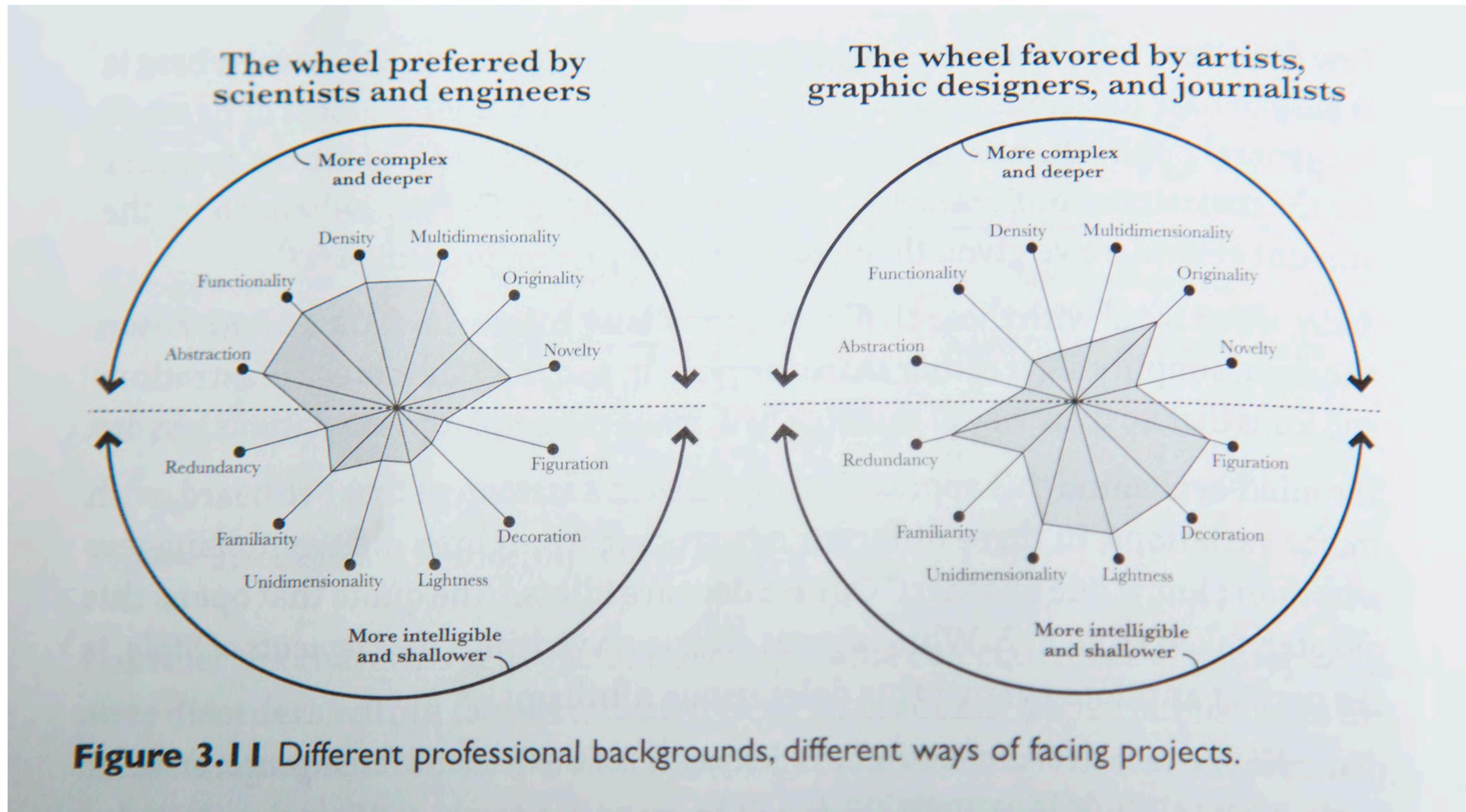
# Visualization Wheel Dimensions

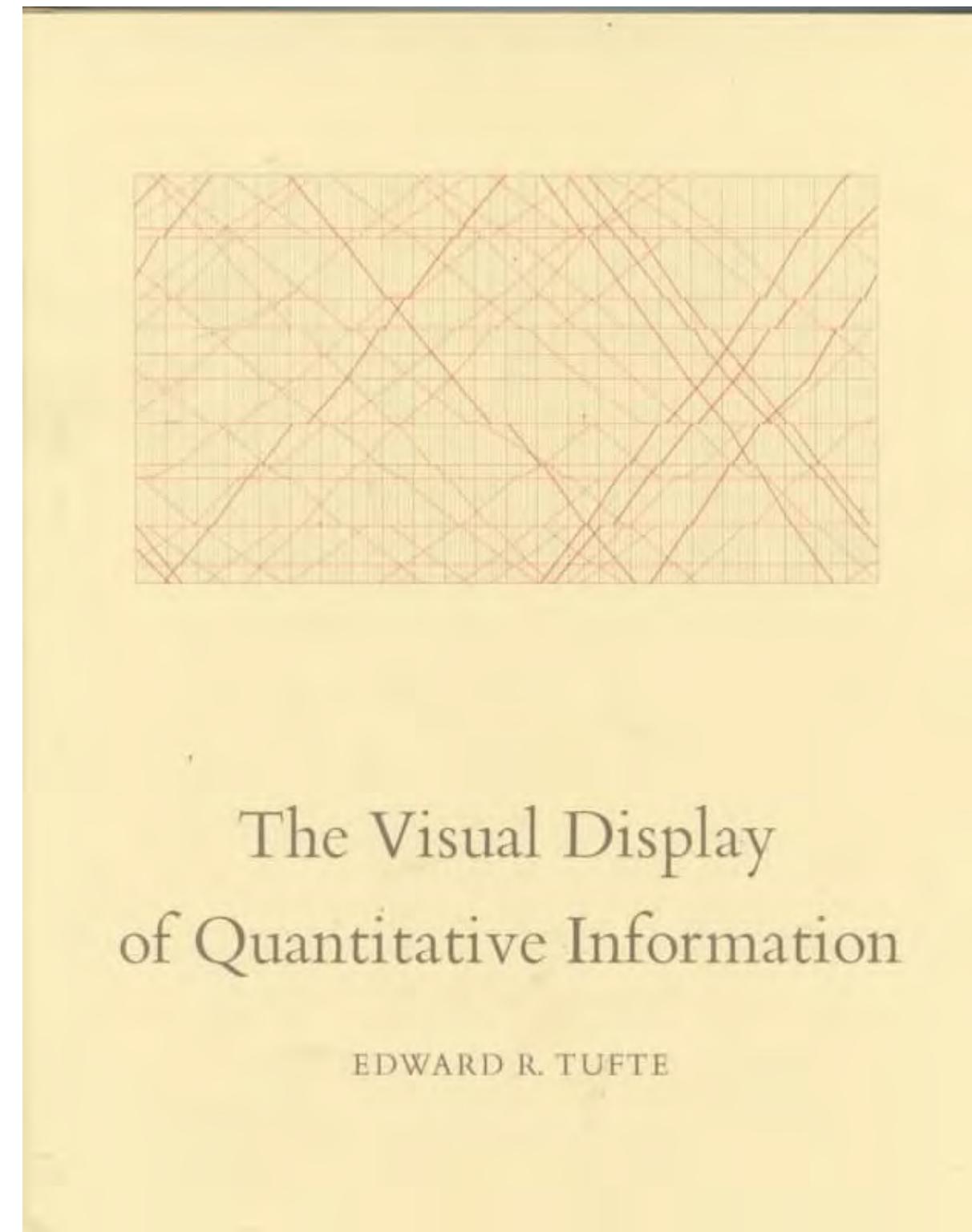
- **Multidimensional – Unidimensional**
  - *Different aspects of phenomena (multidimensional) or single or few items of phenomenal (unidimensional)*



# Visualization Wheel Dimensions

- **Multidimensional – Unidimensional**
  - *Different aspects of phenomena (multidimensional) or single or few items of phenomenal (unidimensional)*
- **Originality – Familiarity**
  - *Novel methods of visualization (originality) or established and well understood methods of visualization (familiarity)*
- **Novelty – Redundancy**
  - *Explaining each item once (novelty) or encoding multiple explanations of the same phenomena (redundancy)*



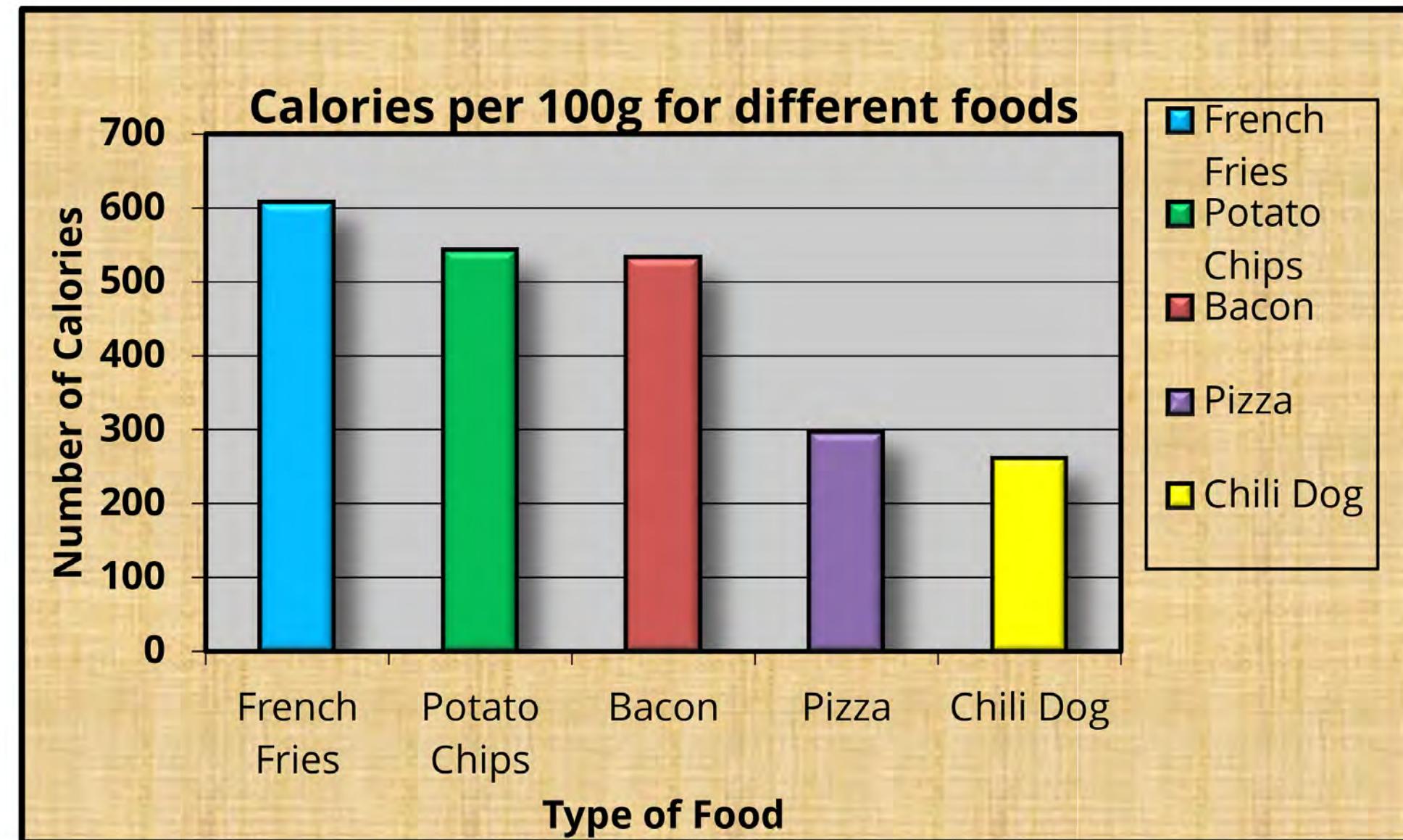


**Remove**  
to improve  
(the **data-ink** ratio)

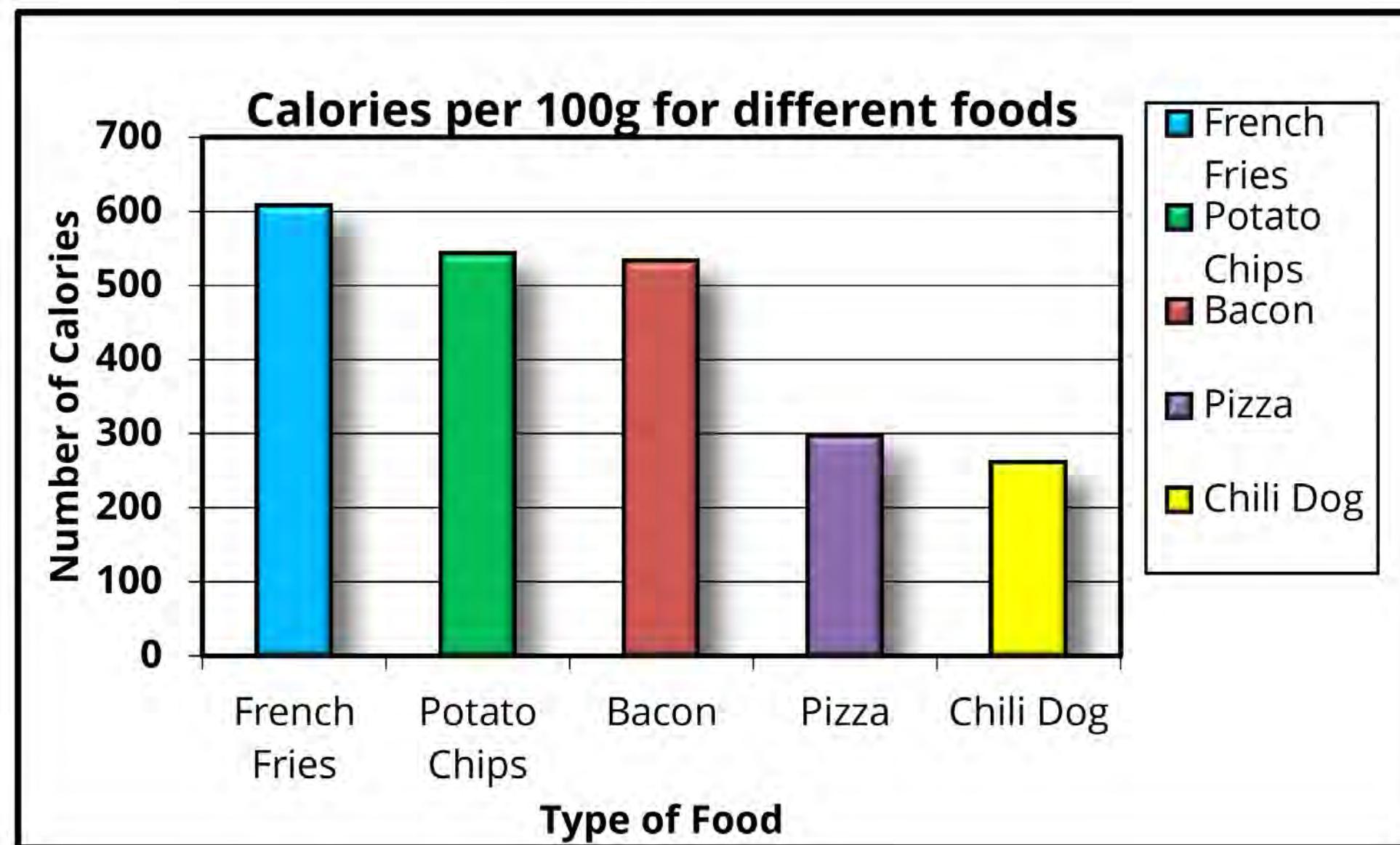


[www.darkhorseanalytics.com](http://www.darkhorseanalytics.com)

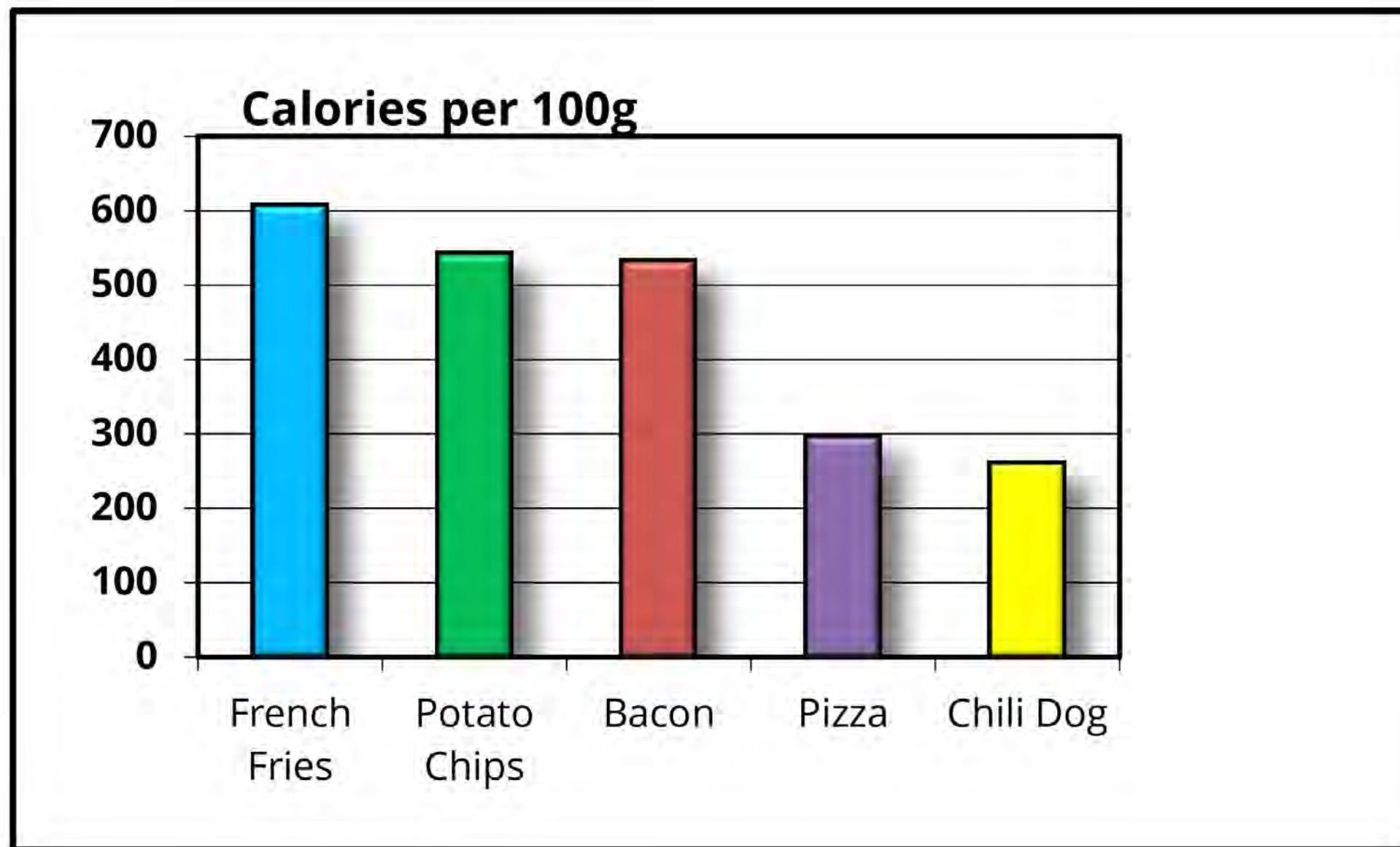
# Remove backgrounds



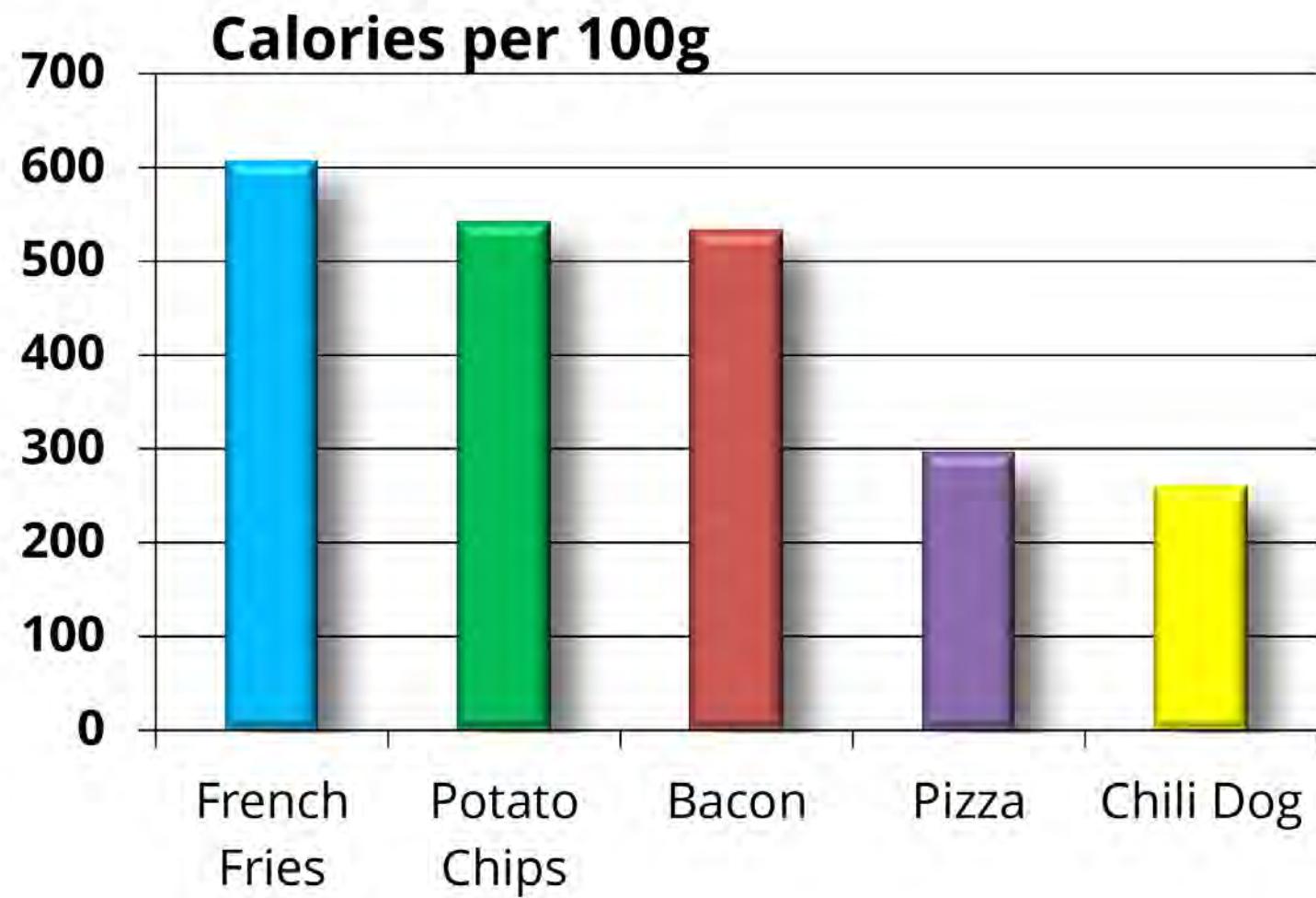
# Remove redundant labels



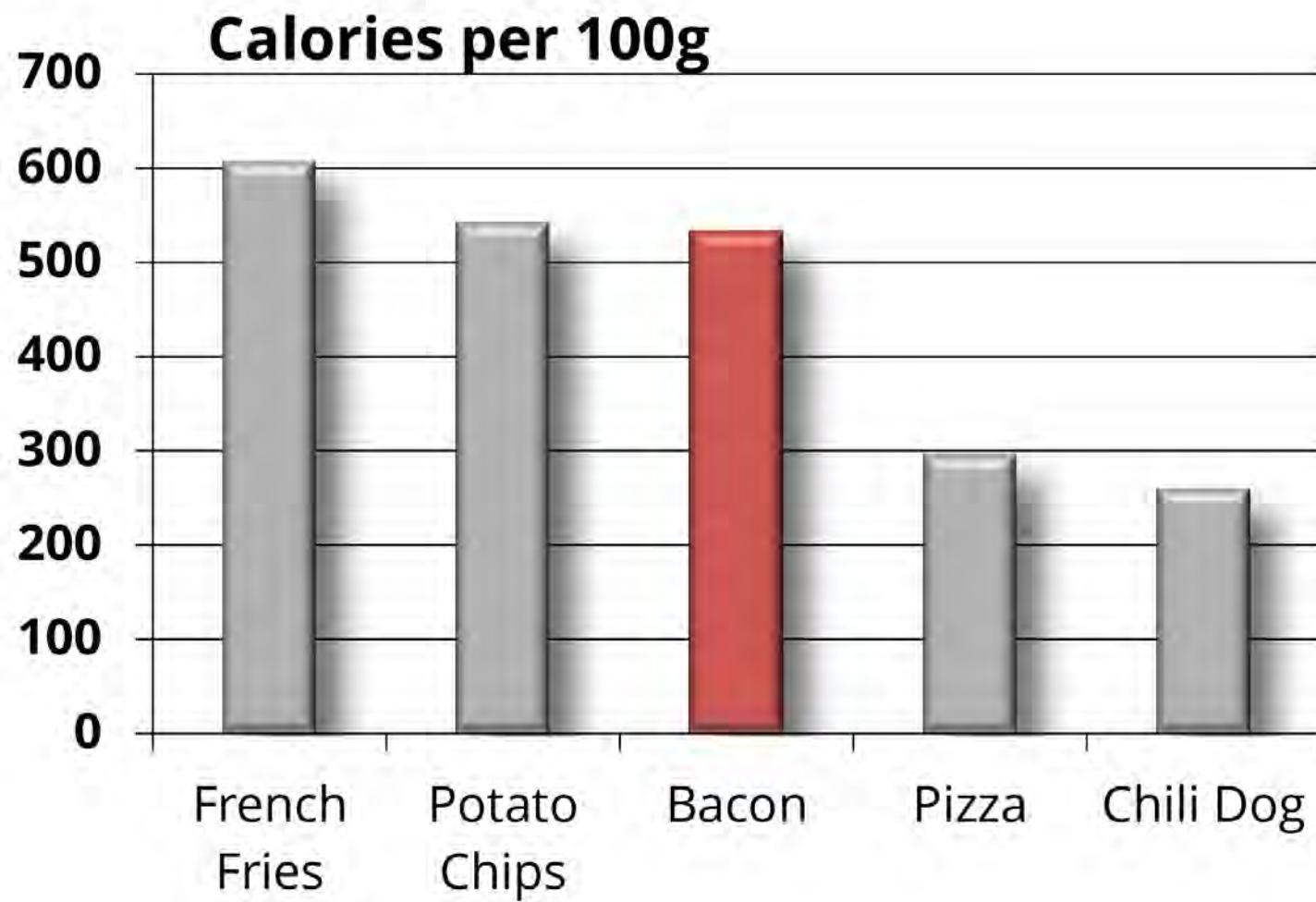
# Remove borders



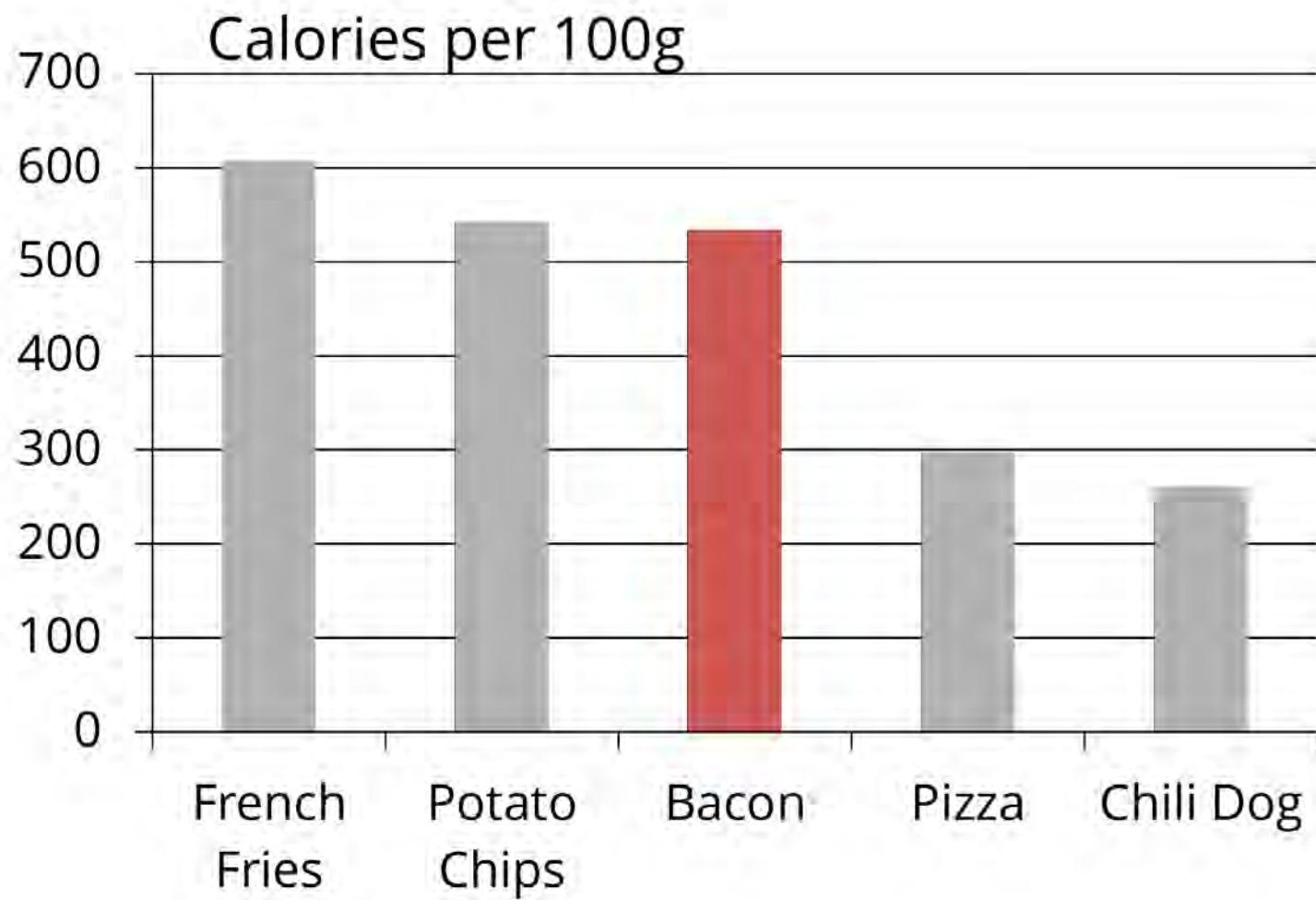
# Reduce colors



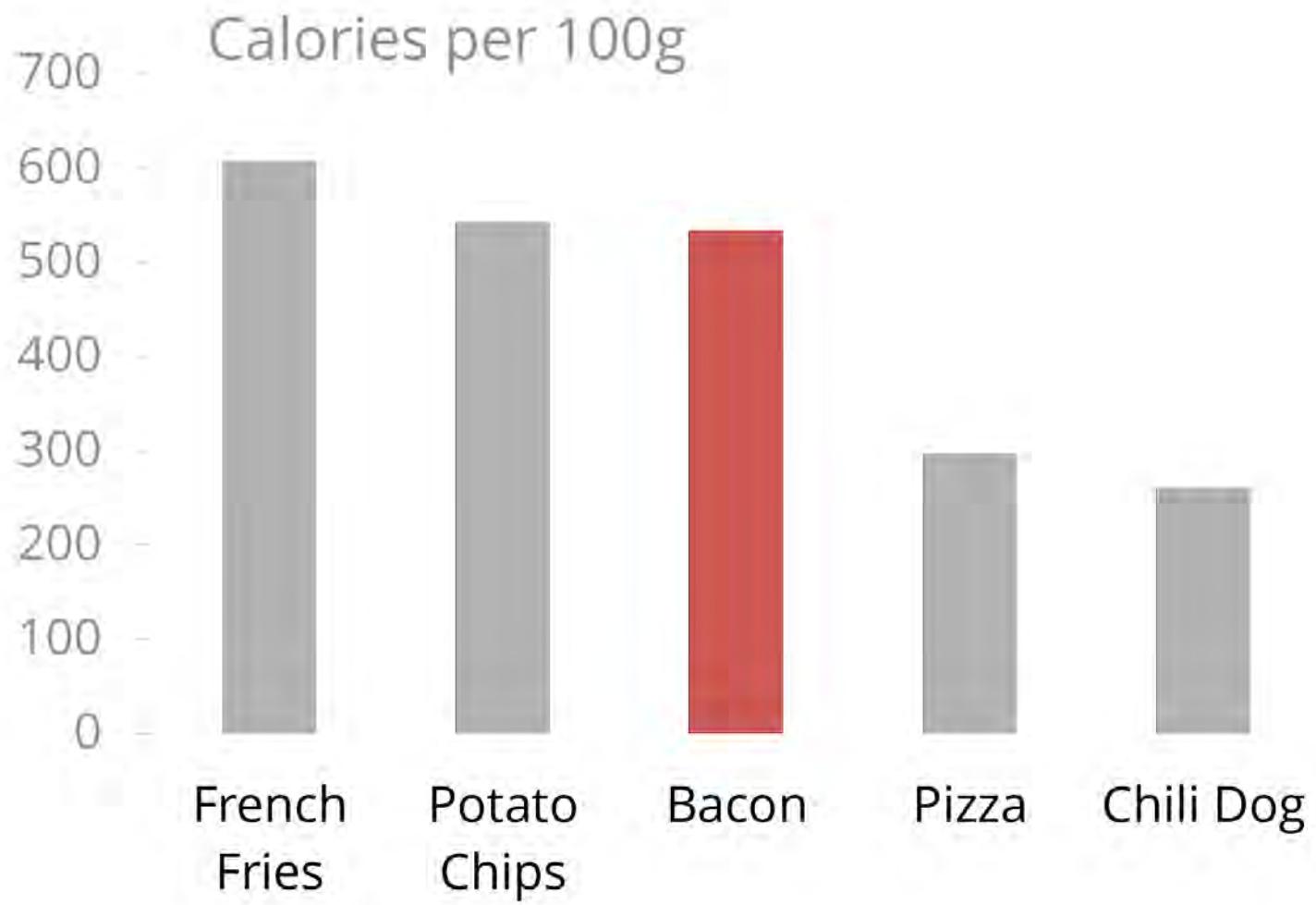
# Remove special effects



# Lighten labels

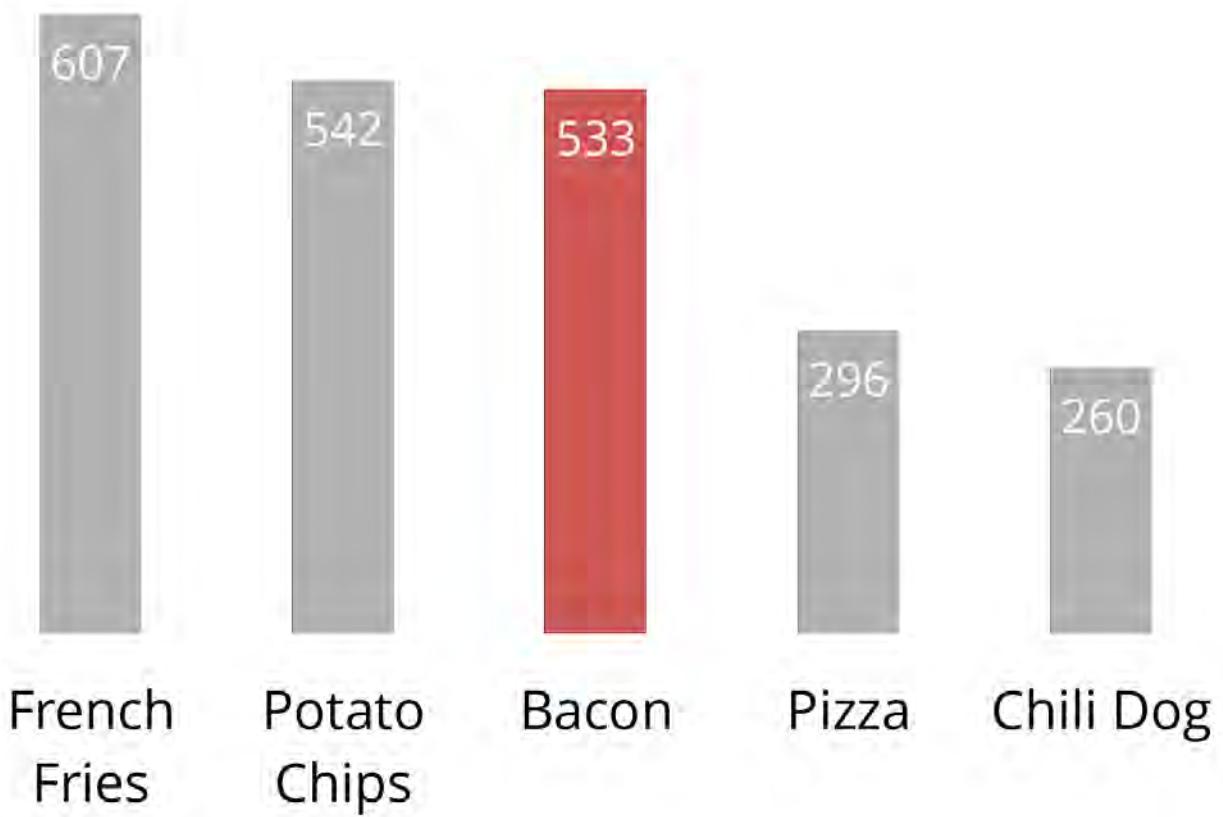


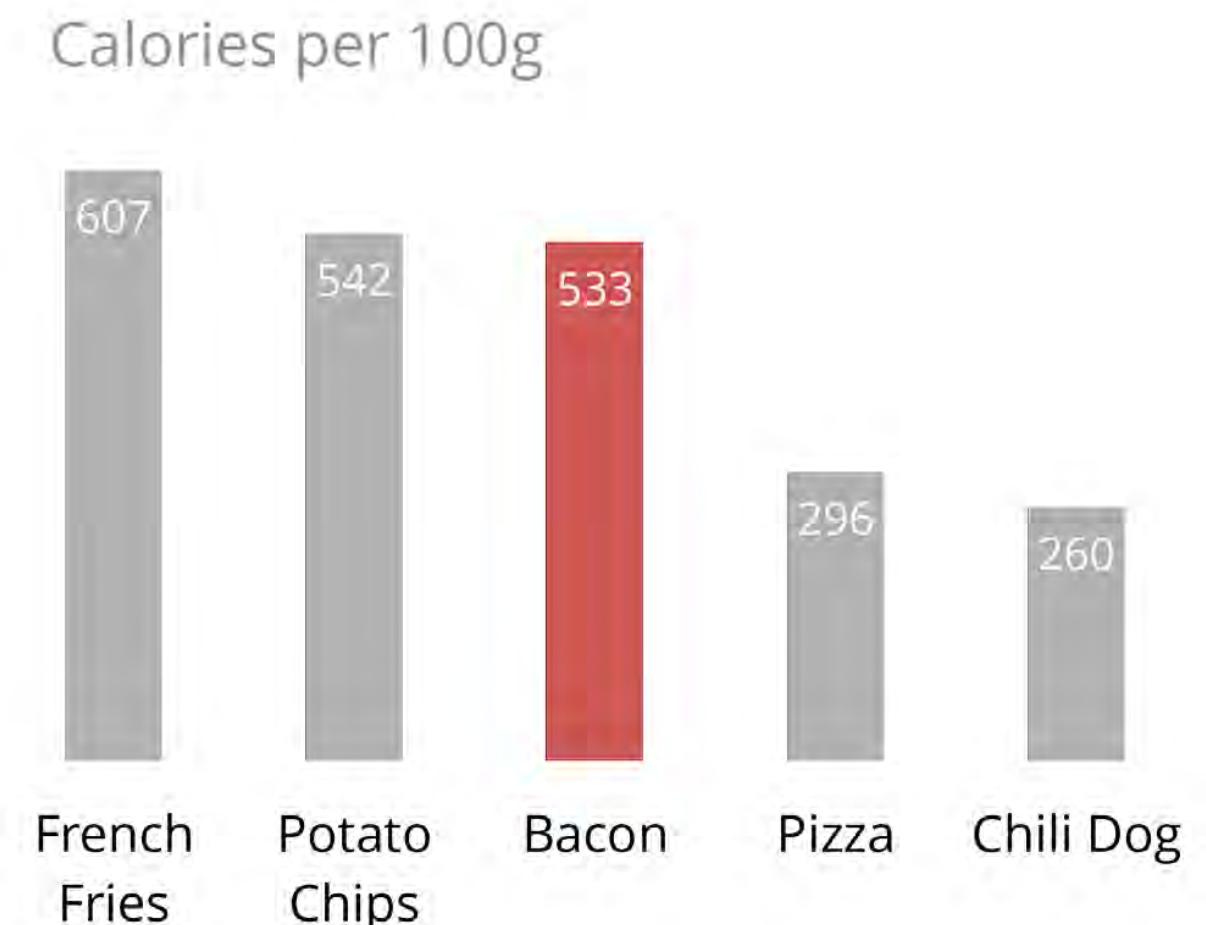
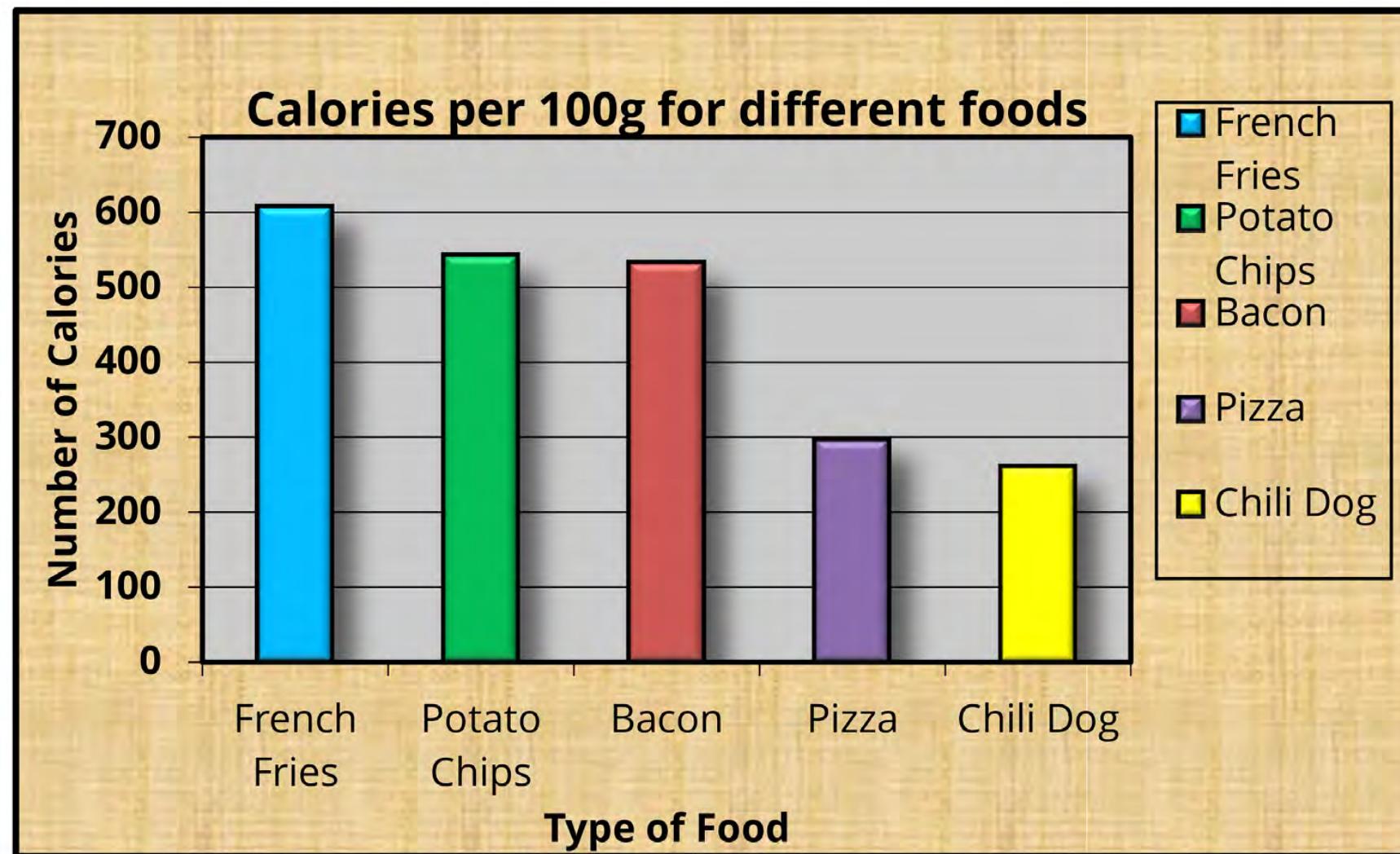
# Direct label

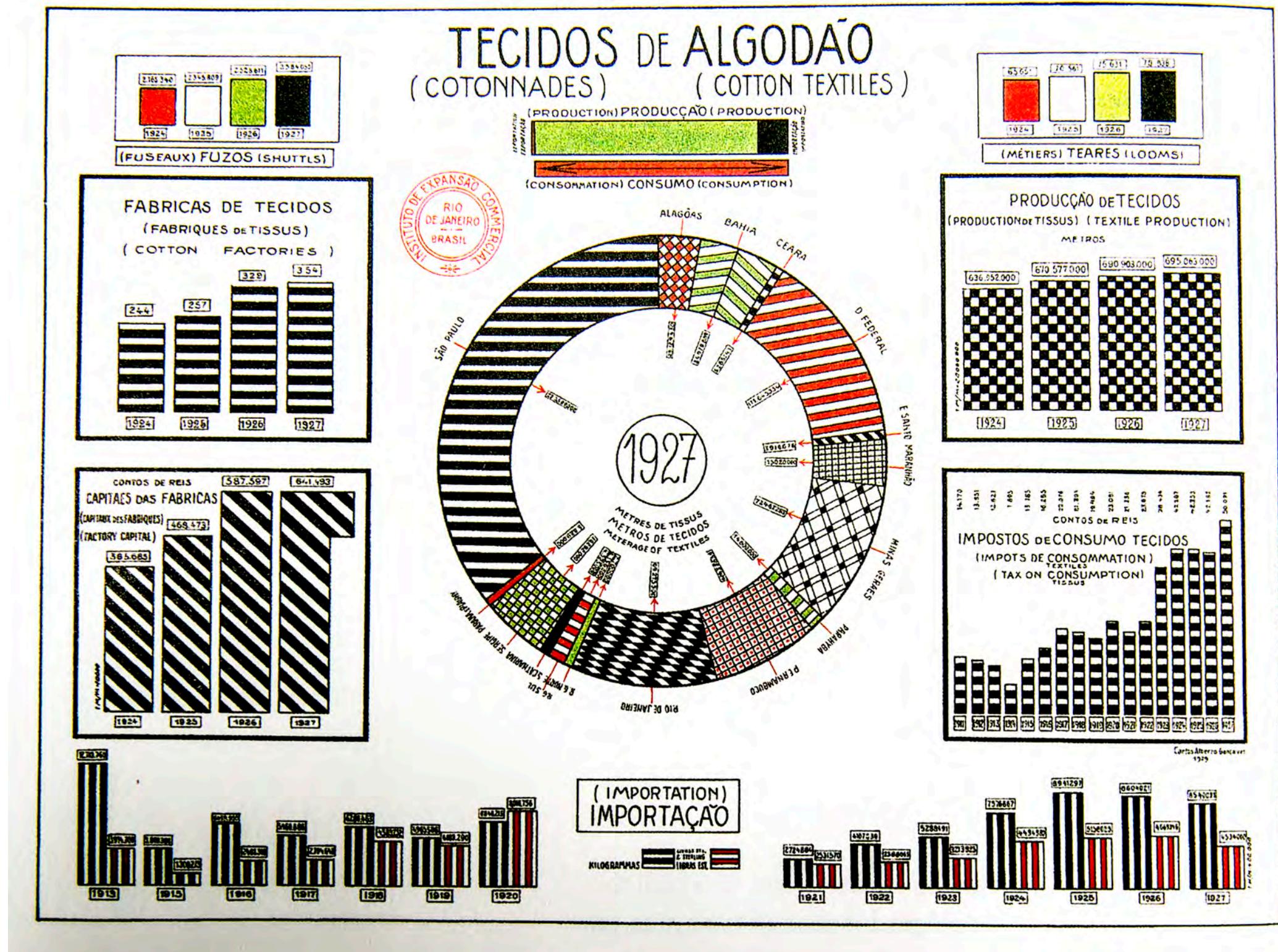


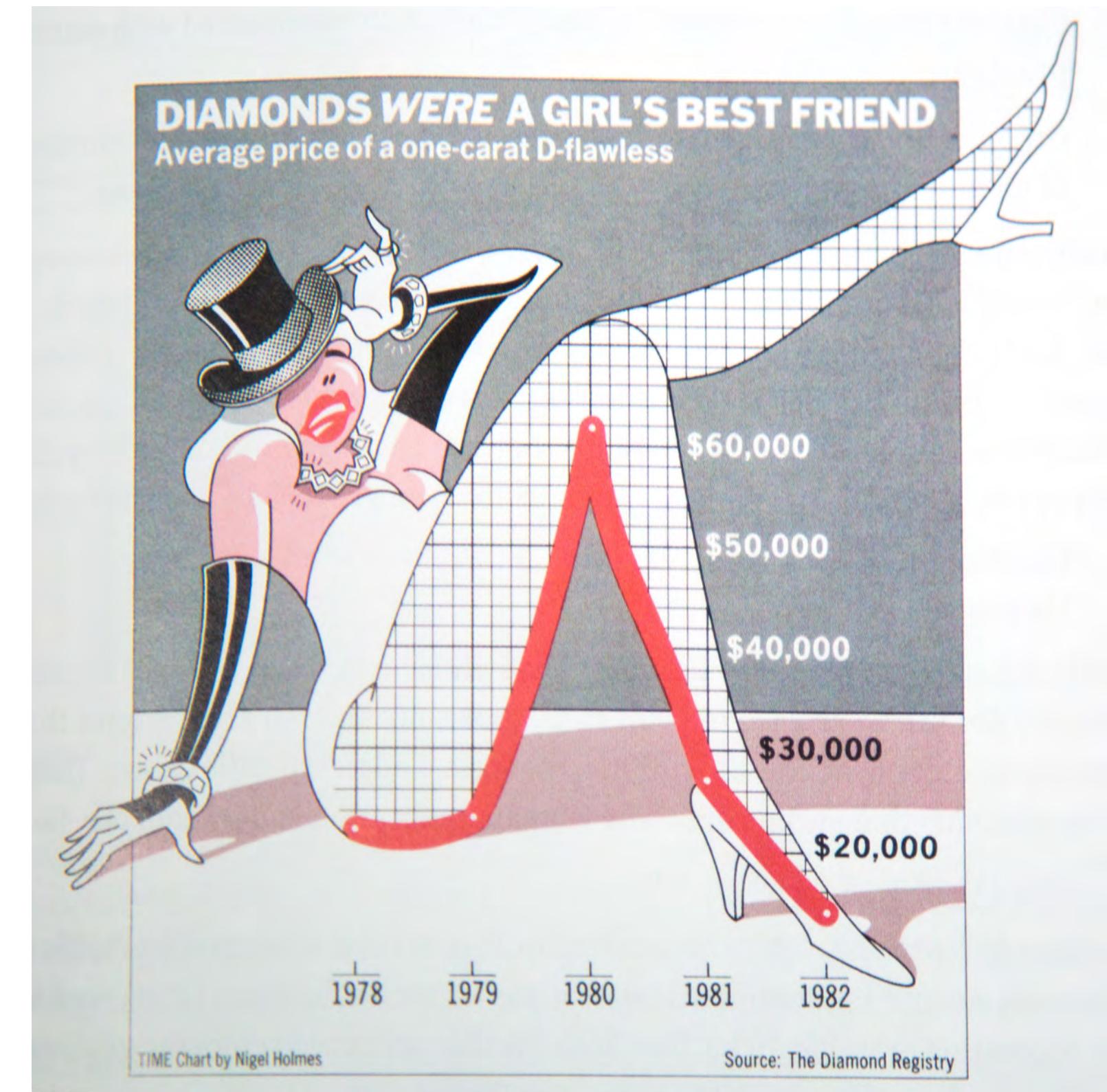
# Direct label

Calories per 100g



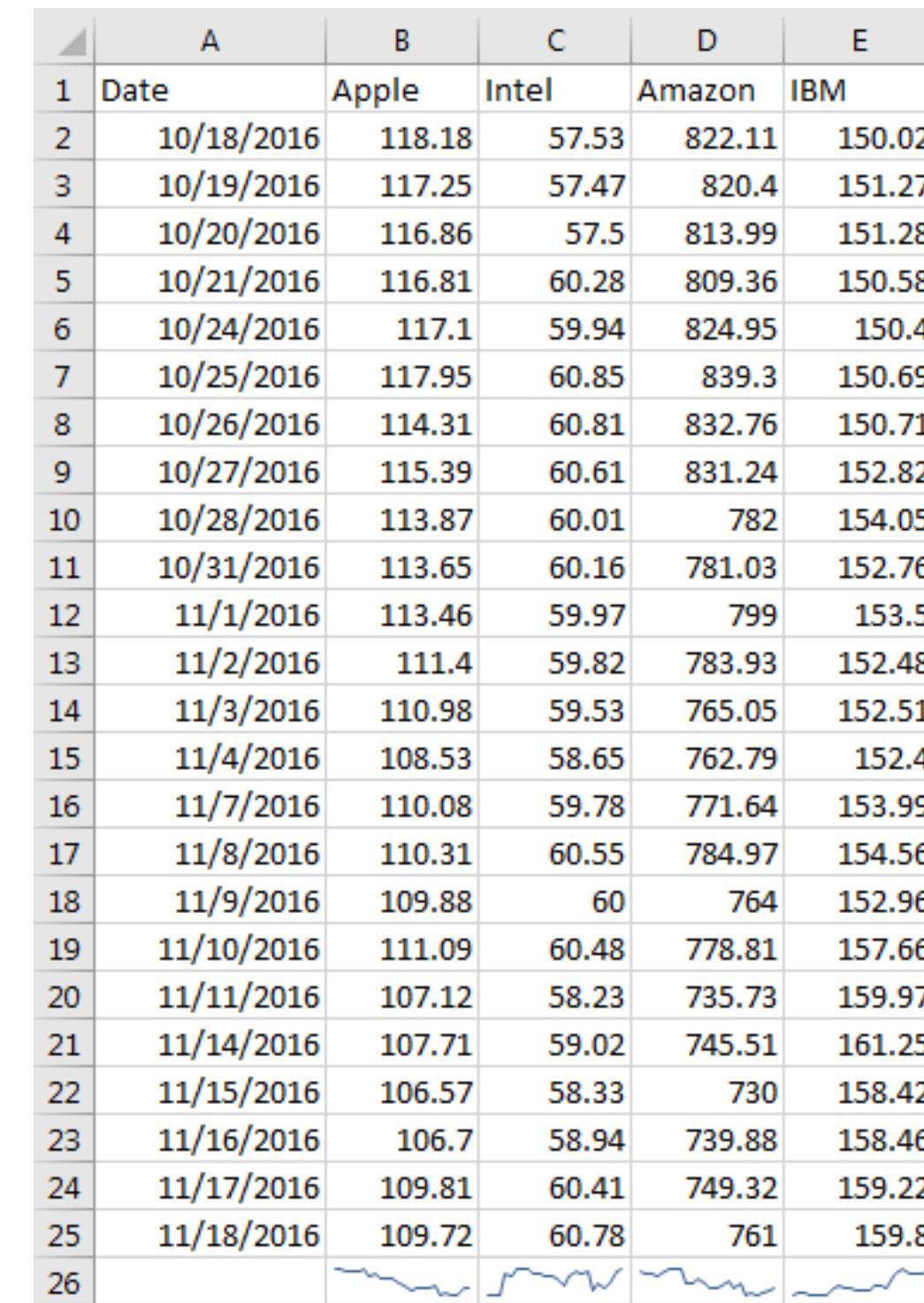






	A	B	C	D	E
1	Date	Apple	Intel	Amazon	IBM
2	10/18/2016	118.18	57.53	822.11	150.02
3	10/19/2016	117.25	57.47	820.4	151.27
4	10/20/2016	116.86	57.5	813.99	151.28
5	10/21/2016	116.81	60.28	809.36	150.58
6	10/24/2016	117.1	59.94	824.95	150.4
7	10/25/2016	117.95	60.85	839.3	150.69
8	10/26/2016	114.31	60.81	832.76	150.71
9	10/27/2016	115.39	60.61	831.24	152.82
10	10/28/2016	113.87	60.01	782	154.05
11	10/31/2016	113.65	60.16	781.03	152.76
12	11/1/2016	113.46	59.97	799	153.5
13	11/2/2016	111.4	59.82	783.93	152.48
14	11/3/2016	110.98	59.53	765.05	152.51
15	11/4/2016	108.53	58.65	762.79	152.4
16	11/7/2016	110.08	59.78	771.64	153.99
17	11/8/2016	110.31	60.55	784.97	154.56
18	11/9/2016	109.88	60	764	152.96
19	11/10/2016	111.09	60.48	778.81	157.66
20	11/11/2016	107.12	58.23	735.73	159.97
21	11/14/2016	107.71	59.02	745.51	161.25
22	11/15/2016	106.57	58.33	730	158.42
23	11/16/2016	106.7	58.94	739.88	158.46
24	11/17/2016	109.81	60.41	749.32	159.22
25	11/18/2016	109.72	60.78	761	159.8

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Google Finance: Fin x https://www.google.com/finance?ei=L0IyWJmeHdrEjAGluK24DA#stockscreener

Google Search Finance

Finance Stock Screener

Markets: United States, All exchanges, All sectors, US Dollar (\$)

News

Portfolios

Criteria

Company Distribution

Stock screener	Market cap	0	592.51B
Google Domestic Trends	P/E ratio	0	14595
Recent Quotes (30 days)	Div yield (%)	0	800001
You have no recent quotes	52w price change (%)	-101	10.88M

+ Add criteria | Reset

1 - 20 out of 33041

Company name	Symbol	Currency	Market cap	P/E ratio	Div yield (%)	52w price change (%)
01 COMMUNIQUE LAB COM NPV	OCQLF	\$	2.79M	-	-	-
024 Pharma Inc	EEIG	\$	134,600.00	-	-	-80.00
0373849 BC LTD	ZBLFF	\$	-	-	-	-
1-800-ATTORNEY, Inc.	ATTY	\$	770.00	-	-	-
1-800-Flowers.Com Inc	FLWS	\$	744.71M	30.68	-	38.92
1-PAGE LIMITED NPV	PGQWF	\$	18.19M	-	-	-
1000 Rocky Run Parkway Branch	FBOD	\$	-	-	-	-38.92
1010 PRINTING GROU HKD0.01	PTRGF	\$	-	-	-	-
11 88 0 SOLUTIONS NPV	TLGAF	\$	23.32M	-	-	-
11 Good Executive	ELWU	\$	-	-	-	-



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#sparktweet #quantifiedself

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3

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1



5:13 PM - 2 May 2013

📍 Culver City, CA



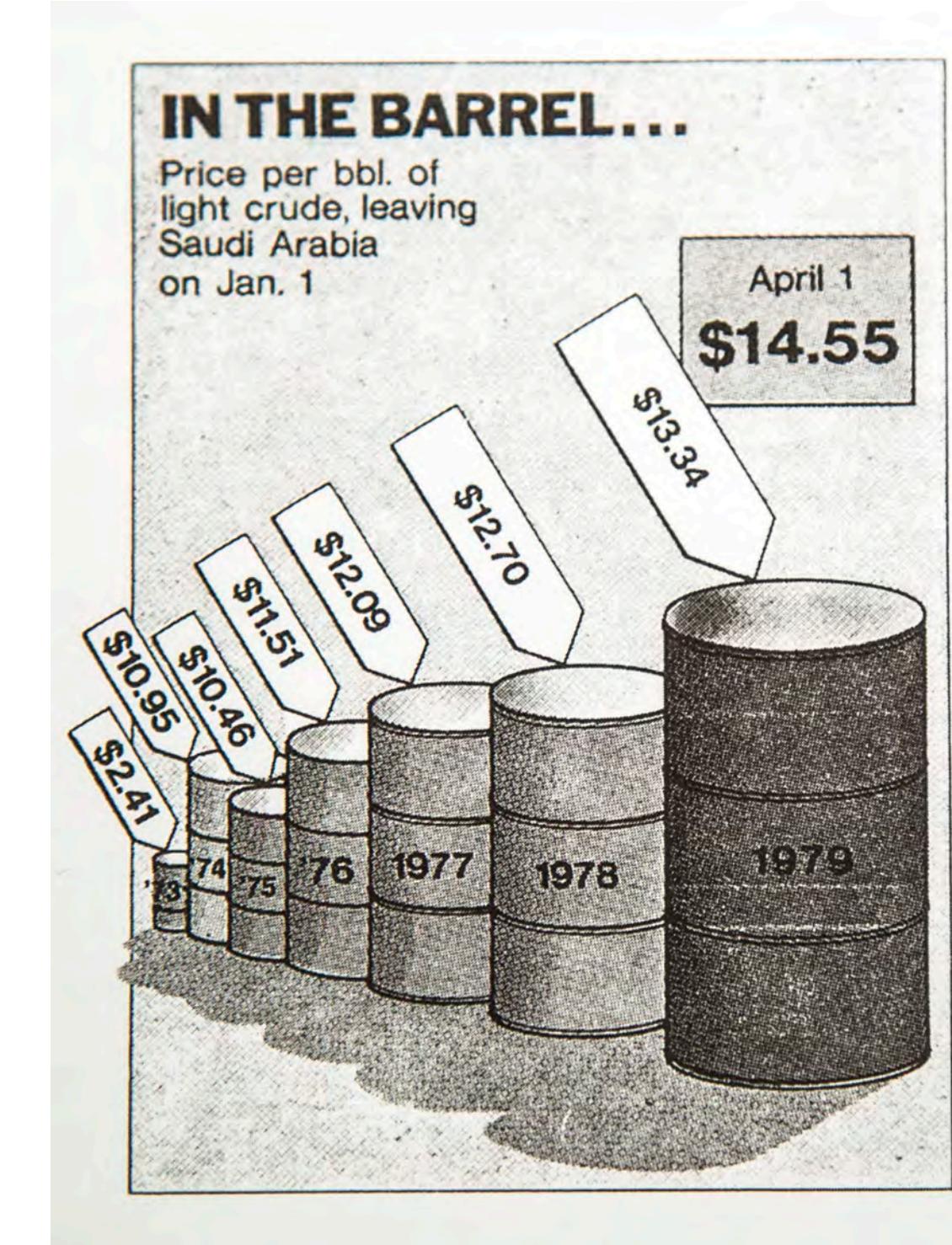
12 3



1

...

- **Lie Factor**
  - *If you consider volume, the lie factor is 9.4 times the stated prices*



# Qualities of a Great Visualization

## I. Truthful

- *Be aware of your actions when cleaning, summarizing and manipulating data and ensure you aren't*
  - *Misleading yourself (self deception)*
  - *Misleading your audience*

**Less regulation =  
More industry investment**

Following  
1992 Cable  
Regulations

**\$14 billion**

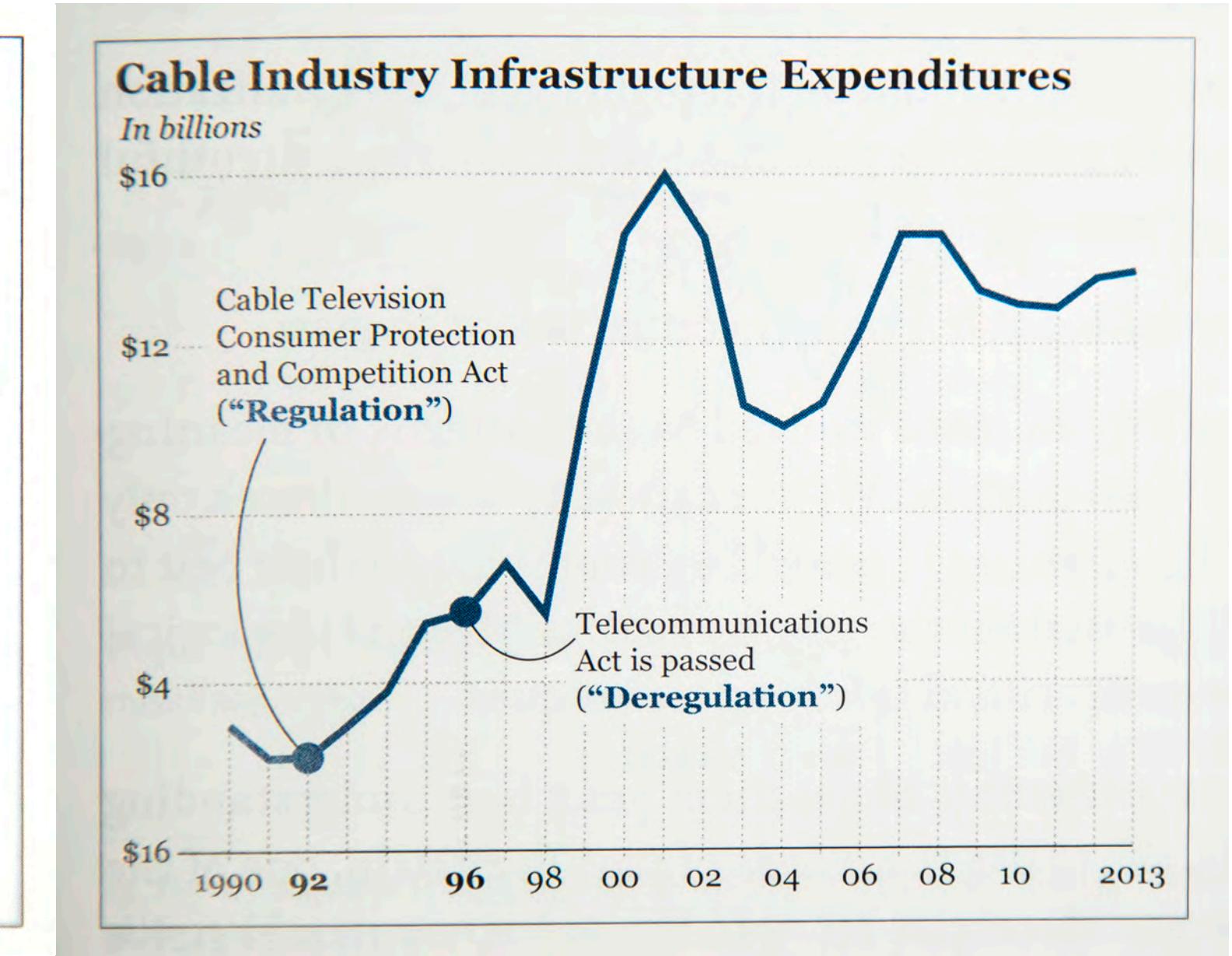
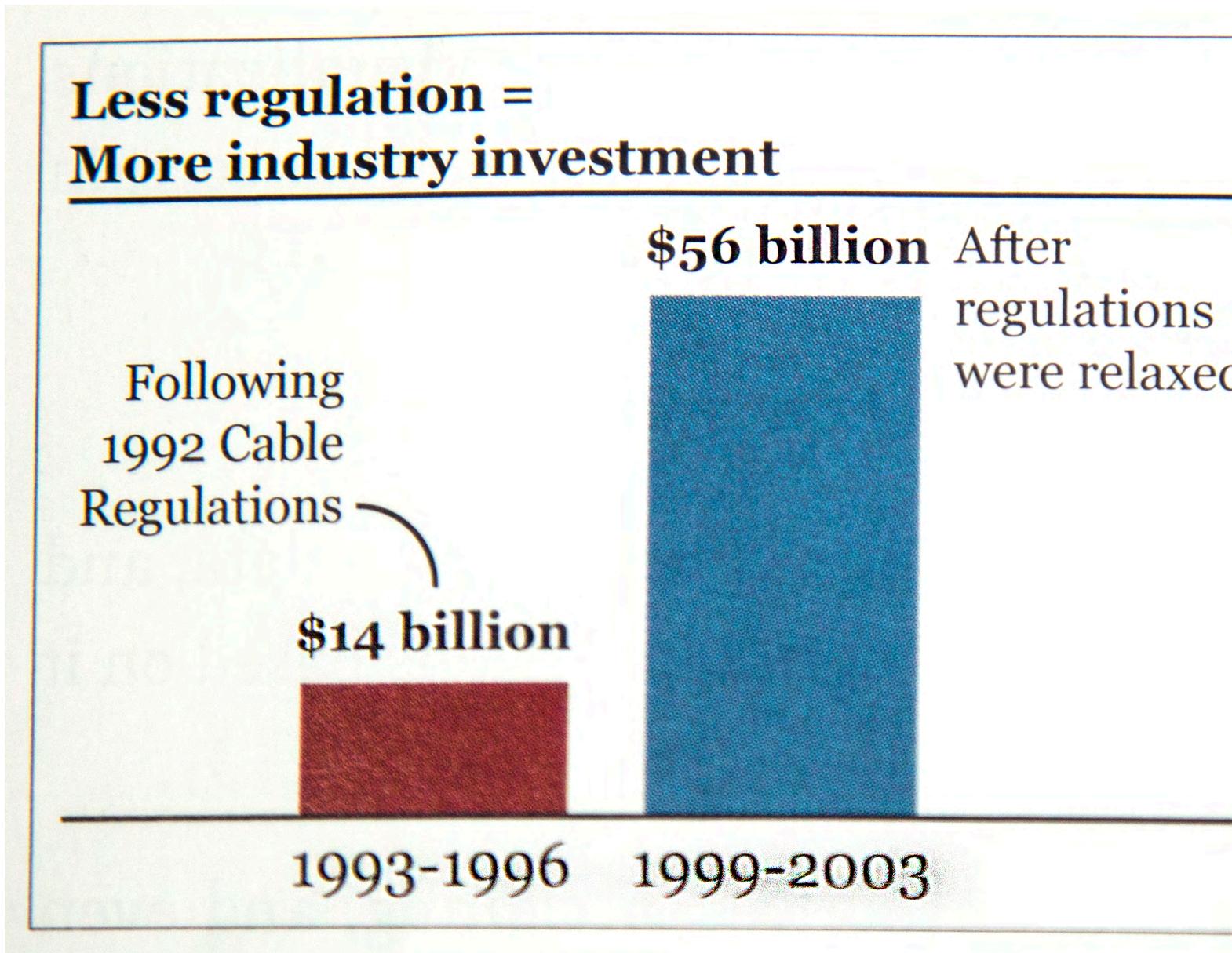


**1993-1996**

**\$56 billion** After  
regulations  
were relaxed



**1999-2003**



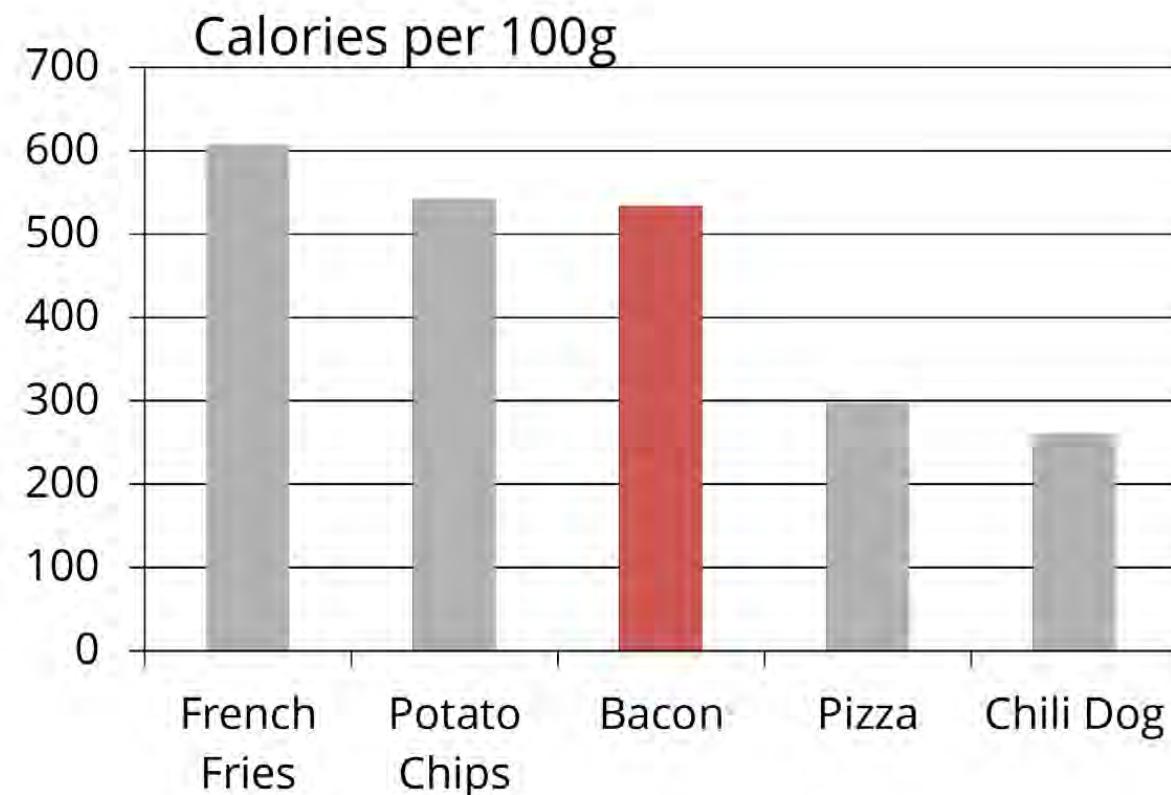
# Qualities of a Great Visualization

## I. Truthful

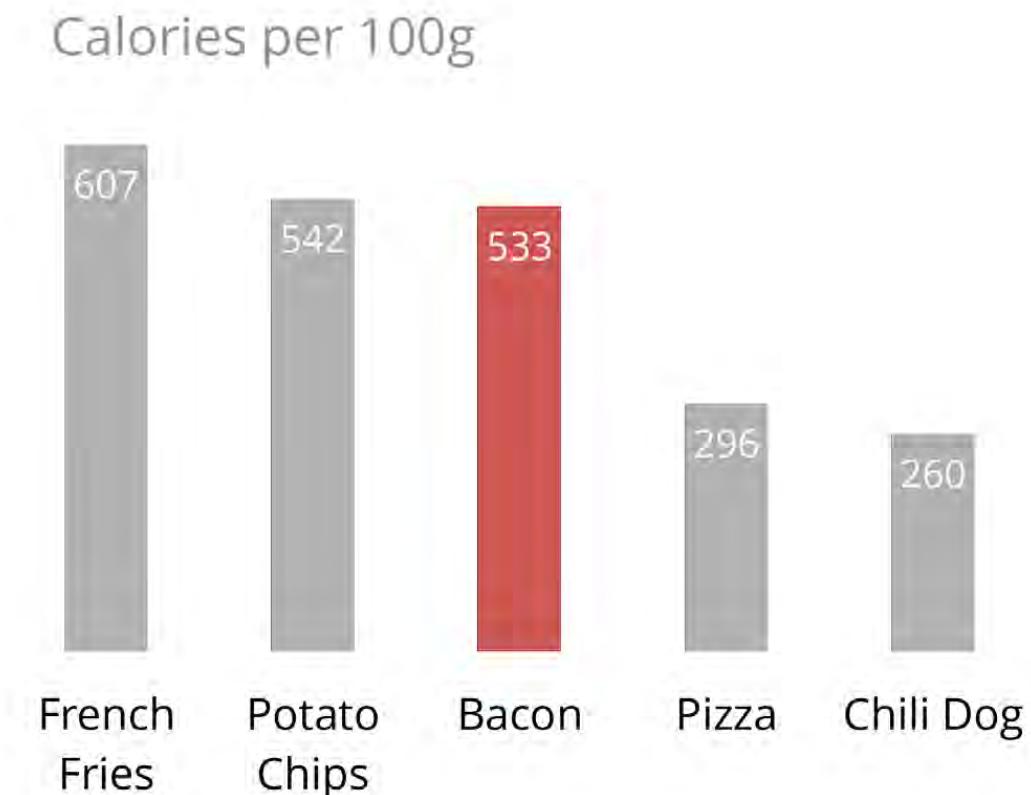
- *Be aware of your actions when cleaning, summarizing and manipulating data and ensure you aren't*
  - *Misleading yourself (self deception)*
  - *Misleading your audience*

## 2. Functionality

## Lighten labels



## Direct label



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## 2. Functionality

## 3. Beauty

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## 2. Functionality

## 3. Beauty

## 4. Insightful

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  - *Misleading yourself (self deception)*
  - *Misleading your audience*

## 2. Functionality

## 3. Beauty

## 4. Insightful

## 5. Enlightening

- *A combination of the previous four, but with a social ethical responsibility*