100+ Years of Graphs of the Titanic Data

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- Timeline of the Titanic Disaster
- Titanic Data Sets
- Primary uses of the Titanic Data
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Timeline of the Titanic Disaster

- July 1908: Design approved
- March 1909: Construction began
- April 10, 1912: Maiden voyage started in Southampton, England
- April 14, 1912, 11:40pm: Iceberg struck Titanic on starboard (right) side
- April 15, 1912, 2:05am: Last lifeboat left Titanic with over 1,500 people left on the ship
- April 15, 1912, 2:20am: After breaking apart, last major part (the stern) of Titanic sinks
- About 1,500 out of about 2,200 passengers and crew killed

https://www.historyonthenet.com/titanic-timeline-3/

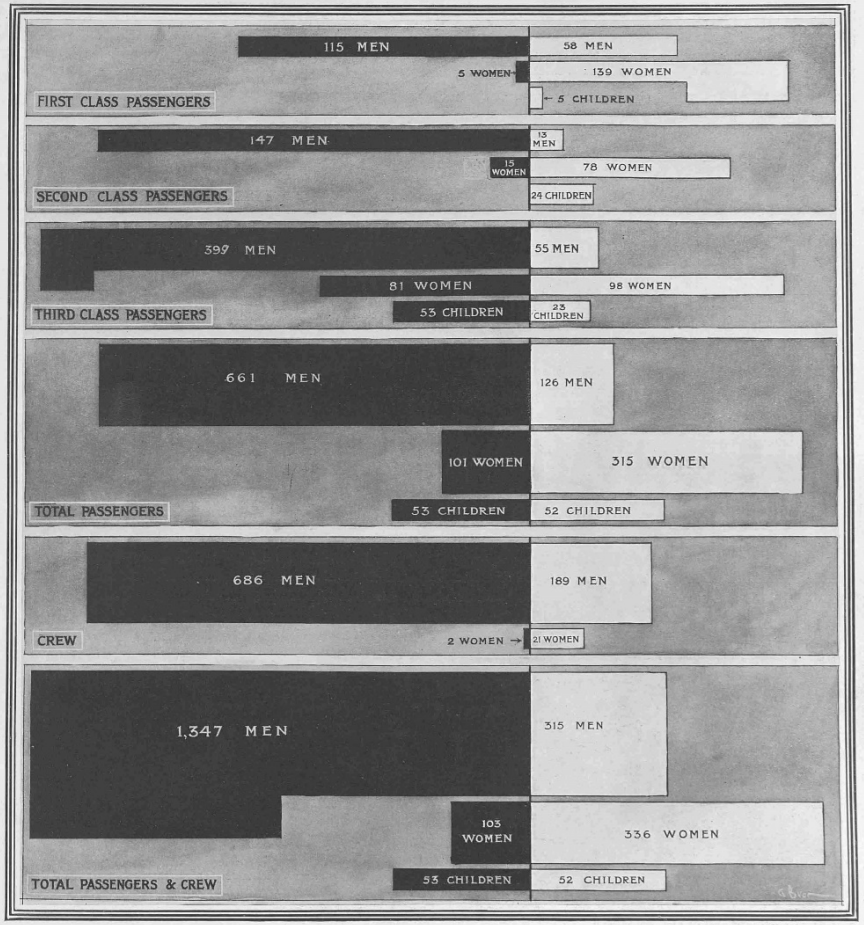
Timeline of the Titanic Disaster (2)

- May 2, 1912: British Board of Trade Formal Investigation Report into “Loss of the S.S. `Titanic’” released
- May 4, 1912: First Titanic graph by G. Bron published in British newspaper *The Sphere*

THE LOSS of the “TITANIC.”

The Results Analysed and Shown in a Special “Sphere” Diagram

Drawn from the Official Figures Given in the House of Commons



SPECIALLY DRAWN FOR “THE SPHERE” BY G. BRON

The Black Indicates Passengers and Crew NOT SAVED, the White Indicates the SAVED

The official figures given last week show that the first figures (as given in “The Sphere” of last week) were in excess of the real numbers on board by about 132. The actual figures are as above. The actual numbers of the saved and lost are given above; the percentage is shown below

NUMBERS OF SAVED	Per cent.
First class	63
Second class	42
Third class	25
Crew	23

FIRST CLASS	Carried	Saved	Per cent.
Men	173	58	34
Women	144	139	97
Children	5	5	100
	322	202	63

SECOND CLASS	Carried	Saved	Per cent.
Men	160	13	8
Women	93	78	84
Children	24	24	100
	277	115	42

THIRD CLASS	Carried	Saved	Per cent.
Men	454	55	12
Women	179	98	55
Children	76	23	30
	709	176	25

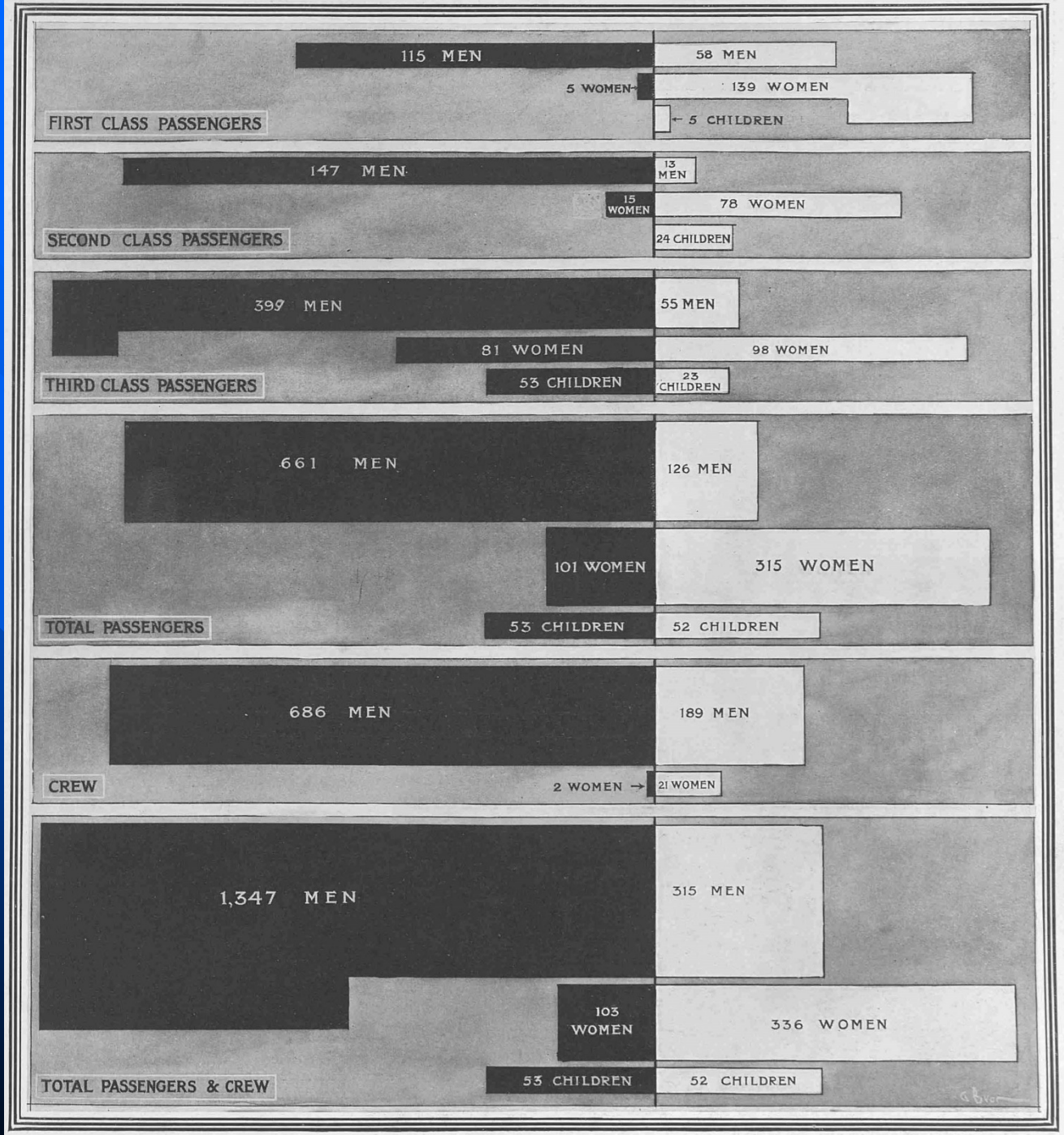
THE CREW	Carried	Saved	Per cent.
Men	875	189	22
Women	23	21	91
	898	210	23

PASSENGERS AND CREW	Carried	Saved	Per cent.
Men	1,662	315	19
Women	439	336	77
Children	105	52	49
Tota's	2,206	703	32

c

1912 Graph

- Area based
- Back-to-back saved/not saved
- Conditional on men/women/ children
- Conditional on class (1st, 2nd, 3rd)
- Cumulative
- “Surprisingly modern” appearance



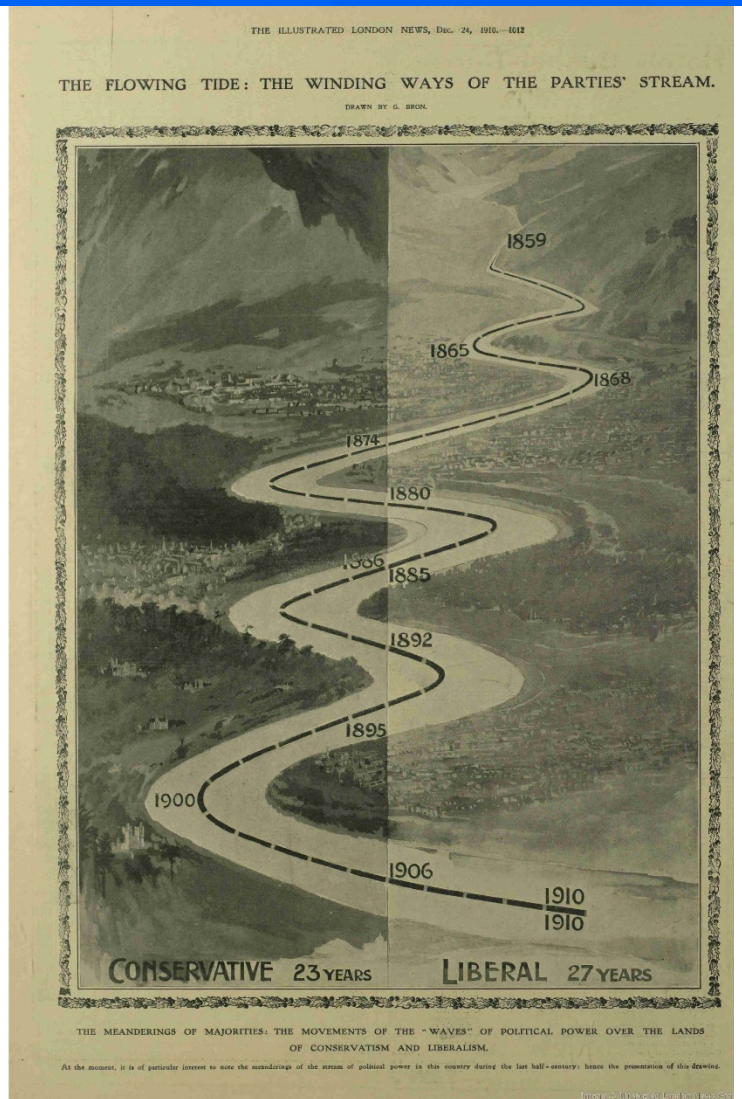
The Sphere

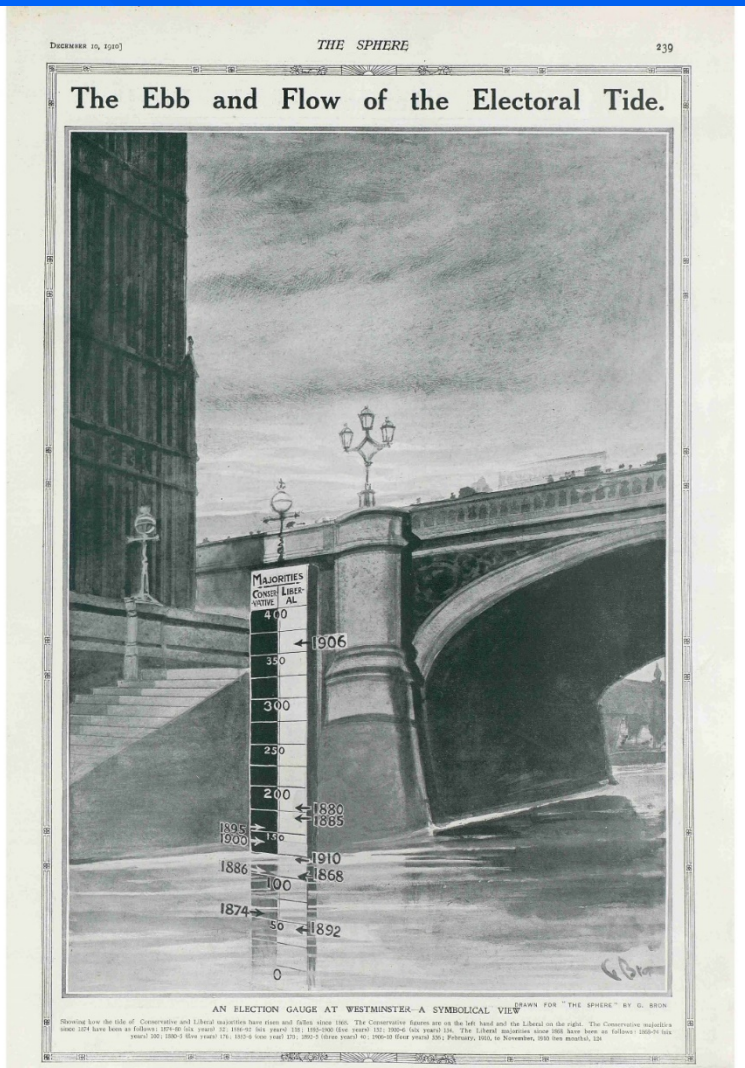
- Illustrated weekly newspaper
- Publisher: Illustrated London News Group, London, England
- First issue: January 27, 1900
- Last issue: June 27, 1964
- Dedicated to world-wide reporting

- https://www.britishnewspaperarchive.co.uk/titles/the-sphere
- https://www.britishnewspaperarchive.co.uk/search/results/1900-01-01/1964-12-31?newspapertitle=The%20Sphere

G. Bron

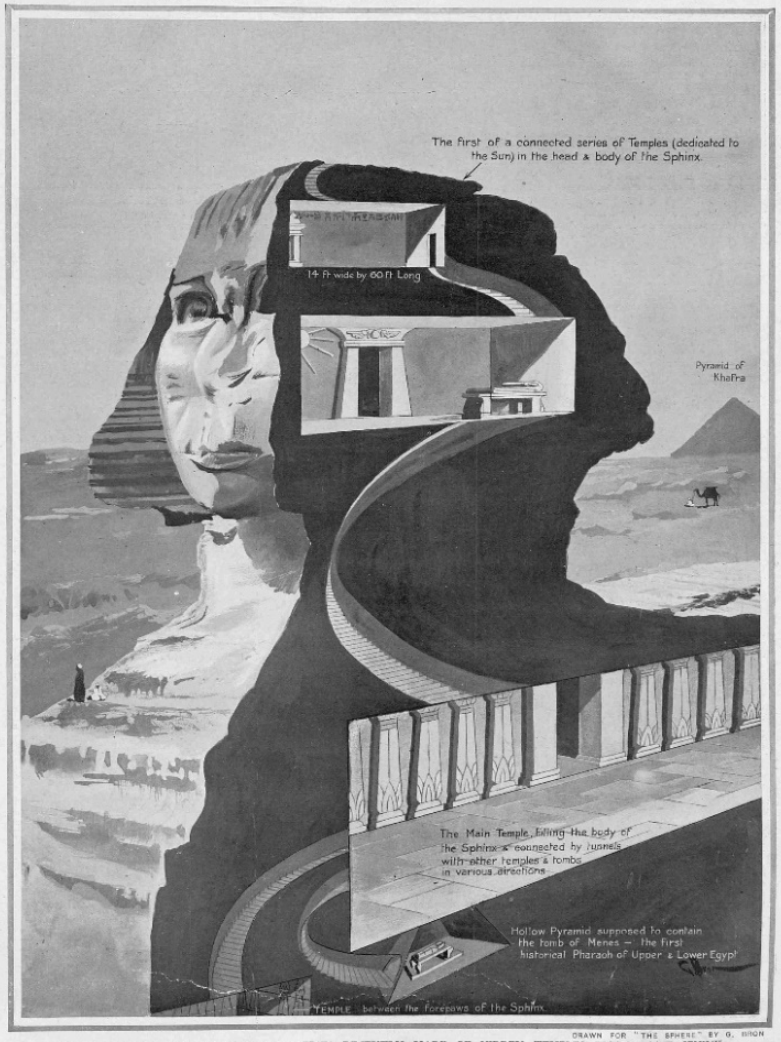
- Graphic designer for *The Sphere* & other news-papers
- "InfoVis" pioneer





Remarkable Discoveries Within the Sphinx.

The Temple Within its Hollow Head : *Professor G. A. Reisner's Interesting Discoveries*

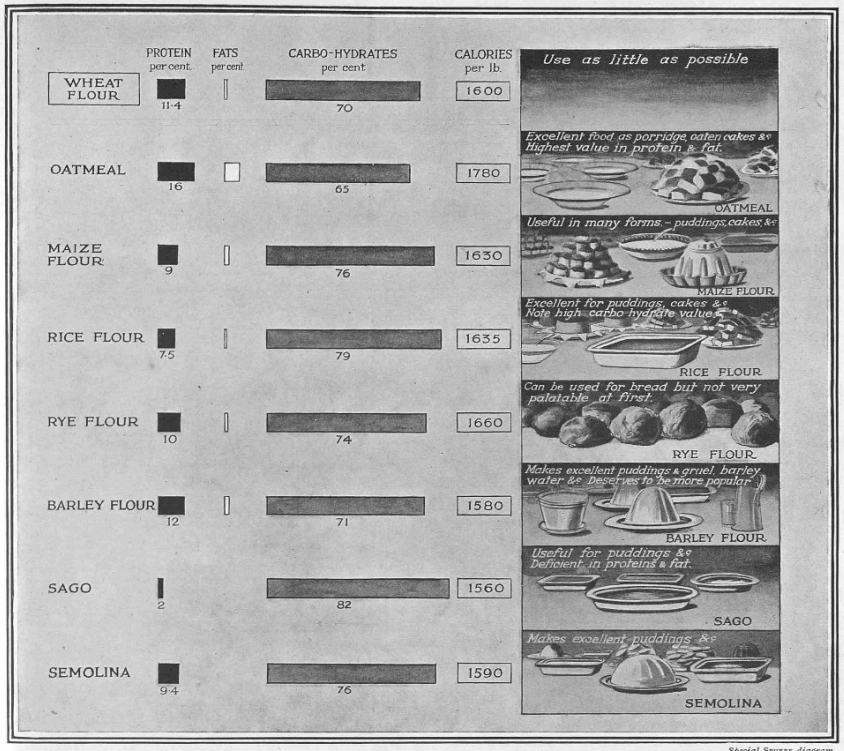


DRAWN FOR "THE SPHERE" BY G. BRON

DIAGRAMMATIC VIEW OF THE DISCOVERIES RECENTLY MADE OF HIDDEN TEMPLES WITHIN THE SPHINX

Repeated reports are coming to this country from Egypt of the extreme interest which is being evoked by the remarkable discoveries now being made by Professor G. A. Reisner, Egyptologist, of Harvard University. He is unveiling a series of hidden temples within the natural rock of which the Sphinx is formed. The drawing given above is only approximate in its details as the unsecured drawings now being made by the explorer are not yet available. The temples and stairways are, however, shown in their relative positions. Not only is the head of the Sphinx occupied by two small chambers, one superimposed above the other, but the actual body of the Sphinx is also occupied by a larger pillar-lined temple with passages leading off in several directions. The actual tomb of Menes, the great but mysterious founder of remote Egypt, is also supposed to be within the Sphinx. The most remarkable discoveries may be looked for at any time. *See notes on opposite page*

IN PLACE OF WHEAT : *Special "Sphere" Table of Optional Cereals, Compiled by R. P. Hearne and G. Bron.*



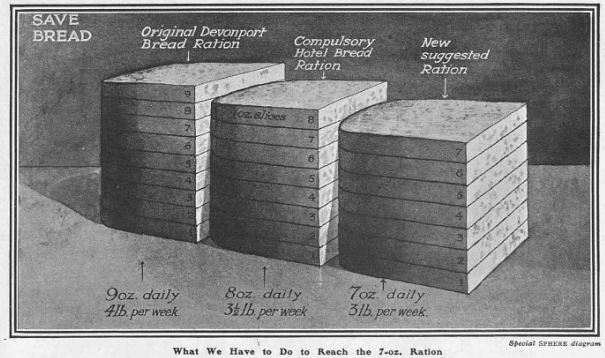
Special SPHERE *diagram*

SEVEN OPTIONAL CEREALS TO REPLACE LESSENED CONSUMPTION OF WHEAT FLOUR

The food values of seven cereals are given here in tabular form. This chart forms a companion one to that published in "The Sphere" of April 21. The heat values have in this case been added. Oatmeal is the richest in fat and protein (body-forming) constituents, but its carbo-hydrates are less than sago (a product of East Indian palms). Semolina is a by-product of the grinding of wheaten flour. The reader either knows or will find by experiment which suits his or her taste best

USEFUL CEREALS

The above cereals, though inferior to wheat in various respects, could be very extensively used if cooks and housekeepers exercised greater originality. Oatmeal is particularly useful, as it provides porridge for the morning meal, and enables bread to be almost dispensed with at breakfast. Oat cakes are delicious and healthy products. They are excellent bread alternatives for afternoon tea. By the use of rice, rye, maize, sago, and semolina a great variety of wheat-saving dishes can be prepared, and barley in the shape of crushed-barley kernels is particularly recommended. It is advisable not to confine the dietary to any one cereal, as various digestive troubles may result. The widest possible dietary should be planned, and cereals require to be supplemented by fresh vegetables and fruits. In a future issue we shall deal with the food value of the chief fruits and vegetables

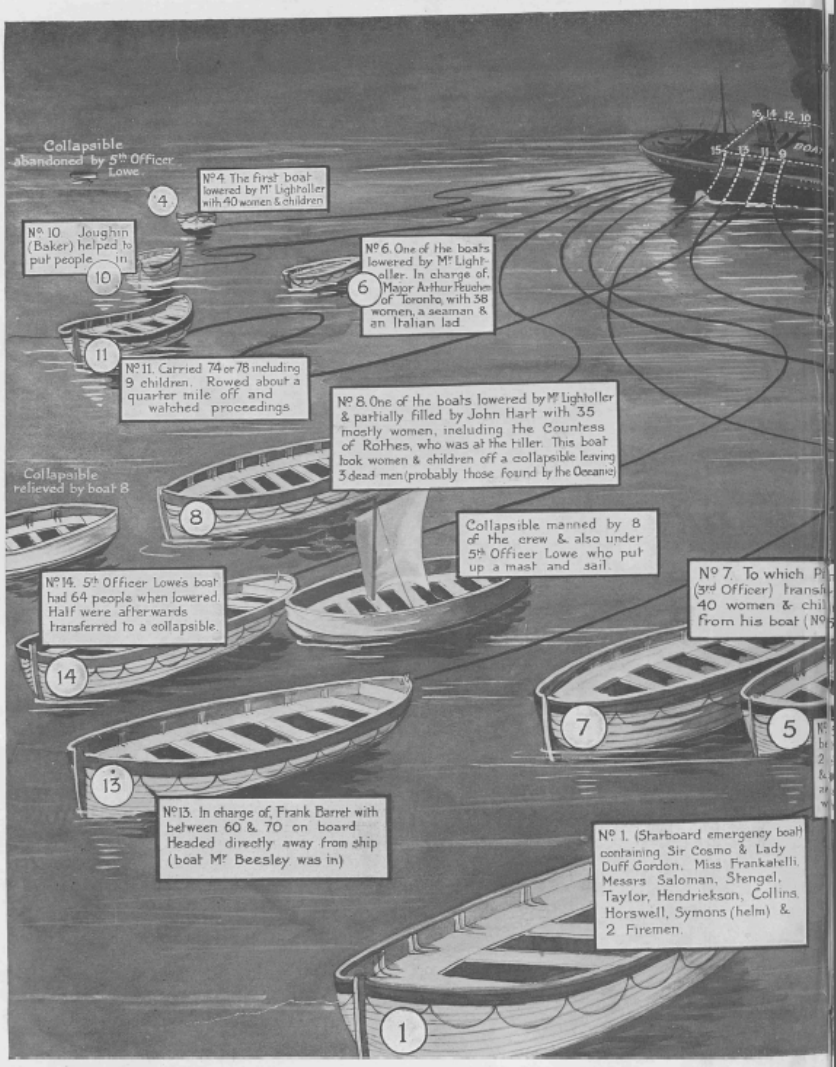


Special SPHERE *diagram*

What We Have to Do to Reach the 7-oz. Ration

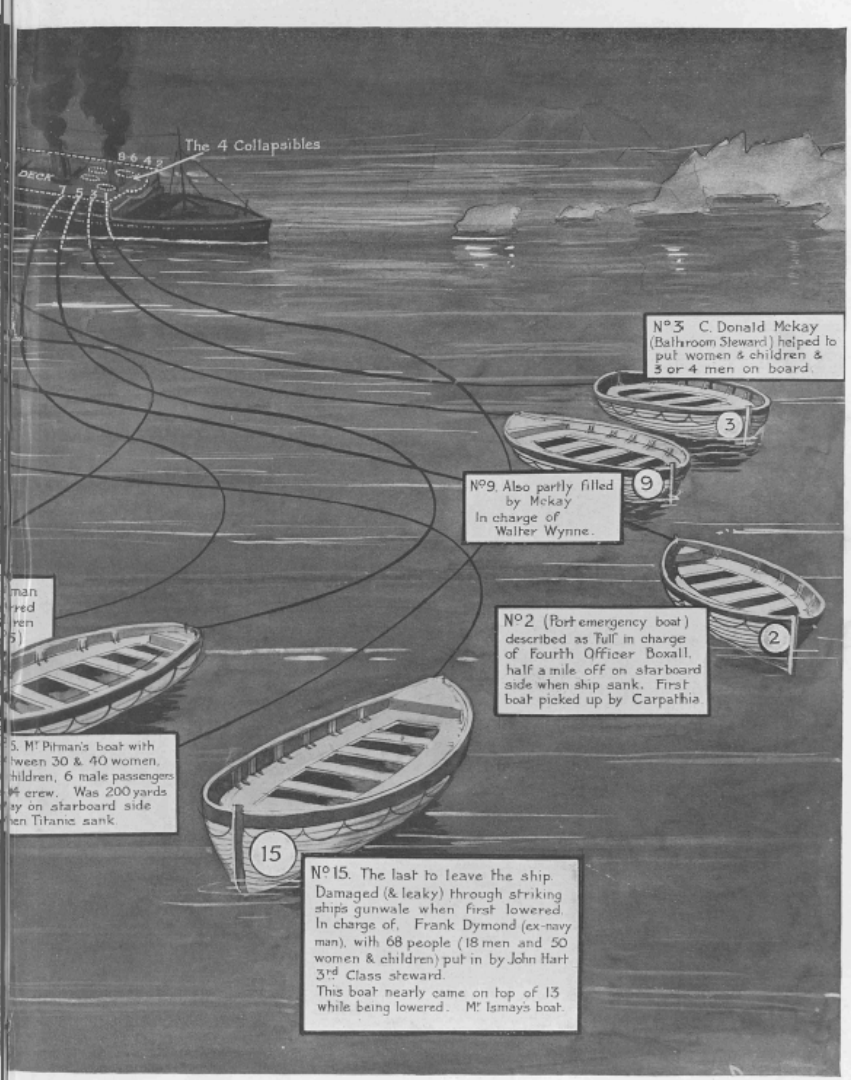
The original Devonport ration allowed, in round figures, 9 oz. of bread per head per day. The compulsory hotel ration takes a 1-oz. slice off this. It is now suggested that if every person reduced the daily bread consumption to 7 oz., we need have little fear of acute shortage

WHAT BECAME of the "TITANIC'S" BOATS—and an IMPORTANT QUESTION WHICH HANGS THEREON.



THE FLOTILLA OF BOATS: WHO SHOULD COMMAND

The above drawing has been made with the idea of showing what happened to each individual boat of the "Titanic" as far as can be traced out from the published evidence and also as illustrating the important question of control. The position of the boats is, of course, quite arbitrary. They appear to have pulled off from the sinking ship for short distances. Fourteen of the boats are more or less accounted for. In addition to the sixteen boats there were four collapsibles. One of these was abandoned by Fifth Officer Lowe and another was relieved by boat 8 as indicated on the drawing. We understand that the third was never launched, and of the fourth we have no information. Among the more famous boats are No. 1, which included Sir Cosmo and Lady Duff-Gordon; No. 8, which included the Countess of Rothes; No. 13, which included Mr. Beesley, the passenger who wrote the best-connected account of the disaster; No. 6, which included Major Arthur Peuchen, a distinguished citizen of Toronto; and No. 15, which included Mr. Ismay, who gave his evidence on Tuesday and Wednesday of last week. The number



IT?—A VITAL QUESTION FOR THE FUTURE

DRAWN FOR "THE SPHERE" BY G. BRON

...al passengers in the boats range from a dozen in No. 1 to the seventy-four or seventy-eight in No. 11. The drawing will help to bring before the reader visually the important question of the control ...f each a flotilla as here shown. The existing idea appears to be that the captain and his chief officer should remain upon the bridge of a sinking ship, and there is no clear idea at present evident concerning the control of a boat flotilla in the case of the sudden wrecking of a great liner. It is not desirable that the idea of the captain remaining on the bridge to the last moment should be pressed too far. In fact, in some circumstances it is evident that he's doing so may take upon itself an Eastern character of self-obliteration which is not in line with the Western ideal of a man facing any music which lies before him. Is there a moment at which the supreme control of the captain should pass to the surviving flotilla? Only one officer appears to have succeeded in converting the unorganised boats which lay around him into a little fleet under one command. As the evidence before the "Titanic" commission proceeds this question of boat control grows in importance.

Titanic Data Sets

Data Background

“More detailed research into the *Titanic* disaster revealed some differences of opinion on the number lost. For instance, the Encyclopaedia Americana (1994) gives the death toll as "variously estimated as **1,490**, **1,502**, and **1,517**." A book edited in 1912 under the pseudonym Marshall Everett gives the figure variously as **1635** and **1595** (Everett 1912); the first of these figures agrees with that found in Logan Marshall's book (Marshall 1912). However, the British Board of Trade Inquiry Report (1990), written originally in 1912, claims a death toll of **1490**. Modern sources seem to agree that the true numbers are in the neighborhood of 1,500, but the exact numbers may never be known.”

Dawson, R.J.M. (1995) The "Unusual Episode" Data Revisited, *Journal of Statistics Education* 3(3), http://ww2.amstat.org/publications/jse/v3n3/datasets.dawson.html

Titanic Data Sets (in R)

Search Results

Help pages:

carData::TitanicSurvival	Survival of Passengers on the Titanic
COUNT::titanic	titanic
COUNT::titanicgrp	titanicgrp
datasets::Titanic	Survival of passengers on the Titanic
earth::etitanic	Titanic data with incomplete cases removed
msme::titanic	Titanic passenger survival data
ReporteRs::textNormal	shortcuts for formatting properties
rpart.plot::ptitanic	Titanic data with passenger names and other details removed.
Stat2Data::Titanic	Titanic
titanic::titanic	titanic: Titanic Passenger Survival Data Set
titanic::titanic_gender_class_model	Titanic gender class model data.
titanic::titanic_gender_model	Titanic gender model data.
titanic::titanic_test	Titanic test data.
titanic::titanic_train	Titanic train data.
vcd::Lifeboats	Lifeboats on the Titanic

Titanic Data Sets: baseR datasets

Titanic {datasets} R Documentation

Survival of passengers on the Titanic

Description

This data set provides information on the fate of passengers on the fatal maiden voyage of the ocean liner 'Titanic', summarized according to economic status (class), sex, age and survival.

Usage

```
Titanic
```

Format

A 4-dimensional array resulting from cross-tabulating 2201 observations on 4 variables. The variables and their levels are as follows:

No	Name	Levels
1	Class	1st, 2nd, 3rd, Crew
2	Sex	Male, Female
3	Age	Child, Adult
4	Survived	No, Yes

```
> Titanic
, , Age = Child, Survived = No

      Sex
Class  Male Female
  1st     0      0
  2nd     0      0
  3rd    35     17
  Crew    0      0

, , Age = Adult, Survived = No

      Sex
Class  Male Female
  1st   118      4
  2nd   154     13
  3rd   387     89
  Crew  670      3

, , Age = Child, Survived = Yes

      Sex
Class  Male Female
  1st     5      1
  2nd    11     13
  3rd    13     14
  Crew    0      0

, , Age = Adult, Survived = Yes

      Sex
Class  Male Female
  1st    57    140
  2nd    14     80
  3rd    75     76
  Crew  192     20
```

Titanic Data Sets: carData Package

TitanicSurvival {carData} R Documentation

Survival of Passengers on the Titanic

Description

Information on the survival status, sex, age, and passenger class of 1309 passengers in the Titanic disaster of 1912.

Usage

```
TitanicSurvival
```

Format

A data frame with 1309 observations on the following 4 variables.

`survived`

`no` or `yes`.

`sex`

`female` or `male`

`age`

in years (and for some children, fractions of a year); age is missing for 263 of the passengers.

`passengerClass`

`1st`, `2nd`, or `3rd` class.

	survived	sex	age	passengerClass
Allen, Miss. Elisabeth Walton	yes	female	29.0000	1st
Allison, Master. Hudson Trevor	yes	male	0.9167	1st
Allison, Miss. Helen Loraine	no	female	2.0000	1st
Allison, Mr. Hudson Joshua Crei	no	male	30.0000	1st
Allison, Mrs. Hudson J C (Bessi	no	female	25.0000	1st
Anderson, Mr. Harry	yes	male	48.0000	1st

Details

This is part of a larger data set compiled by Thomas Cason. Many additional details are given in the sources cited below.

Source

Data set `titanic3` from http://biostat.mc.vanderbilt.edu/twiki/bin/view/Main/DataSets.

Titanic Data Sets: vcd Package

Lifeboats {vcd} R Documentation

Lifeboats on the Titanic

Description

Data from Mersey (1912) about the 18 (out of 20) lifeboats launched before the sinking of the S. S. Titanic.

Usage

```
data("Lifeboats")
```

Format

A data frame with 18 observations and 8 variables.

launch

launch time in "POSIXt" format.

side

factor. Side of the boat.

boat

factor indicating the boat.

crew

number of male crew members on board.

men

number of men on board.

women

number of women (including female crew) on board.

total

total number of passengers.

cap

capacity of the boat.

	launch	side	boat	crew	men	women	total	cap
1	1912-04-15 00:45:00	Port	7	3	4	20	27	65
2	1912-04-15 00:55:00	Port	5	5	6	30	41	65
3	1912-04-15 01:00:00	Port	3	15	10	25	50	65
4	1912-04-15 01:10:00	Port	1	7	3	2	12	40
5	1912-04-15 01:20:00	Port	9	8	6	42	56	65
6	1912-04-15 01:25:00	Port	11	9	1	60	70	65

Titanic Data Sets: titanic Package

titanic_train {titanic} R Documentation

Titanic train data.

Description

Titanic train data.

Usage

```
titanic_train
```

Format

Data frame with columns

PassengerId
: Passenger ID

Survived
: Passenger Survival Indicator

Pclass
: Passenger Class

Name
: Name

Sex
: Sex

Age
: Age

SibSp
: Number of Siblings/Spouses Aboard

Parch
: Number of Parents/Children Aboard

Ticket
: Ticket Number

Fare
: Passenger Fare

Cabin
: Cabin

Embarked
: Port of Embarkation

```
  PassengerId Survived Pclass                                                Name
1           1        0      3                             Braund, Mr. Owen Harris
2           2        1      1 Cumings, Mrs. John Bradley (Florence Briggs Thayer)
3           3        1      3                              Heikkinen, Miss. Laina
4           4        1      1        Futrelle, Mrs. Jacques Heath (Lily May Peel)
5           5        0      3                            Allen, Mr. William Henry
6           6        0      3                                    Moran, Mr. James
     Sex Age SibSp Parch           Ticket    Fare Cabin Embarked
1   male  22     1     0        A/5 21171  7.2500              S
2 female  38     1     0         PC 17599 71.2833   C85        C
3 female  26     0     0 STON/O2. 3101282  7.9250              S
4 female  35     1     0           113803 53.1000  C123        S
5   male  35     0     0           373450  8.0500              S
6   male  NA     0     0           330877  8.4583              Q
```

Titanic Data Sets: titanic Package

titanic_test {titanic} R Documentation

Titanic test data.

Description

Titanic test data.

Usage

```
titanic_test
```

Format

Data frame with columns

PassengerId
: Passenger ID

Pclass
: Passenger Class

Name
: Name

Sex
: Sex

Age
: Age

SibSp
: Number of Siblings/Spouses Aboard

Parch
: Number of Parents/Children Aboard

Ticket
: Ticket Number

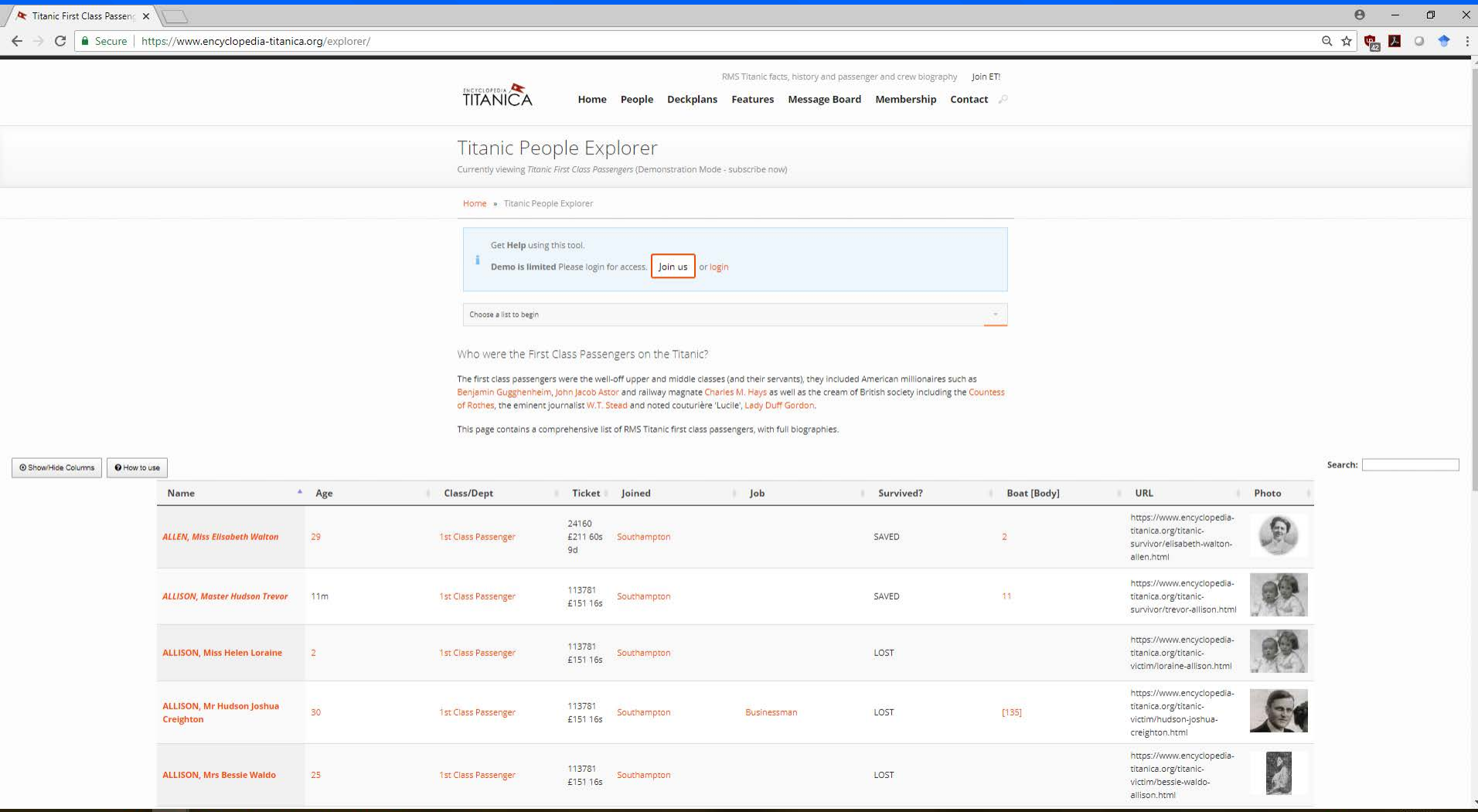
Fare
: Passenger Fare

Cabin
: Cabin

Embarked
: Port of Embarkation

```
  PassengerId Pclass                                          Name
1         892      3                              Kelly, Mr. James
2         893      3          Wilkes, Mrs. James (Ellen Needs)
3         894      2                 Myles, Mr. Thomas Francis
4         895      3                         Wirz, Mr. Albert
5         896      3 Hirvonen, Mrs. Alexander (Helga E Lindqvist)
6         897      3                   Svensson, Mr. Johan Cervin
     Sex  Age SibSp Parch  Ticket    Fare Cabin Embarked
1   male 34.5     0     0  330911  7.8292              Q
2 female 47.0     1     0  363272  7.0000              S
3   male 62.0     0     0  240276  9.6875              Q
4   male 27.0     0     0  315154  8.6625              S
5 female 22.0     1     1 3101298 12.2875              S
6   male 14.0     0     0    7538  9.2250              S
```

Titanic Data Sets: Encyclopedia Titanica



Titanic Data Sets: icyousee.org

Breakdown of Passengers by Nationality

Nationality	FIRST CLASS				SECOND CLASS				THIRD CLASS				Total			
	Total	Survived	Died	Percent Survived	Total	Survived	Died	Percent Survived	Total	Survived	Died	Percent Survived	Total	Survived	Died	Percent Survived
American	212	141	71	67%	51	24	27	47%	43	12	21	28%	306	177	119	58%
Australian	0				1	0	1	0%	1	1	0	100%	2	1	1	50%
Austro Hungarian	1	0	1	0%	4	1	3	25%	44	7	37	16%	49	8	41	16%
Belgian	1	1	0	100%	1	0	1	0%	22	5	17	23%	24	6	18	25%
British	45	20	25	44%	164	68	96	41%	118	18	100	15%	327	104	223	32%
Bulgarian	0				0				33	0	33	0%	33	0	33	0%
Canadian	27	13	14	48%	2	1	1	50%	5	0	5	0%	34	14	20	41%
Chinese	0				0				8	6	2	75%	8	6	2	75%
Danish	0				3	0	3	0%	7	1	6	14%	10	1	9	10%
Dutch	1	0	1	0%	0				0				1	0	1	0%
Finn	0				4	2	2	50%	55	17	38	31%	59	19	40	32%
French	12	11	1	92%	14	7	7	50%	5	0	5	0%	31	18	13	58%
German	3	3	0	100%	3	0	3	0%	4	1	3	25%	10	4	6	40%
Greek	0				0				4	0	4	0%	4	0	4	0%
Italian	2	1	1	50%	4	2	2	50%	4	1	3	25%	10	4	6	40%
Irish	3	0	3	0%	4	1	3	25%	113	41	72	36%	120	42	78	35%
Japanese	0				1	1	0	100%	0				1	1	0	100%
Mexican	1	0	1	0%	0				0				1	0	1	0%
Norwegian	0				1	0	1	0%	25	8	17	32%	26	8	18	31%
Portugese	0				1	0	1	0%	3	0	3	0%	4	0	4	0%
Russian	0				9	3	6	33%	18	6	12	33%	27	9	18	33%
South African	0				4	2	2	50%	1	0	1	0%	5	2	3	40%
Spanish	3	2	1	67%	4	4	0	100%	0				7	6	1	86%
Swede	3	2	1	67%	6	2	4	33%	104	23	81	22%	113	27	86	24%
Swiss	6	6	0	100%	1	1	0	100%	4	0	4	0%	11	7	4	64%
Syrian	0				2	1	1	50%	79	31	48	39%	81	32	49	40%
Turk	1	1	0	100%	0				8	2	6	25%	9	3	6	33%
Uruguayan	3	0	3	0%	0				0				3	0	3	0%
	FIRST CLASS				SECOND CLASS				THIRD CLASS				Total			
	Total	Survived	Died	Percent Survived	Total	Survived	Died	Percent Survived	Total	Survived	Died	Percent Survived	Total	Survived	Died	Percent Survived
Grand Total	324	201	123	62%	283	120	163	42%	708	180	518	25%	1315	501	804	38%

The nationality numbers were adapted from lists and raw data compiled by Hermann Söldner. Note: the numbers on this chart do not match the totals on the two tables above. Although I can account for some of the discrepancies (for example, I think he included the musicians among the British Second Class passengers, but I did not), I do not have enough information about his sources to be able to square his numbers with my own.

Primary Uses of the Titanic Data

Nothing for the next ~70 years (from 1912 to the 1980ies) !!!

Use by Discipline

- Statistics: Introduction of new graphical methods and their advantages & overview of existing graphical methods, using a well-known data set
- Computer Science & Social Sciences: Modeling/ prediction of survival and visualization of results
- Info Vis: Telling the entire story, including some data visualizations

Survey of Graphical Methods using the Titanic Data

Bar Charts

Hofmann, H. (1998) Simpson on Board the Titanic? Interactive Methods for Dealing with Multivariate Categorical Data, *Statistical Computing & Graphics Newsletter* 9(2): 16-19.

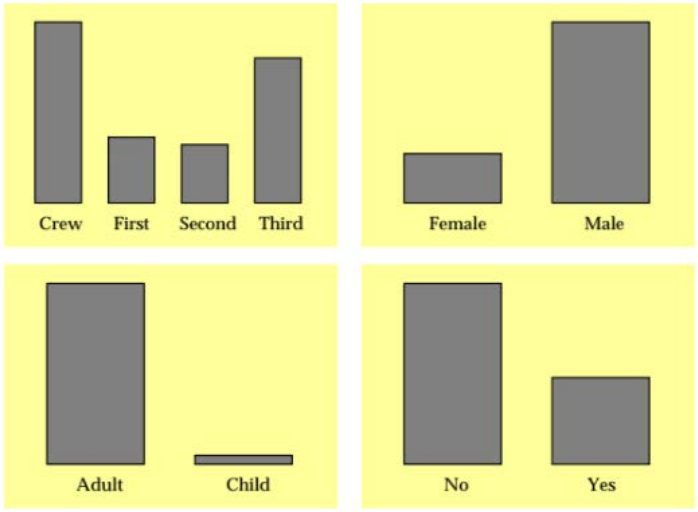


Figure 1. Four bar charts showing the marginal distributions according to class, age, sex and, of course, survival of those on board the Titanic.

Gärtner, J. (2017) *Programming and Evaluation of Shiny Applications for Lectures*, MS Thesis, Humboldt-Universität zu Berlin, Germany.

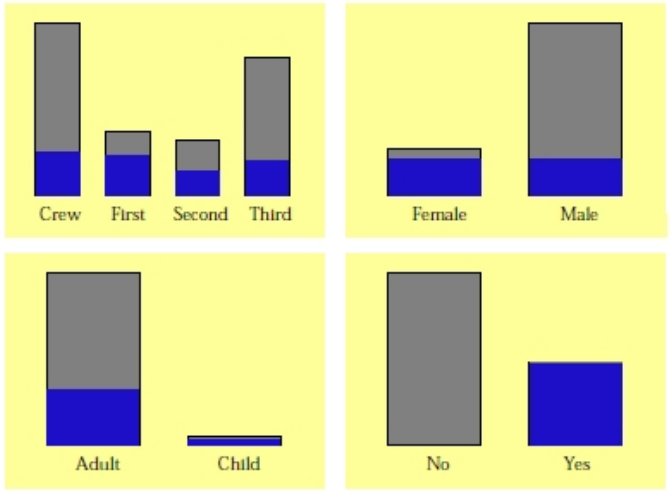


Figure 2. Four barcharts with marginal distribution of the properties. Highlighted (dark) are survivors.

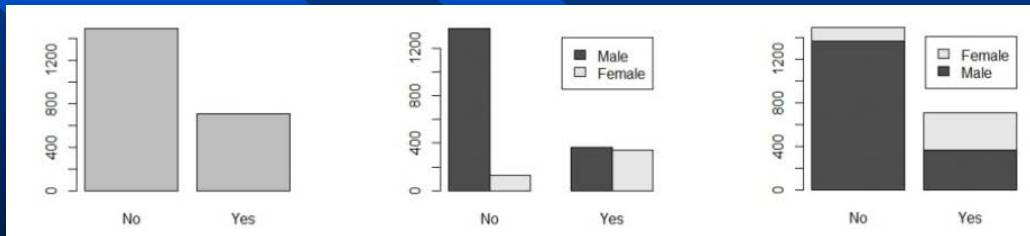


Figure 6: Bar charts of Titanic survival data

Mosaic Plots

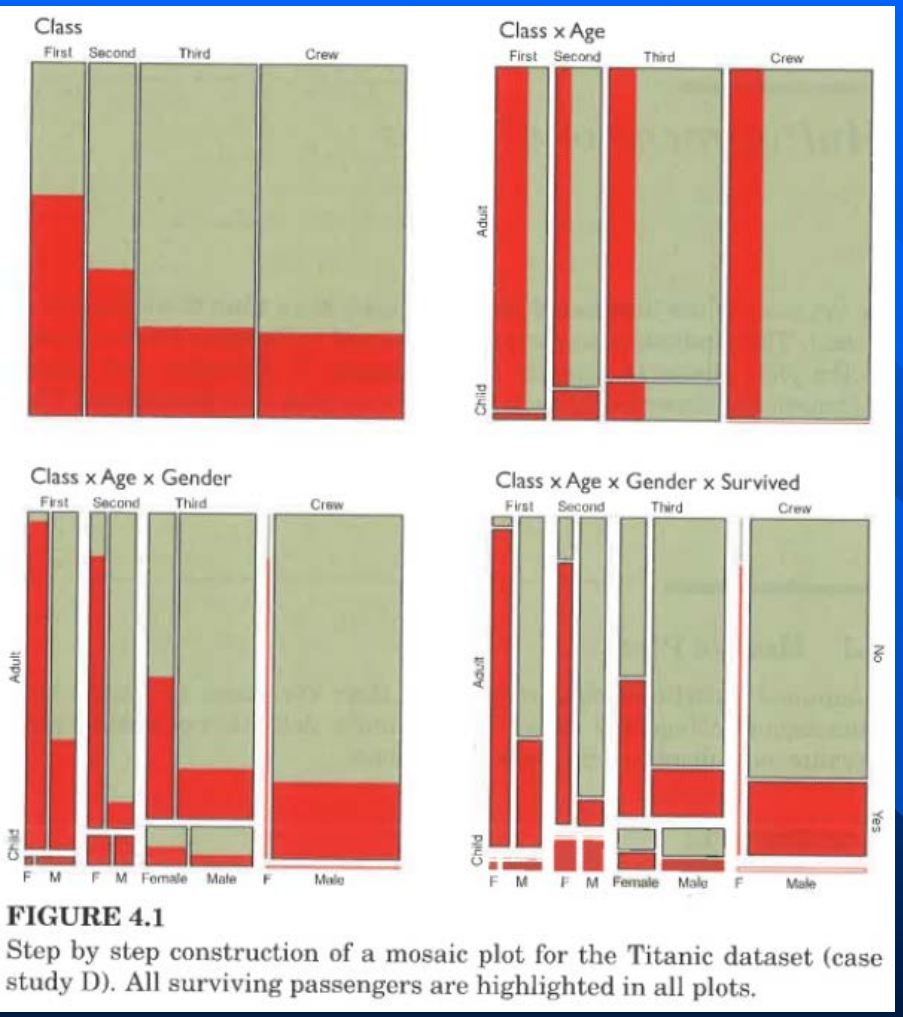


FIGURE 4.1
Step by step construction of a mosaic plot for the Titanic dataset (case study D). All surviving passengers are highlighted in all plots.

Theus, M., Urbanek, S. (2009) *Interactive Graphics for Data Analysis – Principles and Examples*, CRC Press/Taylor & Francis, Boca Raton, FL.

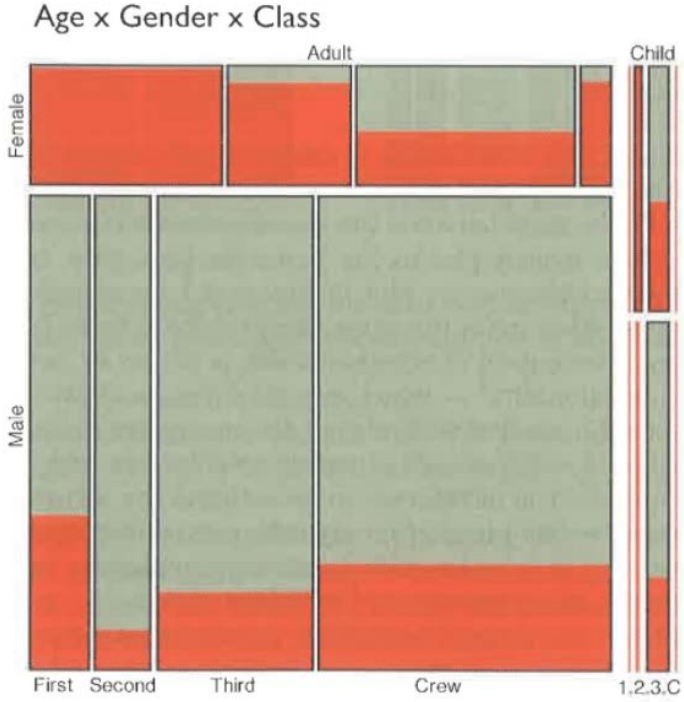


FIGURE 4.3
The same mosaic plot as in Figure 4.1 (lower left), now with a different order, focuses on different features in the dataset.

Double-Decker Plots

Meyer, D. Zeileis, A., Hornik, K. (2006) The Strucplot Framework: Visualizing Multi-way Contingency Tables with vcd, *Journal of Statistical Software* 17(3).

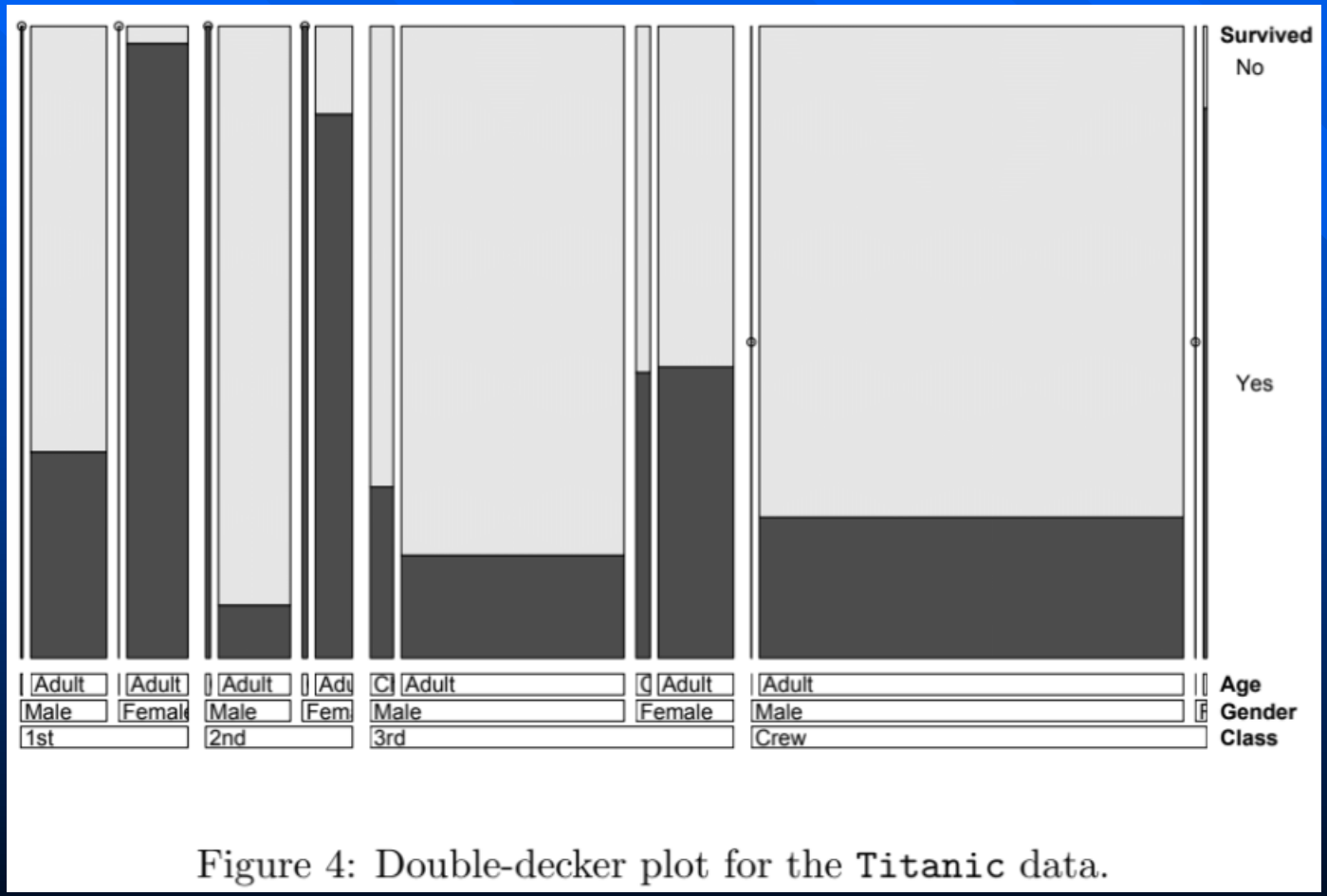


Figure 4: Double-decker plot for the `Titanic` data.

Hammock, Parallel Sets & Common Angle Plots

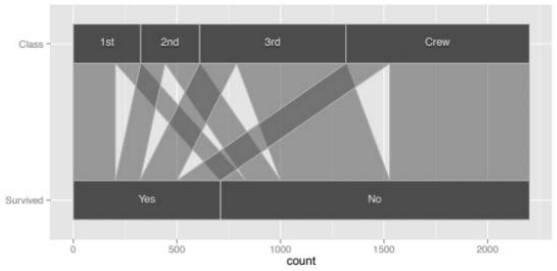


Fig. 2. Parallel sets plot showing the relationship between survival of the sinking of the HMS Titanic and class membership. Class membership and survival are clearly related, but which class had the largest number of survivors?

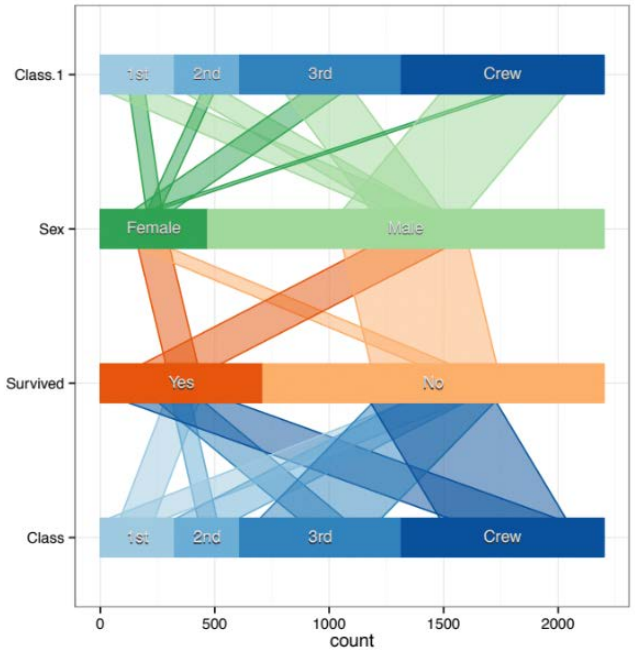


Fig. 7. Hammock plot of the relationship between Class and Survival on the Titanic.

Hofmann, H., Vendettuoli, M. (2013) Common Angle Plots as Perception-True Visualizations of Categorical Associations, *IEEE Transactions on Visualization and Computer Graphics* 19(2): 2297-2305.

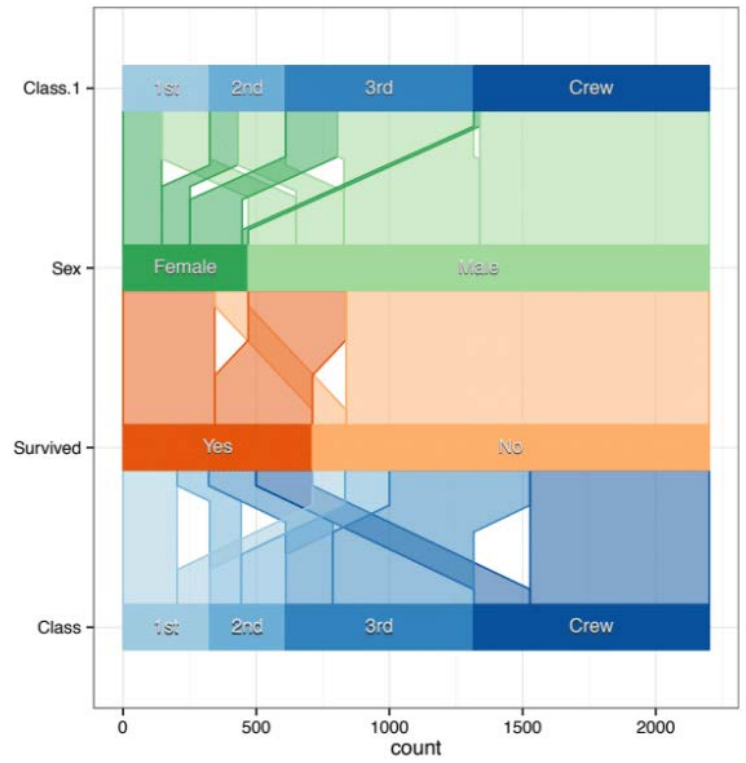


Fig. 10. Common angle plot of the Titanic data.

Venn Diagrams

Brath, R. (2014) The Multiple Visual Attributes of Shape, In: Banissi, E., Marchese, F.T., Forsell, C. (Eds.) *Information Visualization: Techniques, Usability and Evaluation*, Cambridge Scholars Publishing, pp. 43-66.

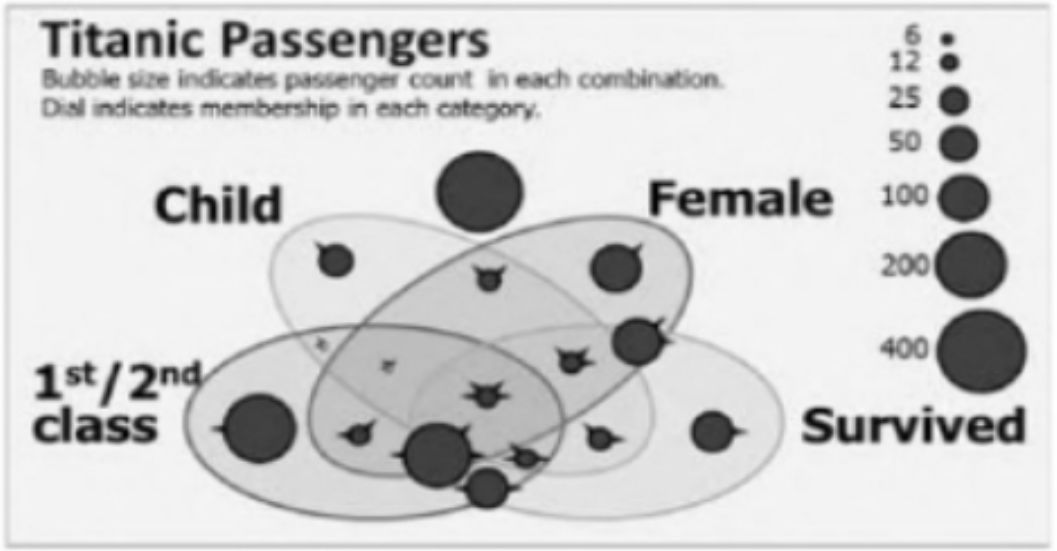


Fig. 3.30. A Venn diagram of Titanic survivor data, with a bubble per segment sized to indicate the number of corresponding passengers; and with spikes per bubble to indicate set membership by pointing towards the corresponding set labels around the perimeter. For example, the large bubble near the centre bottom has three spikes, indicating that its members belong to three sets. The orientation of these spikes correspond to the location of the labels around the perimeter; therefore, based on the spikes it can be determined, this large bubble corresponds to a large number of $1^{st}/2^{nd}$ class, female passengers that survived the Titanic disaster.

Ballon Plots

Jain, N., Warnes, G.R. (2006) Balloon Plot -- Graphical Tool for Displaying Tabular Data, *R News* 6(2): 35-38.

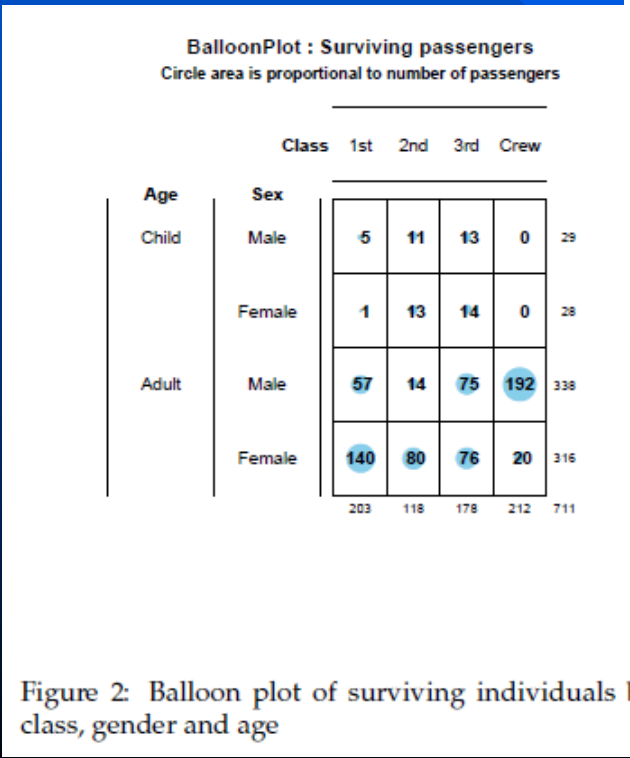


Figure 2: Balloon plot of surviving individuals by class, gender and age

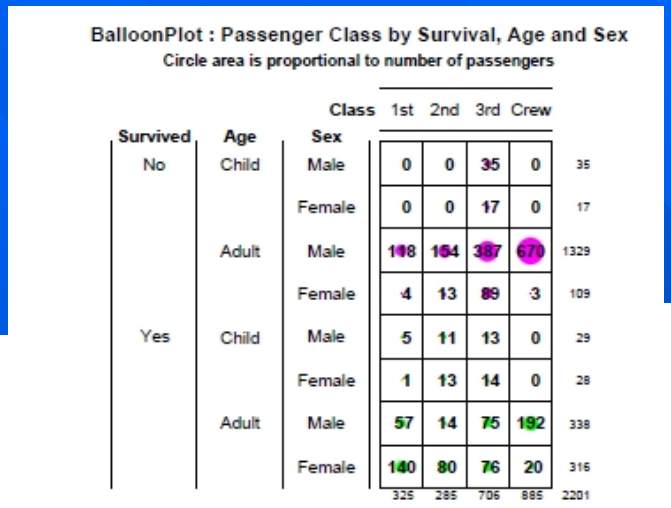


Figure 3: Balloon plot of Titanic passengers by gender, age and class. Green circles represent passengers who survived and magenta circles represent the passengers who did not survive.

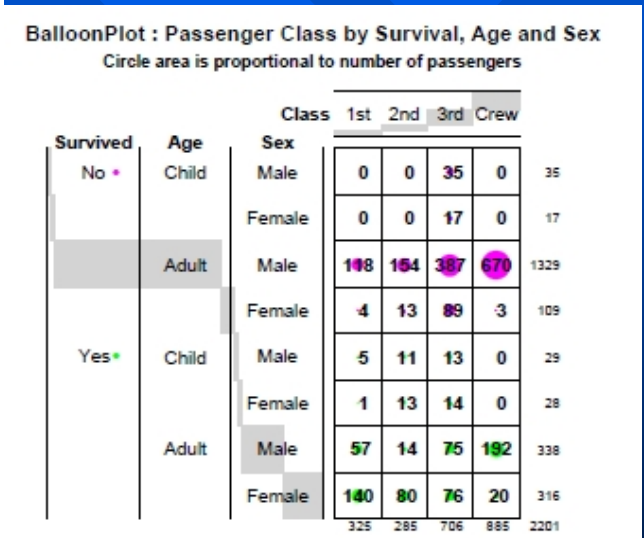


Figure 4: Balloon plot of all the passengers of Titanic, stratified by survival, age, sex and class

Nomograms

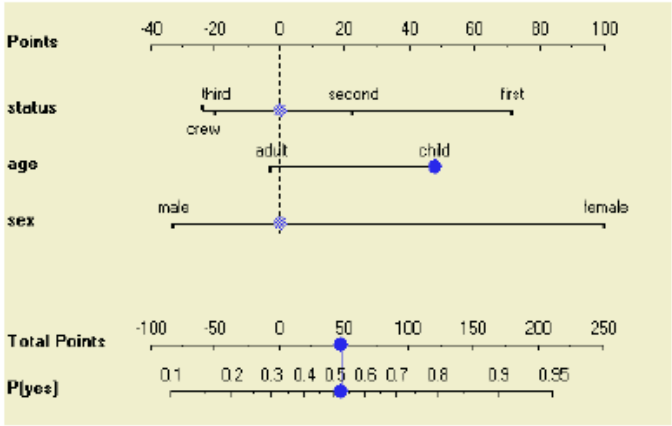


Fig. 1. A nomogram for prediction of survival probability of a passenger on HMS Titanic.

Mozina, M., Demsar, J., Kattan, M., Zupan, B. (2004) Nomograms for Visualization of Naive Bayesian Classifier, In: Boulicaut, J.-F. et al. (Eds.) *Knowledge Discovery in Databases: PKDD 2004*, Springer, Berlin, pp. 337-348.

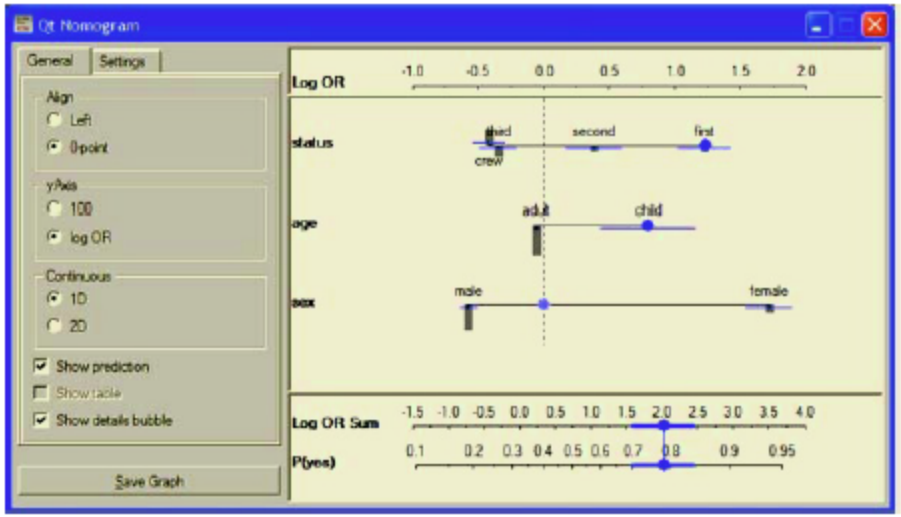


Fig. 4. Orange widget with the Titanic nomogram that includes confidence intervals for contributions of attribute values and class probabilities. For a woman travelling in the first class, the probability of survival is with 95% confidence between 0.87 and 0.92.

Tree Diagrams

Varian, H.R. (2014) Big Data: New Tricks for Econometrics, *Journal of Economic Perspectives* 28(2): 3-28.

Figure 1

A Classification Tree for Survivors of the *Titanic*

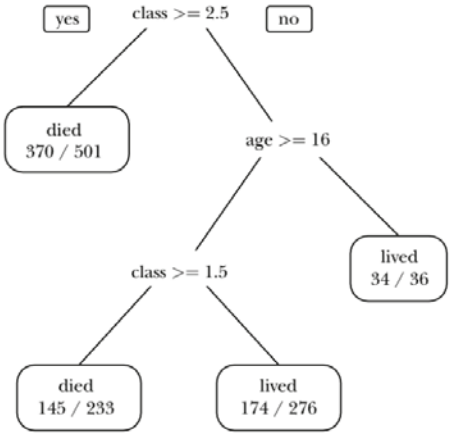
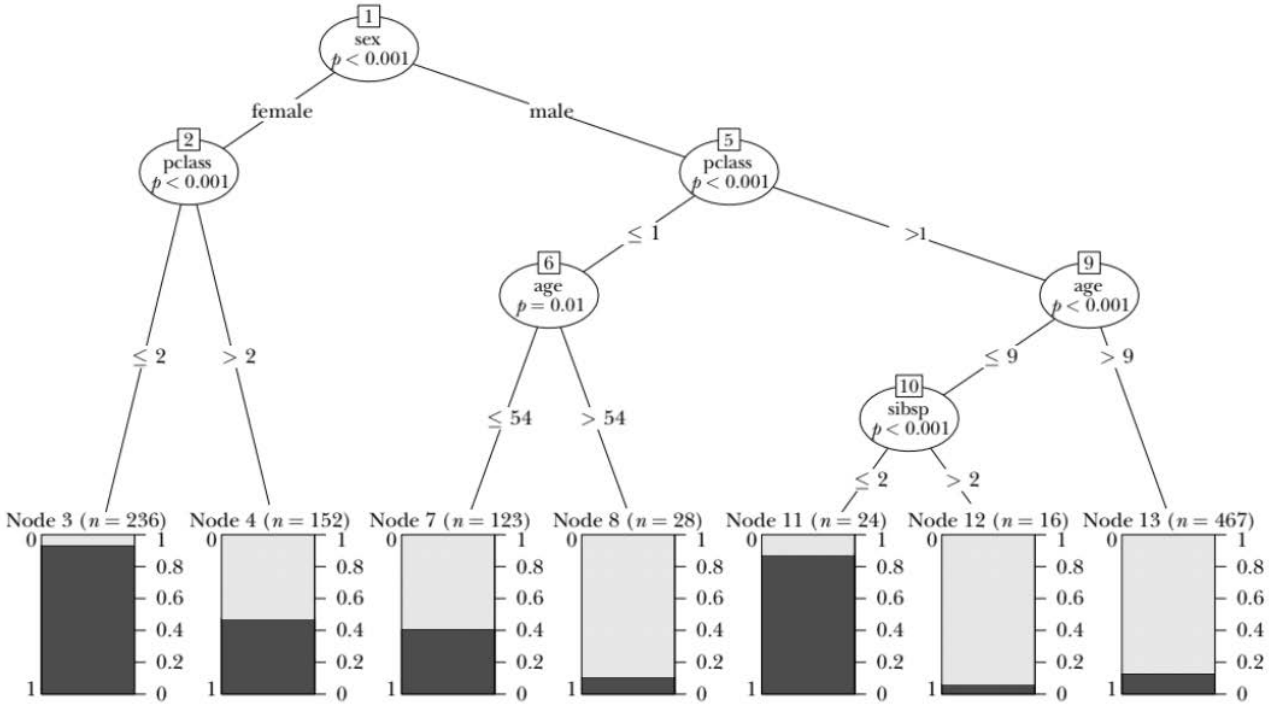


Figure 4

A ctree for Survivors of the *Titanic*

(black bars indicate fraction of the group that survived)



Stem-and-Leaf Plots

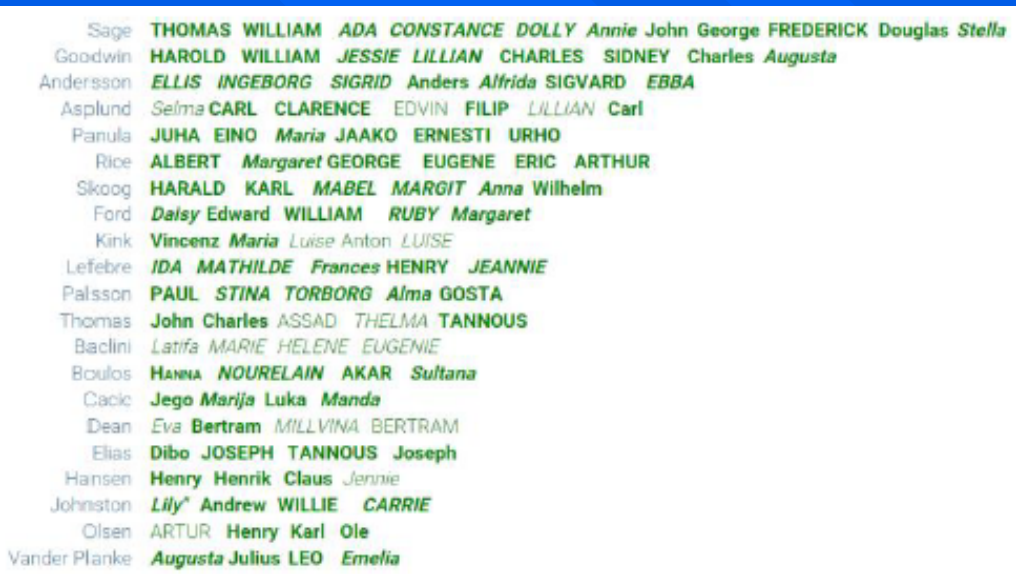


Figure 9. *Titanic* third class families. Stem indicates surname, leaf for given name, bold indicates death, italics for women, allcaps for children.

Figure 10. *Titanic* first class families, women left, men right.

Brath, R., Banissi, E. (2017) Stem & Leaf Plots Extended for Text Visualizations, *14th International Conference on Computer Graphics*, IEEE.

Visualizations of Lifeboat Data

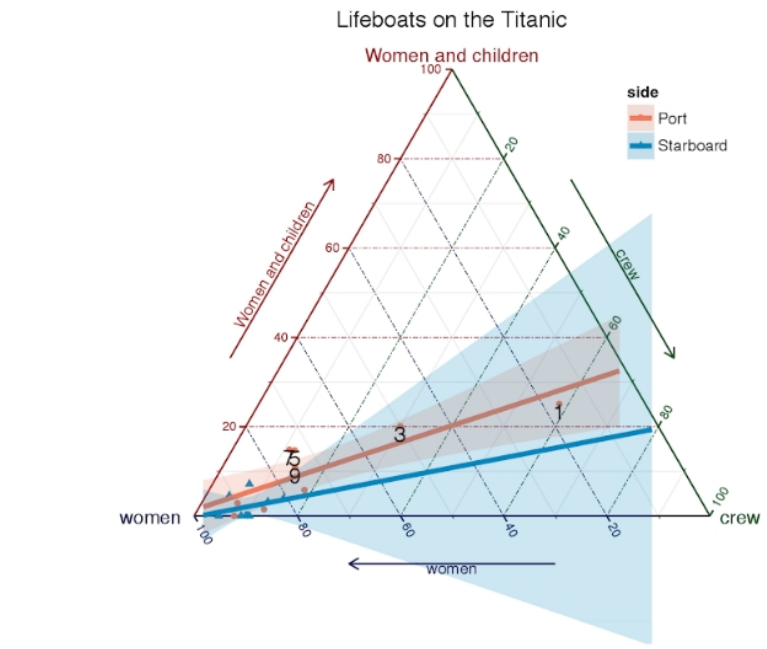


Figure 4.22: Lifeboats on the *Titanic*, showing the composition of each boat. Boats with more than 10% male passengers are labeled.

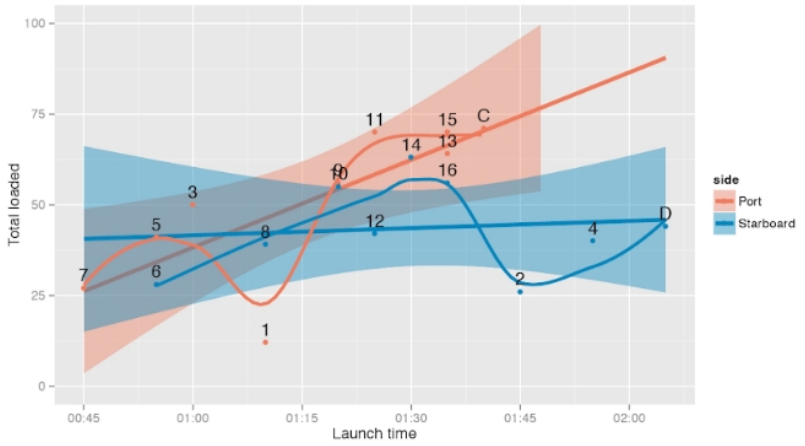
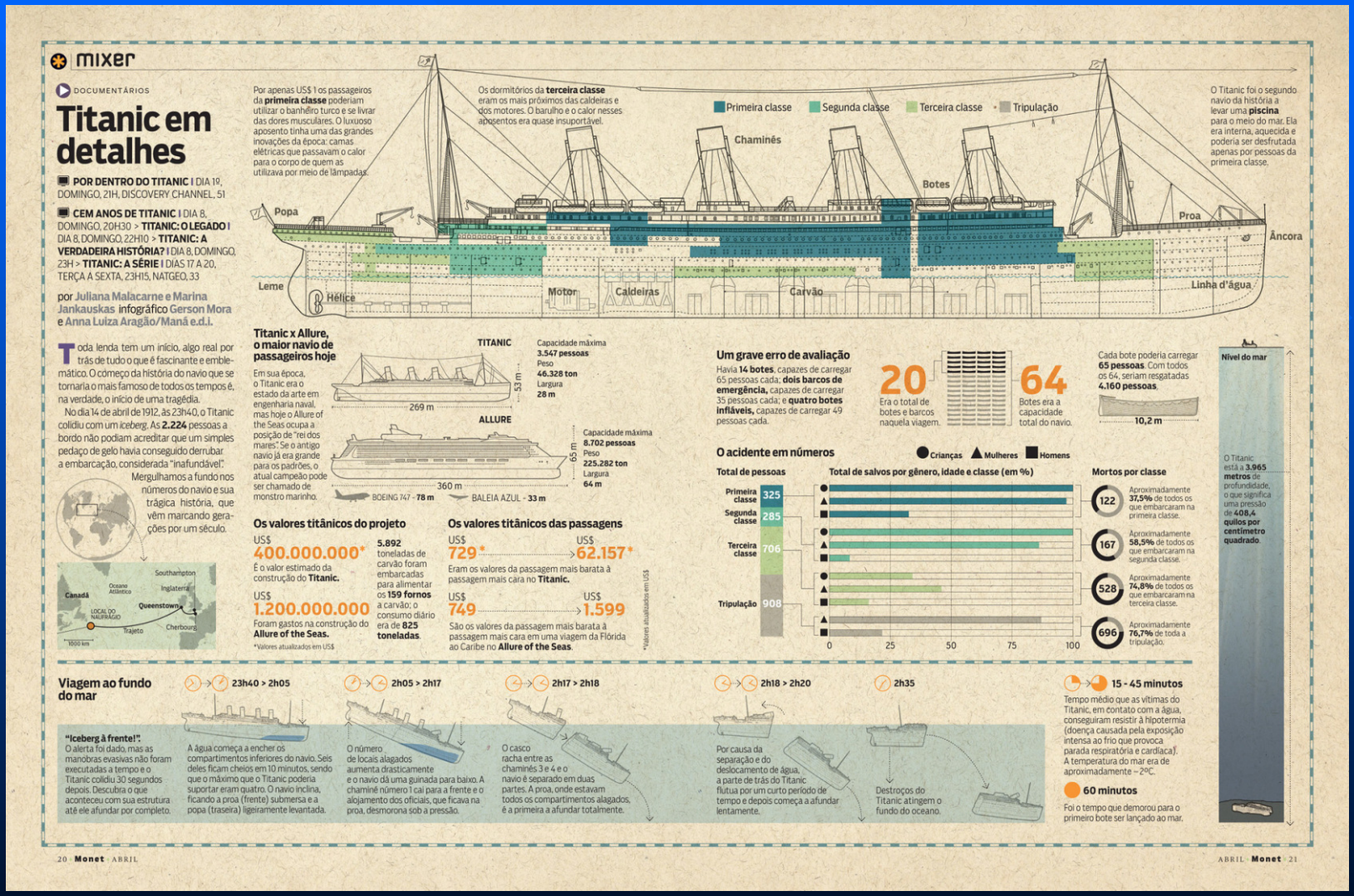


Figure 4.23: Number of people loaded on lifeboats on the Titanic vs. time of launch, by side of boat. The plot annotations show the linear regression and loess smooth.

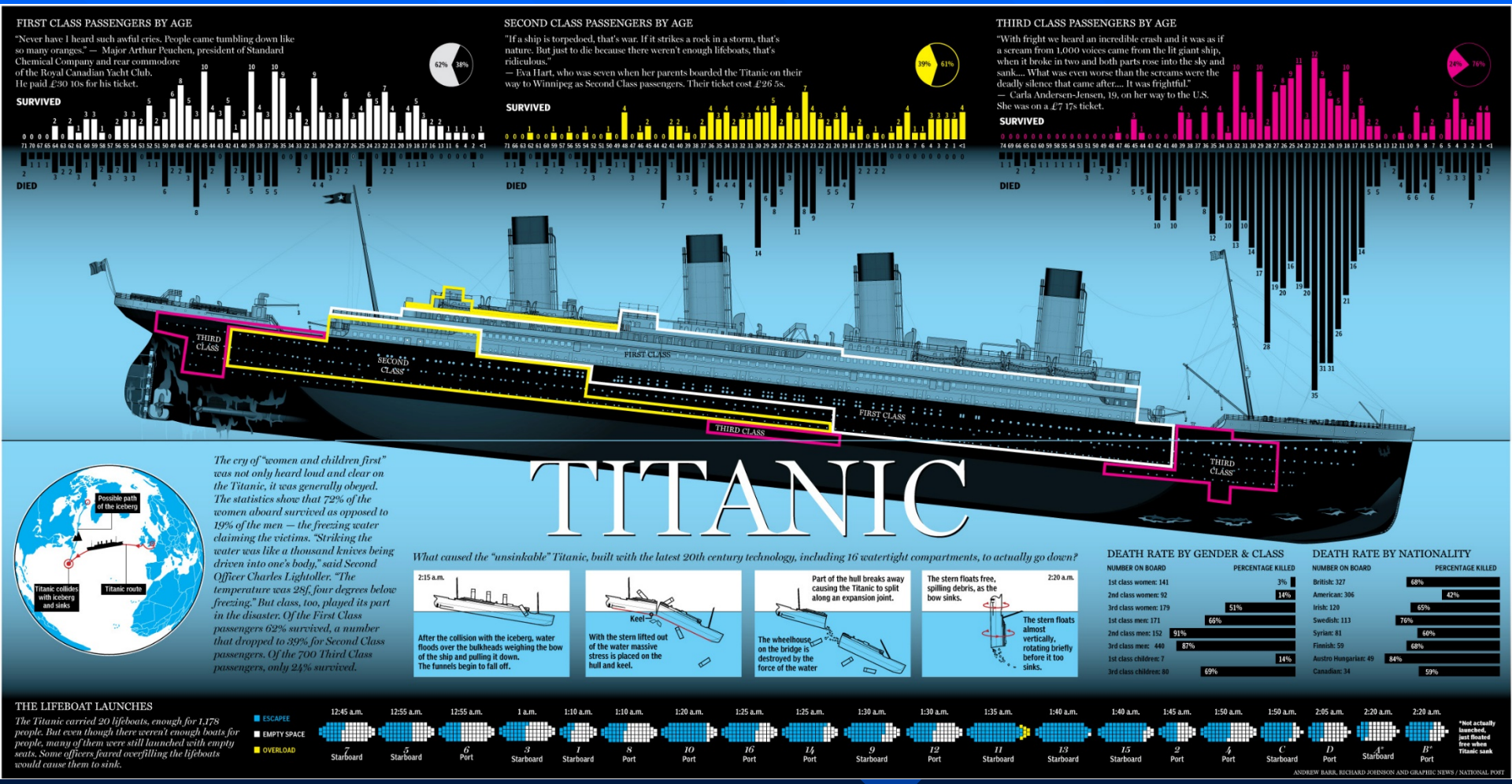
Friendly, M., Meyer, D. (2016) *Discrete Data Analysis with R: Visualization and Modeling Techniques for Categorical and Count Data*, CRC Press/Taylor & Francis, Boca Raton, FL.

Info Vis (1)



Titanic em detalhes - Monet - Maná e.d.i. - Infografia, 3D e Design

Info Vis (2)

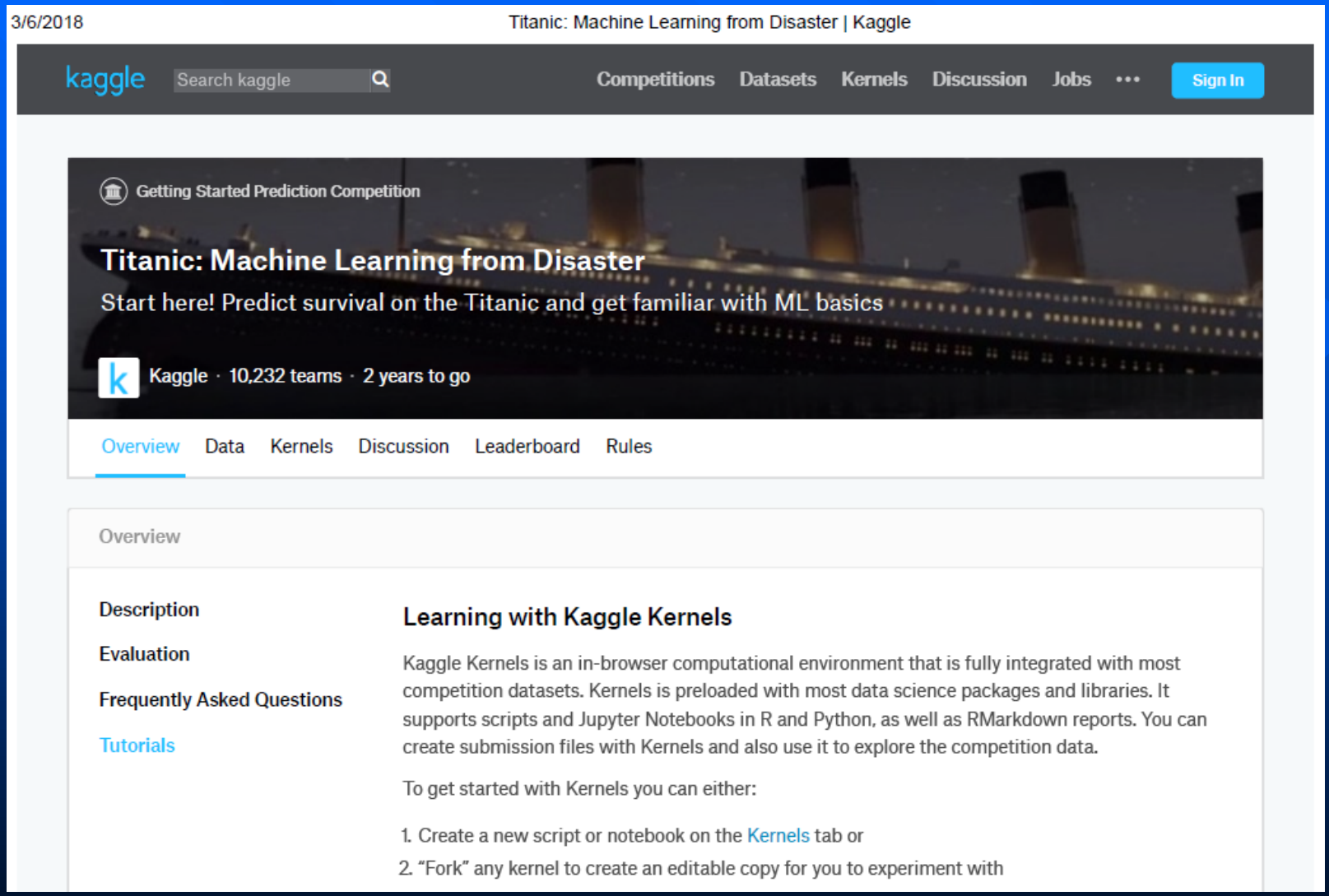


Barr, A., Johnson, R. (2012) TITANIC, http://www.pcbheaven.com/opendir/images/od_1209_1337281260.jpg

Info Vis (3)

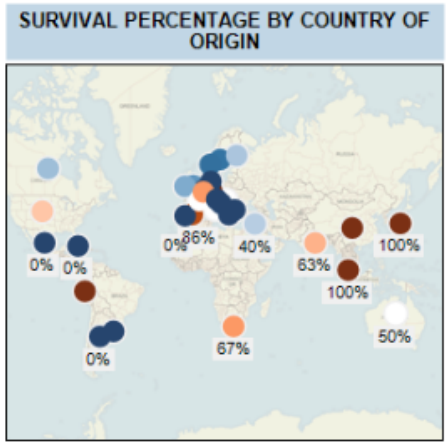
Arranz, A. (2012) Sinking the 'Unsinkable', https://www.behance.net/gallery/3975285/Titanic

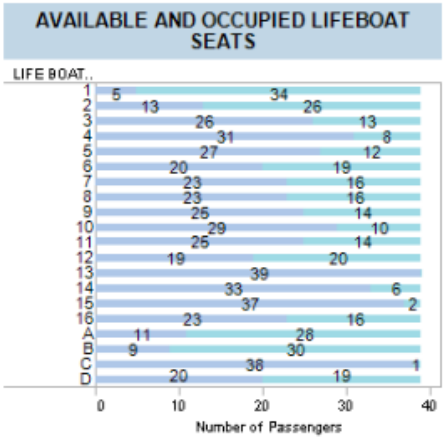
kaggle Competition

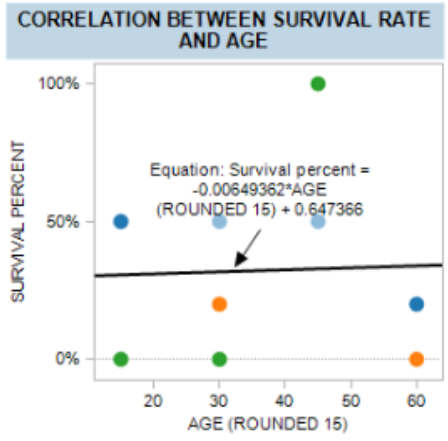


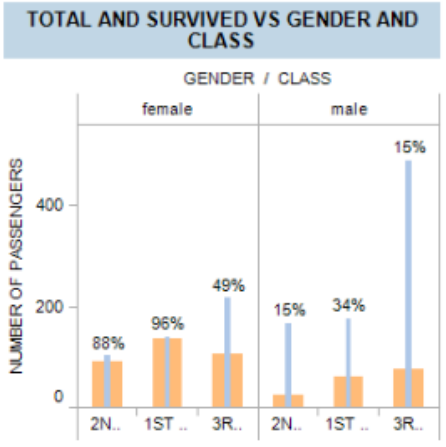
https://www.kaggle.com/c/titanic

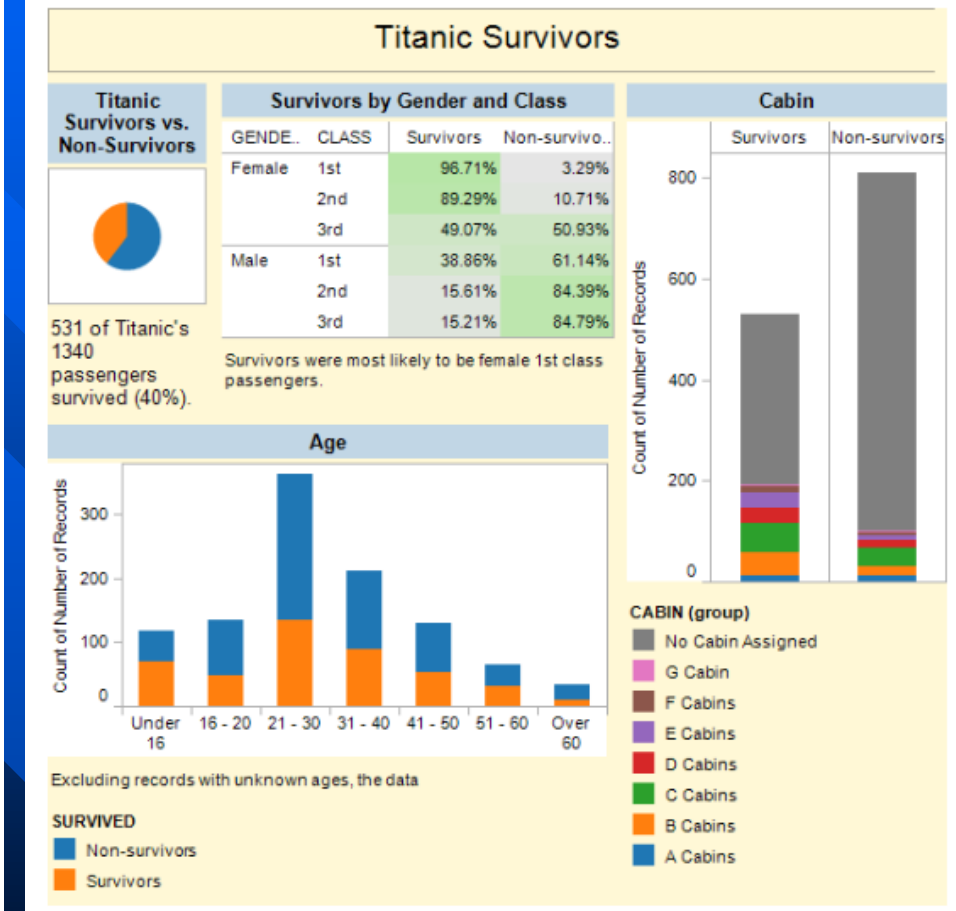
Business Intelligence “Olympiad”











https://www.tableau.com/blog/city-charlotte-business-analysis-olympiad

Conclusion

- 40+ articles & books that contain graphs based on the Titanic data
- Numerous competitions, infographics, and single web pages that make use of the Titanic data
- Extremely popular data set that likely will see continued use in the future

Questions ???

or

e-mail: symanzik@math.usu.edu