

Big Data Analytics Virtual Summer School

Visual Communication Fundamentals



Dr. Scott Davidoff, Human Interfaces Manager, NASA Jet Propulsion Lab

	The ultimate resource in grid systems.	"The grid system is an aid, not a guarantee. <i>It permits a number of possible uses and each designer can look for a solution appropriate to his personal style. But one must learn how to use the grid; it is an art that requires practice."</i> Josef Müller-Brockmann			
<div>Search</div>					
Articles	Tools	Books	Templates	Blog	Inspiration
Compose to a Vertical Rhythm On the Web, vertical rhythm is contributed to by three factors: font size, line height and margin or padding. All of these factors must calculated with care in order that the rhythm is maintained. 04.Dec.2008	960 Grid System An effort to streamline web development workflow by providing commonly used dimensions, based on a width of 960 pixels. There are two variants: 12 and 16 columns, which can be used separately or in tandem. 04.Dec.2008	Geometry of Design The book focuses on the classic systems of proportioning, such as the golden section and root rectangles, as well as systems such as the Fibonacci Series. 04.Dec.2008	InDesign 8.5x11 Grid System (12) Adobe InDesign file with a grid system for an 8.5"x11" page that is divided into 12 columns and rows using the Rule of Thirds (Golden Ratio). Includes a 12pt baseline grid. 29.Nov.2008	UX Magazine A well designed collaborative site, with a very nice grid structure, that focuses on user experience. 02.Dec.2008	Ace Jet 170 AisleOne Athletics BBDK Blanka Build Corporate Risk Watch David Airey Dirty Mouse Experimenta Experimental Typeset Form Fifty Five Grafik Magazine Grain Edit Graphic Hug Helvetica Film I Love Typography Lamosca magCulture Mark Boulton Minimal Sites Monocle Neubau NewWork OK-RR Original Linkage Robin Uleman SampsonMay Schmid Today September Industry Sonifyer Soulellis Subtraction Swiss Legacy Thinking for a Living This Studio Tokio Visuelle Xavier Encinas Year of the Sheep
Incremental leading In editorial design, there is a technique used for sidenotes and boxouts that aligns to the baseline grid, or vertical rhythm. It's called incremental leading. 03.Dec.2008	Graph Paper by Konigi This graph paper is made for visual designers, interaction designers, and information architects. You'll find styles for wireframing, story boarding, plotting values and for drafting sitemaps. 03.Dec.2008	The Typographic Grid We consider this to be the academic part two to "Grid Systems." Hans Rudolf Bosshard tackles a deeper understanding of the complex grid. 30.Nov.2008	InDesign 11x17 Grid System (12) Adobe InDesign file with a grid system for an 11"x17" page that is divided into 12 columns and rows using the Rule of Thirds (Golden Ratio). Includes a 12pt baseline grid. 29.Nov.2008	Doane Paper Utility Notebook A portable notebook featuring a patent pending Grid+Lines stationery design that combines the benefits of grid and ruled lines onto a single sheet of paper. 28.Nov.2008	
Applying Divine Proportion to Your Web Designs This article explains what is the Divine proportion and what is the Rule of Thirds and describes how you can apply both of them effectively to your designs. 01.Dec.2008	Synctype Synctype is a simple tool to help align your text to a baseline grid. Enter your line height and offset in pixels in the Synctype control box and click "Synctype.it" to overlay a baseline grid in red. 01.Dec.2008	Grid Systems Grid Systems provides a rich, easy-to-understand overview and demonstrates a step-by-step approach to typographic composition. 21.Nov.2008	Photoshop 975px Grid System (12) Adobe Photoshop file with a grid system for a 975px wide page that is divided into 12 columns and rows using the Rule of Thirds (Golden Ratio). Includes a 16px baseline grid. 29.Nov.2008	Replica Typeface Replica is a new typeface by Norm that was designed on a strict grid system. Available in the following weights: Regular, Italic, Light, Light Italic, Bold and Bold Italic. 21.Nov.2008	
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<h1>The New York Times</h1> <p>Saturday, January 12, 2013 Last Update: 1:20 PM ET</p>											
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WORLD U.S. POLITICS NEW YORK BUSINESS DEALBOOK TECHNOLOGY SPORTS SCIENCE HEALTH ARTS STYLE OPINION		<h2>Sales of Guns Soar in U.S. as Nation Weighs Tougher Limits</h2> <p>By MICHAEL COOPER</p> <p>The rapid growth in gun sales began after President Obama's re-election and surged after the Dec. 14 shooting at a school in Newtown, Conn.</p>				<p>Rina Castelnuevo for The New York Times</p>					
		<p>Matt Gentry/Roanoke Times, via AP</p>				<h2>Weather Adds to Misery of Syria Refugees</h2> <p>By JODI RUDOREN 11:55 AM ET</p> <p>With the number of Syrian refugees expected to reach a million in 2013, the misery in one struggling camp highlights a deepening humanitarian crisis.</p> <p>• Video Feature: Watching Syria's War</p>					
		<h2>Video Game Industry Braces for Regulations</h2>				<h2>SPORTS »</h2>					
		<h2>New York City Ties Doctors' Income to Quality of Care</h2> <p>By ANEMONA HARTOCOLLIS</p>				<h2>EDITORIAL</h2> <h3>Senator Reid Takes Fresh Aim</h3> <p>The Senate majority leader, a gun enthusiast, is now calling for better protections.</p>					
Autos Blogs Books Cartoons Classifieds Crosswords Dining & Wine Education Event Guide Fashion & Style Home & Garden Jobs Magazine Movies Music		<h2>The Opinion Pages</h2> <ul style="list-style-type: none"> • Blow: Revolutionary Talk • Collins: Flu Strikes Again • Nocera: How to Shoot • Cavett: When I Was Packing • Editorial: The Afghan War's Last Chapter? 				<h2>BUSINESS DAY »</h2> <h3>They Got 2012 Right. What About 2013?</h3> <p>Experts who were accurate about 2012 discuss their thoughts on stocks, bonds and real estate for this year.</p>					
		<h2>In New England, Few Words and Many Wins</h2> <p>Bill Belichick and Tom Brady are the immovable objects of the N.F.L. playoffs, together capturing</p>				<h2>What Came First. the Chicken or the Sack?</h2> <p>Von Miller of the Denver Broncos aspires to be the N.F.L.'s best defensive player and then maybe a top chicken farmer.</p>					



Weighing of the heart
[Egyptian Book of the Dead](#)

hydrogen 1 H 1.0079																	helium 2 He 4.0026	
lithium 3 Li 6.941	beryllium 4 Be 9.0122											boron 5 B 10.811	carbon 6 C 12.011	nitrogen 7 N 14.007	oxygen 8 O 15.999	fluorine 9 F 18.998	neon 10 Ne 20.180	
sodium 11 Na 22.990	magnesium 12 Mg 24.305											aluminium 13 Al 26.982	silicon 14 Si 28.086	phosphorus 15 P 30.974	sulfur 16 S 32.065	chlorine 17 Cl 35.453	argon 18 Ar 39.948	
potassium 19 K 39.098	calcium 20 Ca 40.078											gallium 31 Ga 69.723	germanium 32 Ge 72.61	arsenic 33 As 74.922	selenium 34 Se 78.96	bromine 35 Br 79.904	krypton 36 Kr 83.80	
rubidium 37 Rb 85.468	strontium 38 Sr 87.62											indium 49 In 114.82	tin 50 Sn 118.71	antimony 51 Sb 121.76	tellurium 52 Te 127.60	iodine 53 I 126.90	xenon 54 Xe 131.29	
caesium 55 Cs 132.91	barium 56 Ba 137.33	57-70 ★	scandium 21 Sc 44.956	titanium 22 Ti 47.867	vanadium 23 V 50.942	chromium 24 Cr 51.996	manganese 25 Mn 54.938	iron 26 Fe 55.845	cobalt 27 Co 58.933	nickel 28 Ni 58.693	copper 29 Cu 63.546	zinc 30 Zn 65.39	thallium 81 Tl 204.38	lead 82 Pb 207.2	bismuth 83 Bi 208.98	polonium 84 Po [209]	astatine 85 At [210]	radon 86 Rn [222]
francium 87 Fr [223]	radium 88 Ra [226]	89-102 ★ ★	lawrencium 103 Lr [262]	rutherfordium 104 Rf [261]	dubnium 105 Db [262]	seaborgium 106 Sg [266]	bohrium 107 Bh [264]	hassium 108 Hs [269]	meitnerium 109 Mt [268]	ununnium 110 Uun [271]	ununium 111 Uuu [272]	unubium 112 Uub [277]		ununquadium 114 Uuq [289]				

Periodic table of the elements
[Thinksnap](#)

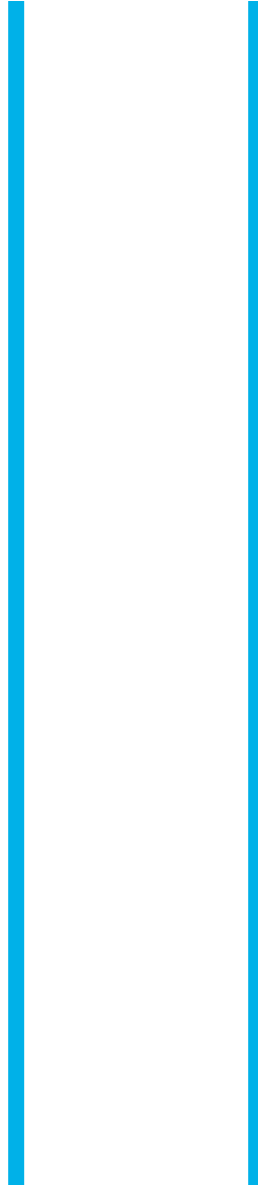
1+1 = 3
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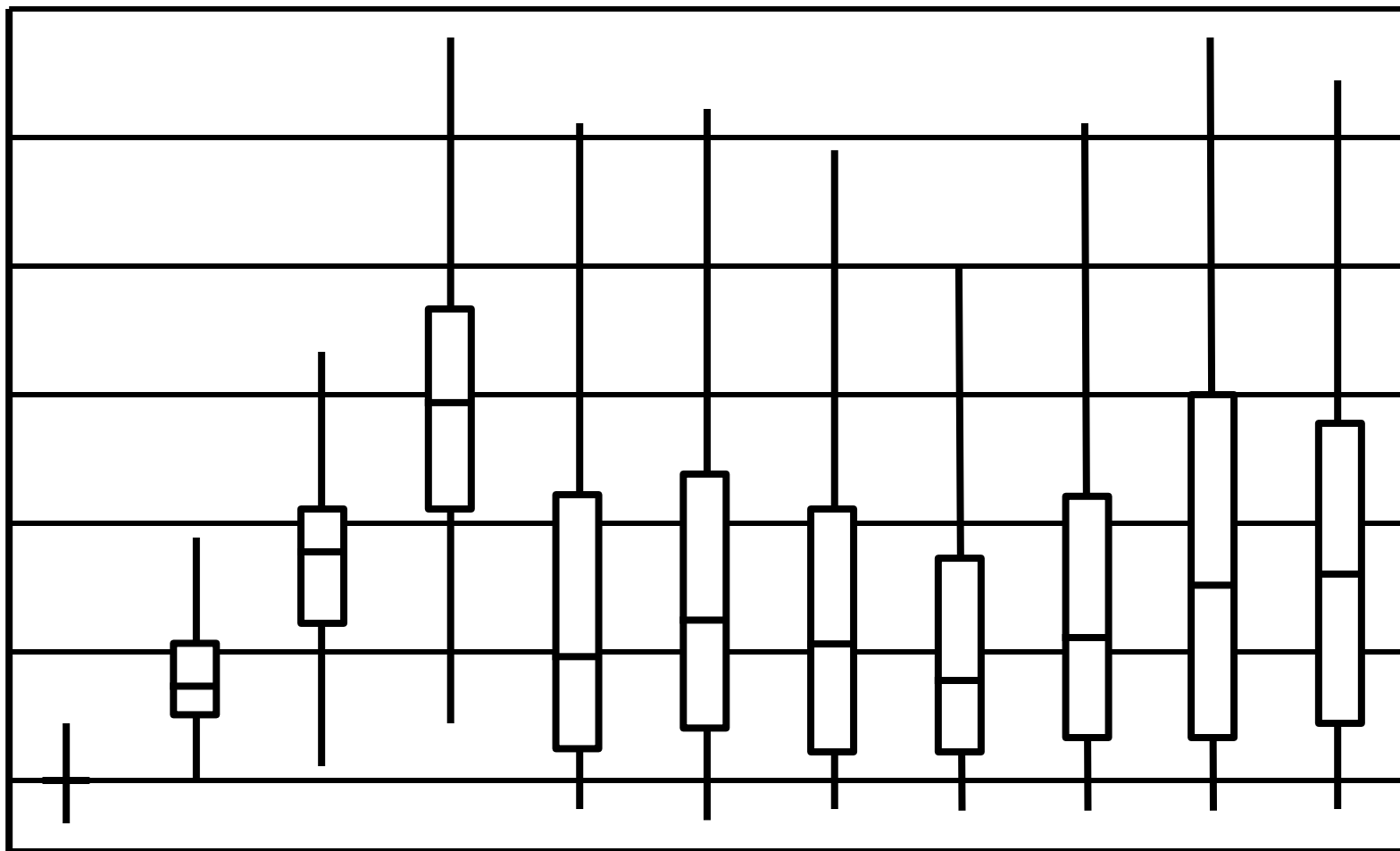


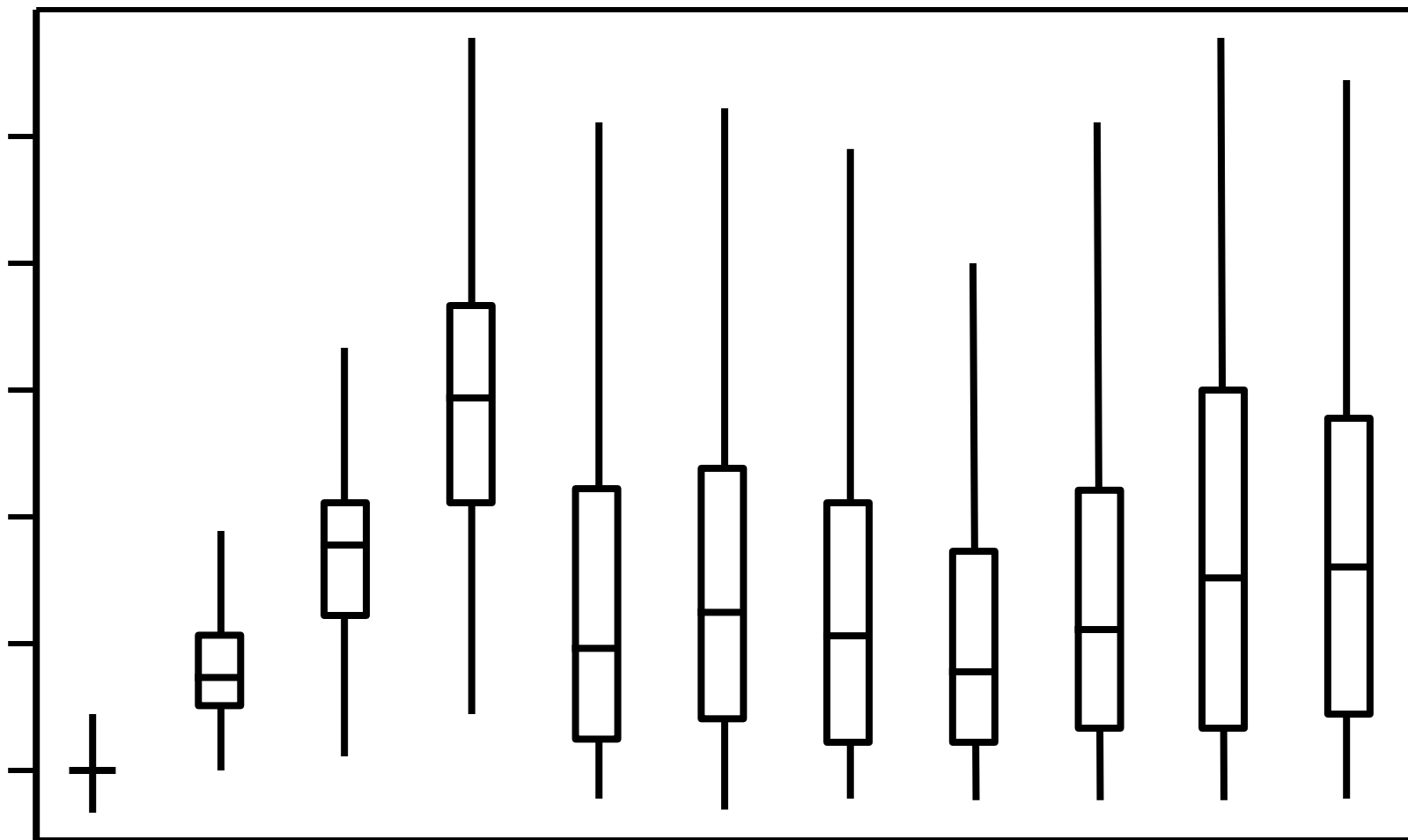
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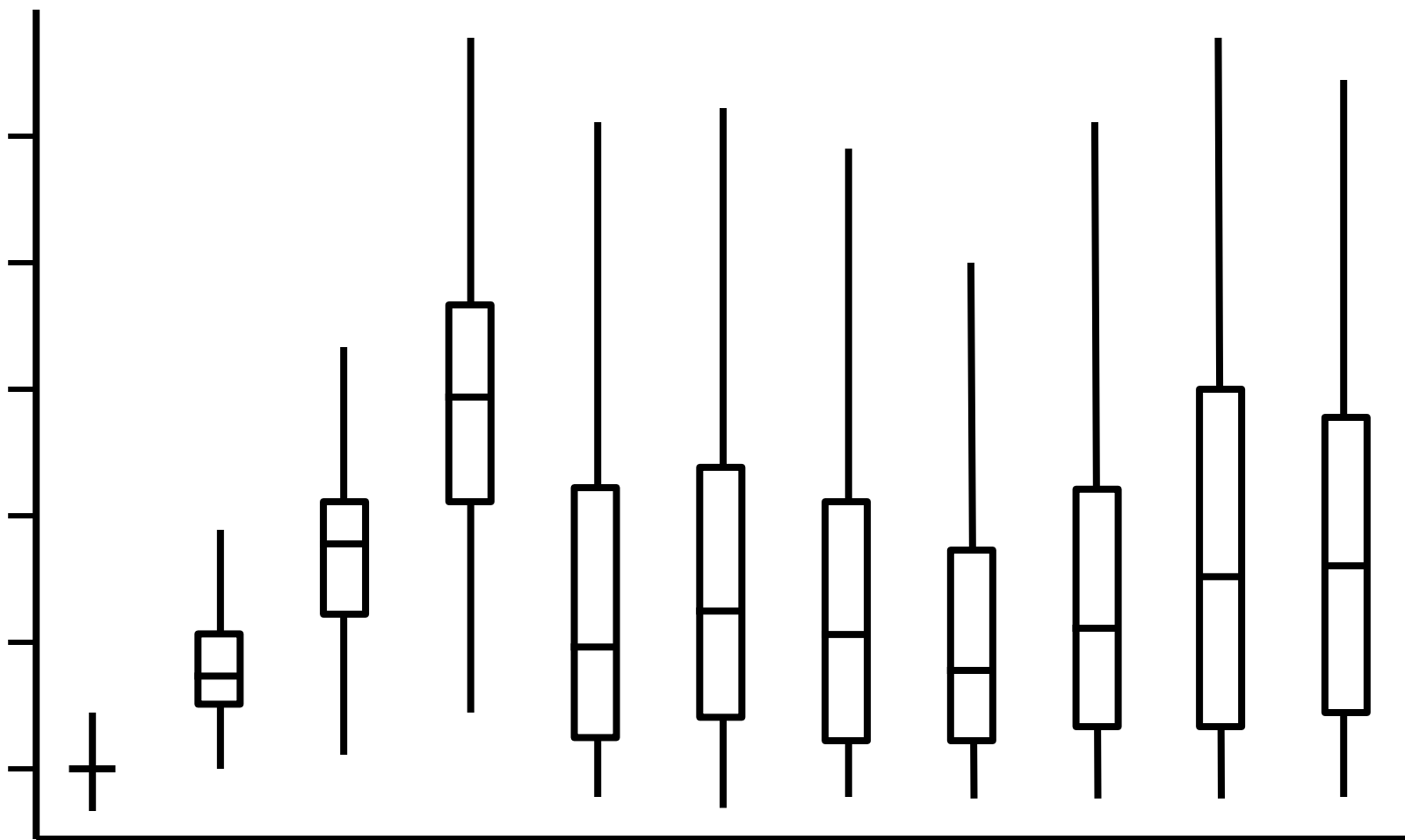


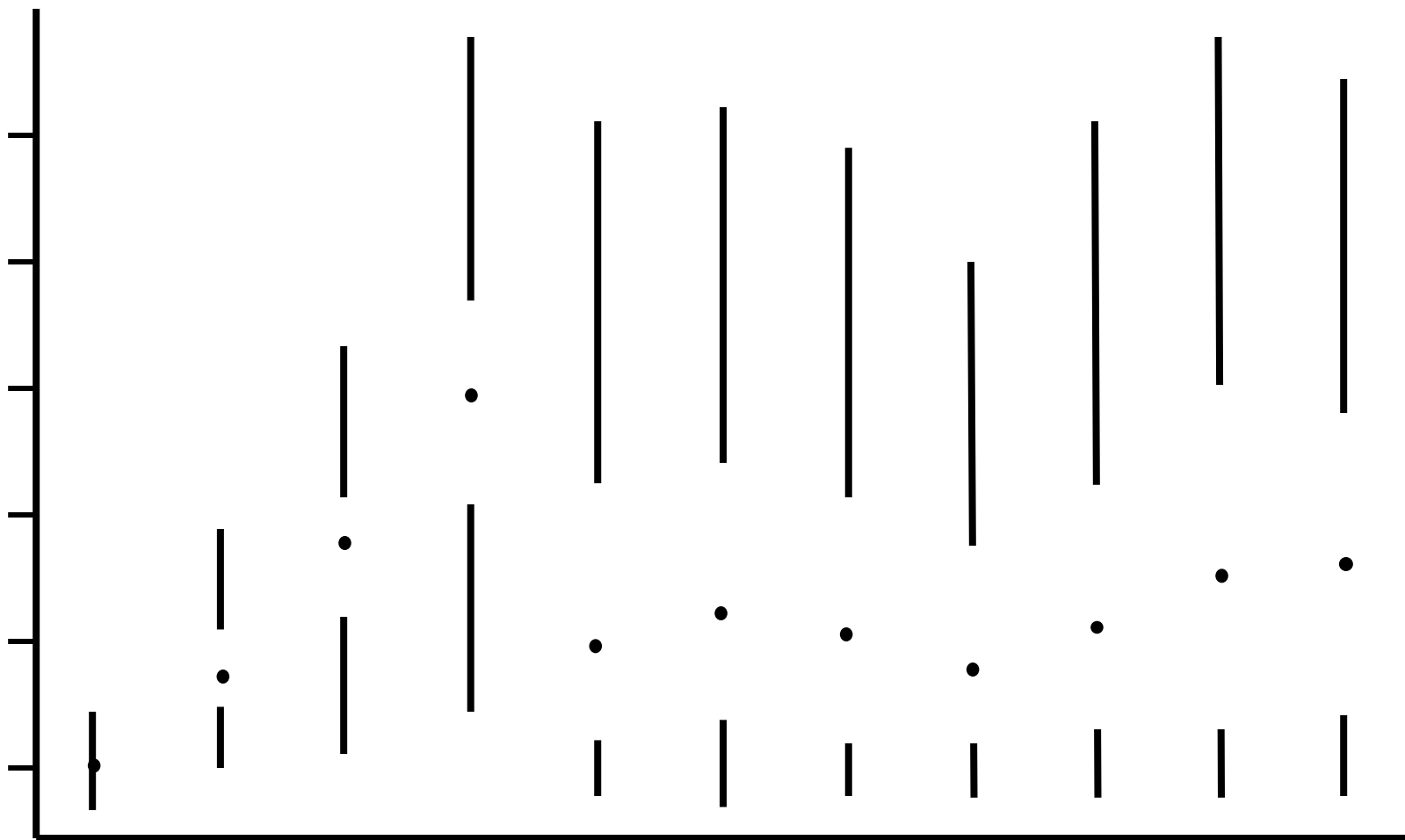
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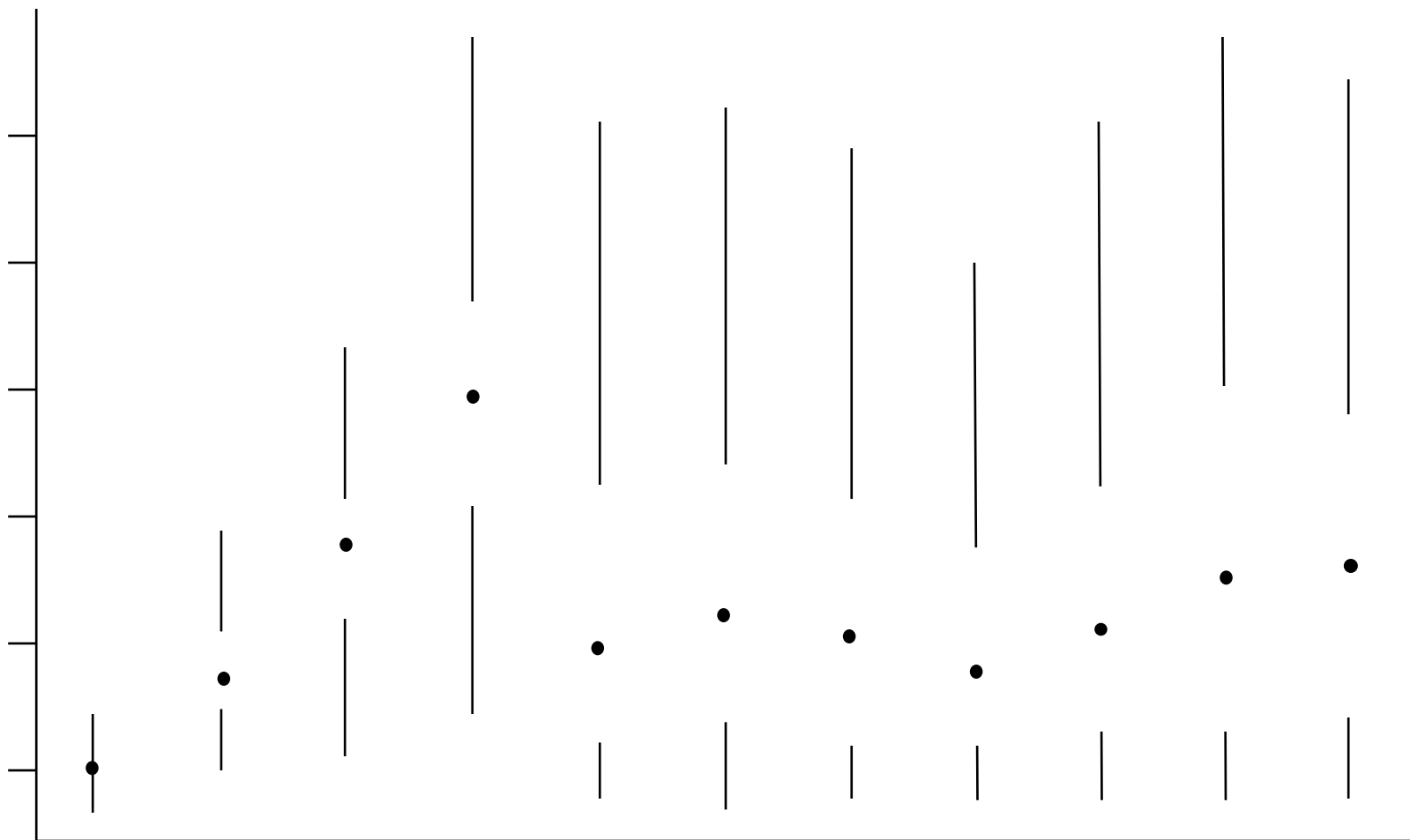










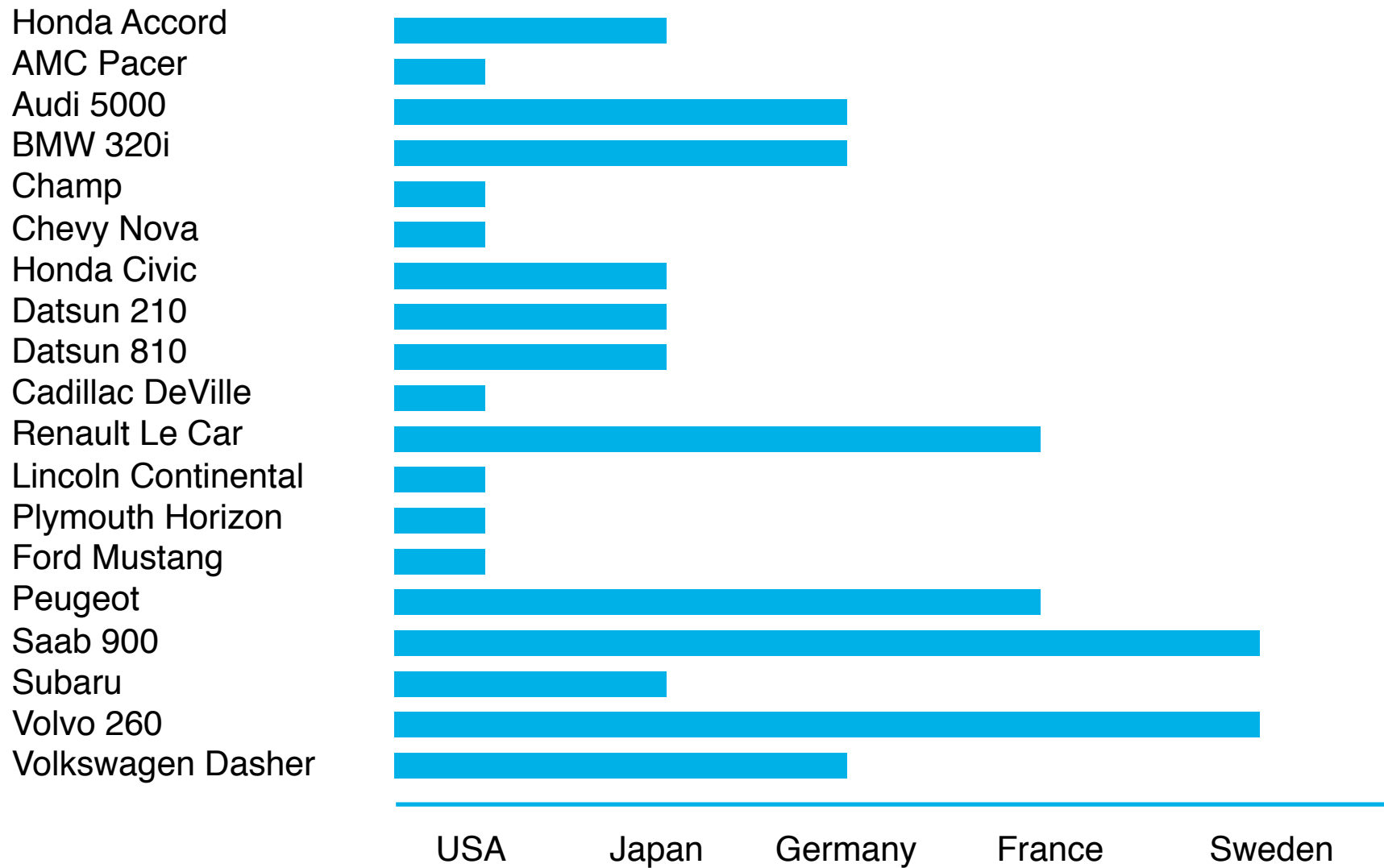


Expressiveness

A set of facts is expressible in a visual language if the sentences (i.e. the visualizations) in the language express all the facts in the set of data, and only the facts in the data.



Nationality of Car Manufacturers, 1979

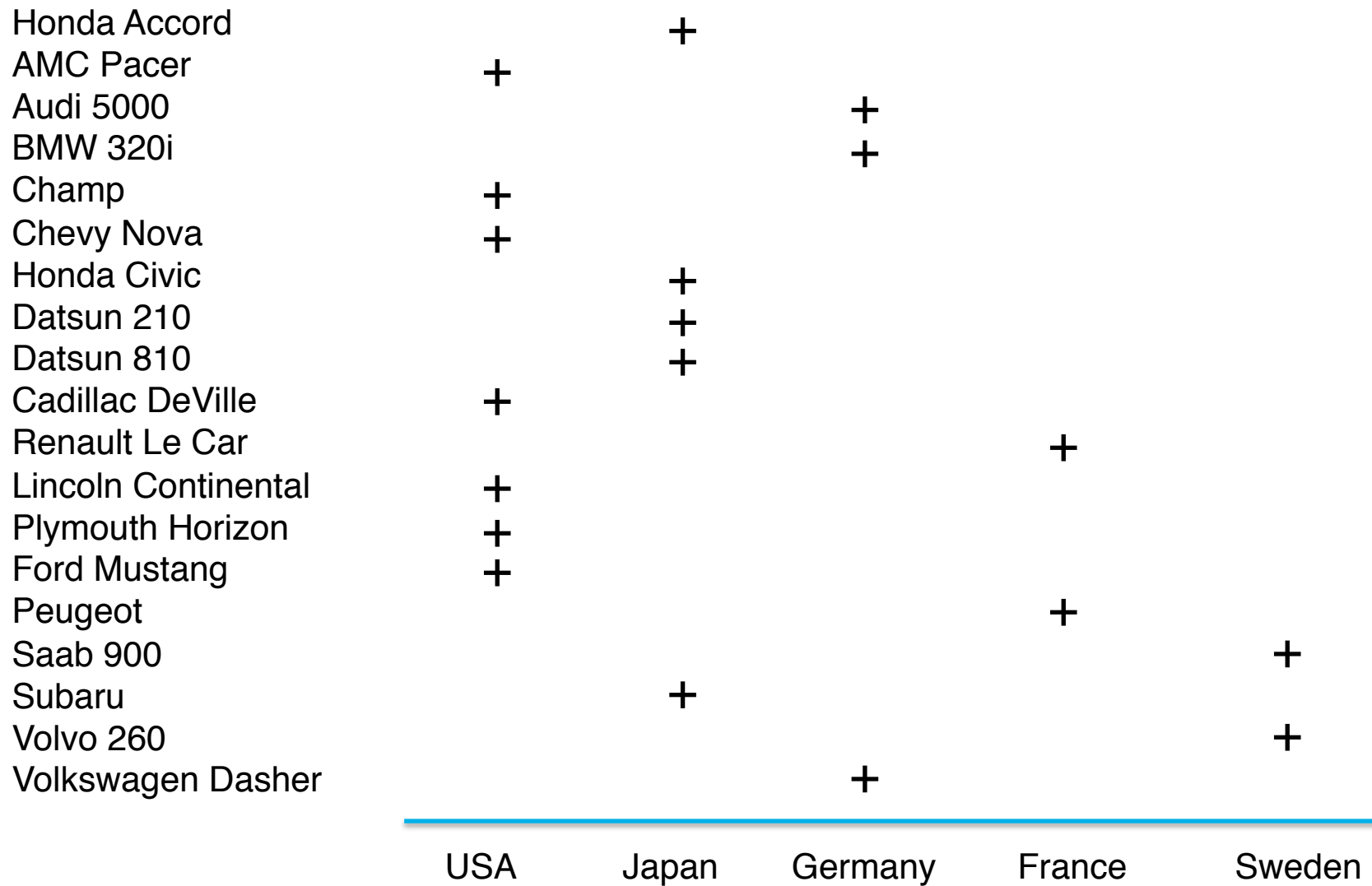


Expressive: Not expressive of the data because faithful is not faithful

[Mackinlay, 1986](#)



Nationality of Car Manufacturers, 1979



Expressive: Not expressive of the data because faithful is not faithful

[Mackinlay, 1986](#)

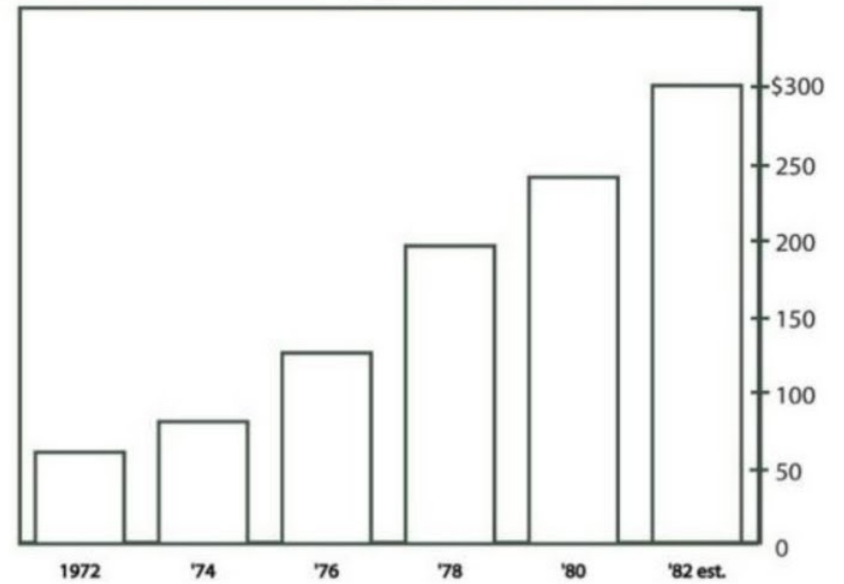


MONSTROUS COSTS

Total House and Senate campaign expenditures, in millions

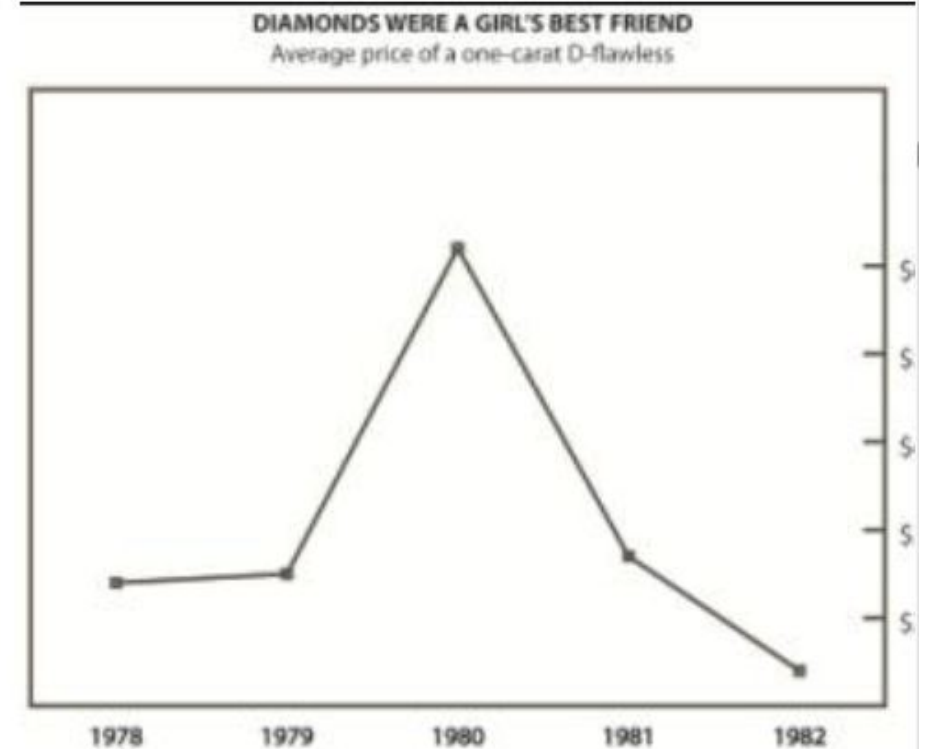
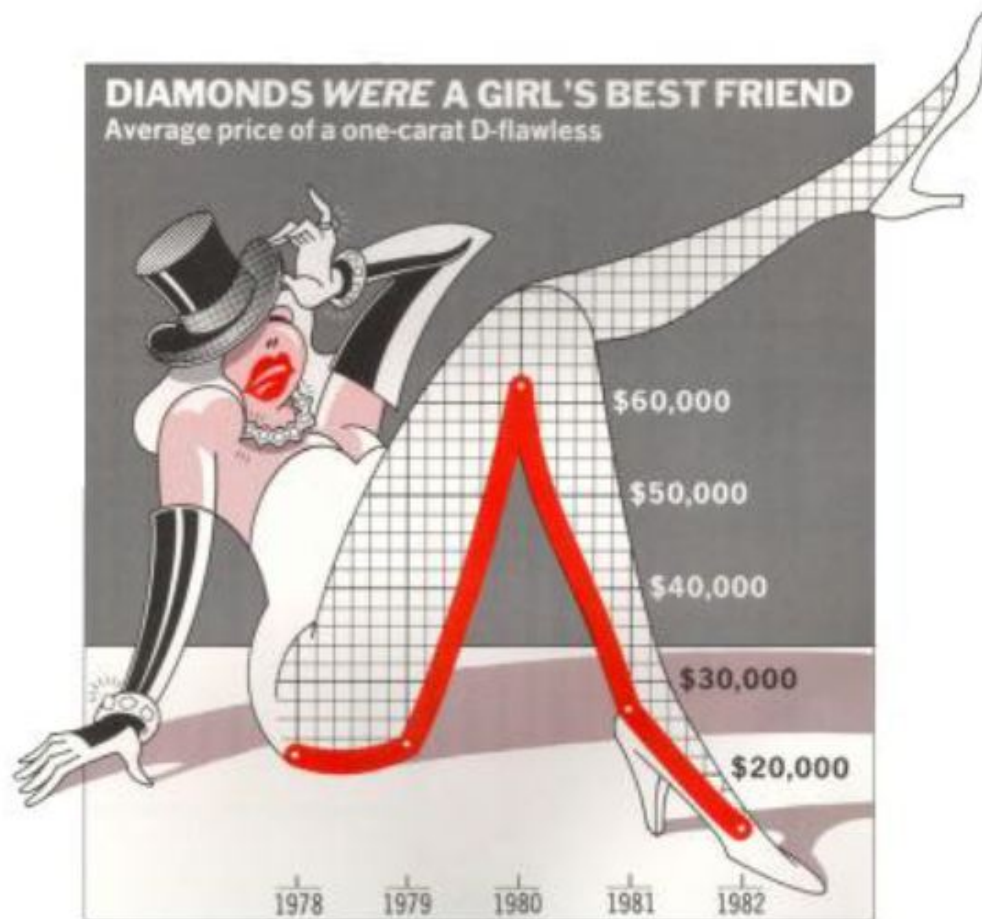


MONSTROUS COSTS
Total House and Senate campaign expenditures, in millions



American election expenditures
[Nigel Holmes \(left\) and Mike Parkinson \(right\)](#)





Historical diamond price
Edward Tufte

