Information Design and Visualization

The interdisciplinary study of
"the visual representation of large-scale collections of non-numerical information, such as files and lines of code in software systems"

Michael Friendly, Professor of Psychology, York University

Information graphics are
the visual representations of information, data, or knowledge, used where complex information needs to be explained quickly, accurately, and clearly

Doug Newsom and Jim Haynes, *Public Relations Writing: Form and Style*

The purpose of visualization is insight, not pictures.

Ben Shneiderman (1999)

Today, visualization has the potential to become a mass medium. Engagement—grabbing and keeping the attention of a viewer—is the key to its broader success. The clearest, most precise graphic in the world communicates nothing if nobody looks at it.

How To Make Data Look Sexy (2011)
Fernanda Viegas and Martin Wattenberg

Data

Information

Intelligence

Evidence

History

Size

Weight

Distance

Frequency

Appearance

Quantitative

Qualitative

Measurable

Immeasurable

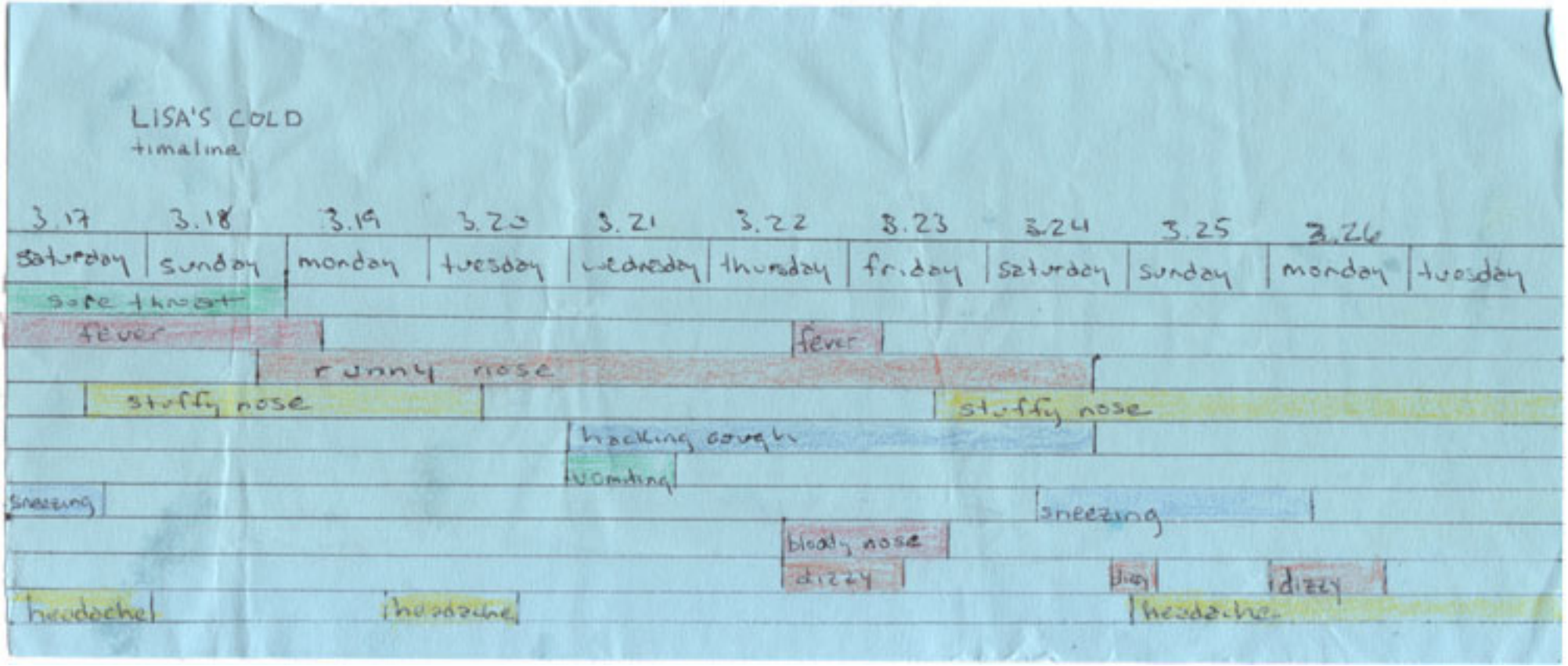
Hard Data

Anecdata

Infoporn

Information which serves no purpose other than to hold the attention of its audience

Wikipedia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fever
fever
runny nose
stuffy nose
stuffy nose
hacking cough
vomiting
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bloody nose
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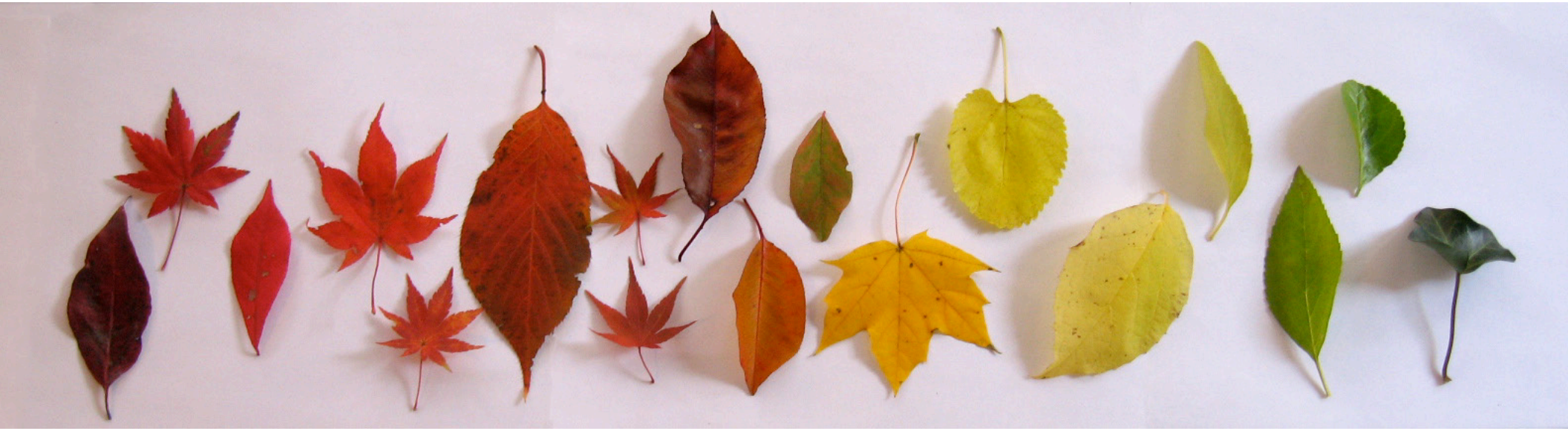

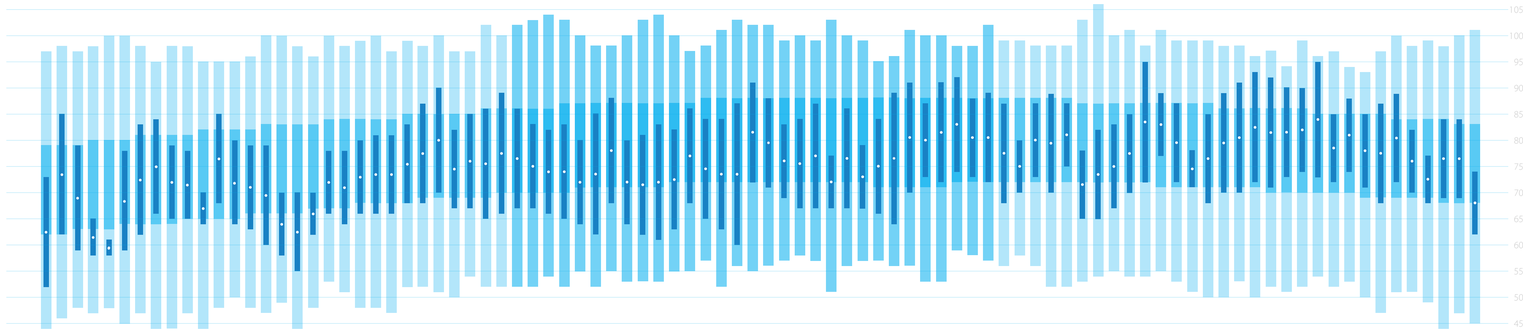
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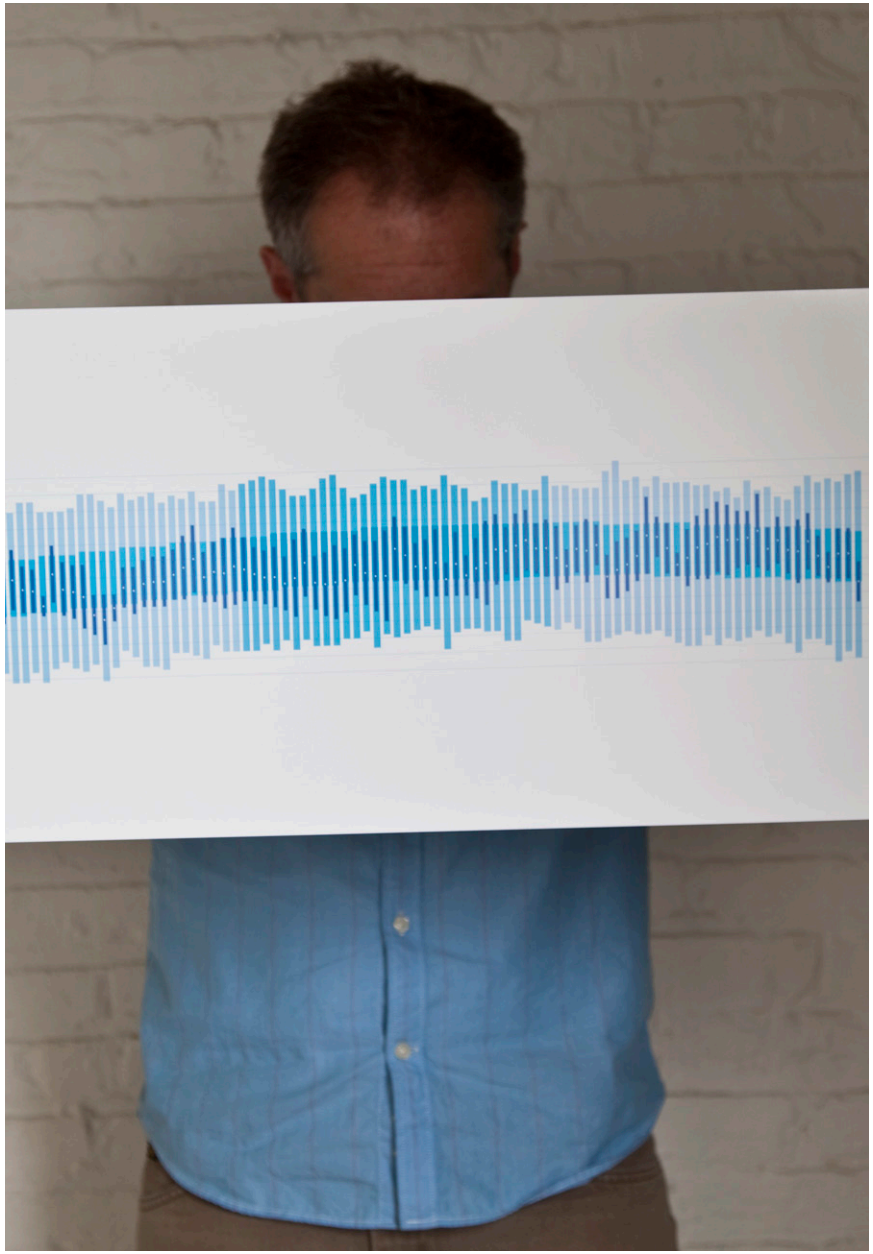


Actual (and average)

Normal

Record

This visualization maps the daily high and low temper
July, and August, against the normal and record tempe
for each day. Temperature data was recorded by the No
Service for Philadelpia, PA Latitude: 39 52 N, Longi
www.weather.gov/

Jun 2009							Jul 2009		
Day	MaxT	MinT	Records		Norms		Day	MaxT	Min
1	73	52	97	44	77	60	1	86	67
2	85	62	98	46	77	60	2	83	67
3	79	59	97	48	77	61	3	82	66
4	65	57	98	47	78	61	4	83	65
5	61	57	100	48	78	61	5	80	64
6	78	59	100	45	78	62	6	85	62
7	83	62	98	47	79	62	7	88	68
8	84	66	95	44	79	62	8	80	64
9	79	65	98	44	79	62	9	81	62
10	78	65	98	47	79	63	10	83	61
11	70	64	95	44	80	63	11	82	63
12	85	68	95	48	80	63	12	86	68
13	80	64	95	50	80	63	13	84	65
14	79	63	96	48	80	64	14	84	63
15	79	60	100	47	81	64	15	87	60
16	70	58	100	49	81	64	16	91	72

Actual (w/daily average)
Normal
Record

This visualization maps the daily high and low temperatures in June, July, and August, against the normal and record temperatures (1870–2009) for each day. Temperature data was recorded by the National Weather Service for Philadelphia, PA Latitude: 39 52 N, Longitude: 75 15 W. www.weather.gov/

Jun 2009

Day	MaxT	MinT	Records		Norms	
1	73	52	97	44	77	60
2	85	62	98	46	77	60
3	79	59	97	48	77	61
4	65	57	98	47	78	61
5	61	57	100	48	78	61
6	78	59	100	45	78	62
7	83	62	98	47	79	62
8	84	66	95	44	79	62
9	79	65	98	44	79	62
10	78	65	98	47	79	63
11	70	64	95	44	80	63
12	85	68	95	48	80	63
13	80	64	95	50	80	63
14	79	63	96	48	80	64
15	79	60	100	47	81	64
16	70	58	100	49	81	64
17	70	55	98	44	81	64
18	70	62	96	48	81	65
19	78	66	100	53	82	65
20	78	64	98	51	82	65
21	80	66	99	48	82	66
22	81	66	100	48	82	66
23	81	66	97	47	82	66
24	83	68	99	52	83	66
25	87	68	98	52	83	66
26	90	70	100	51	83	67
27	82	67	97	50	83	67
28	85	67	97	54	83	67
29	86	65	102	52	84	67
30	89	66	100	52	84	68

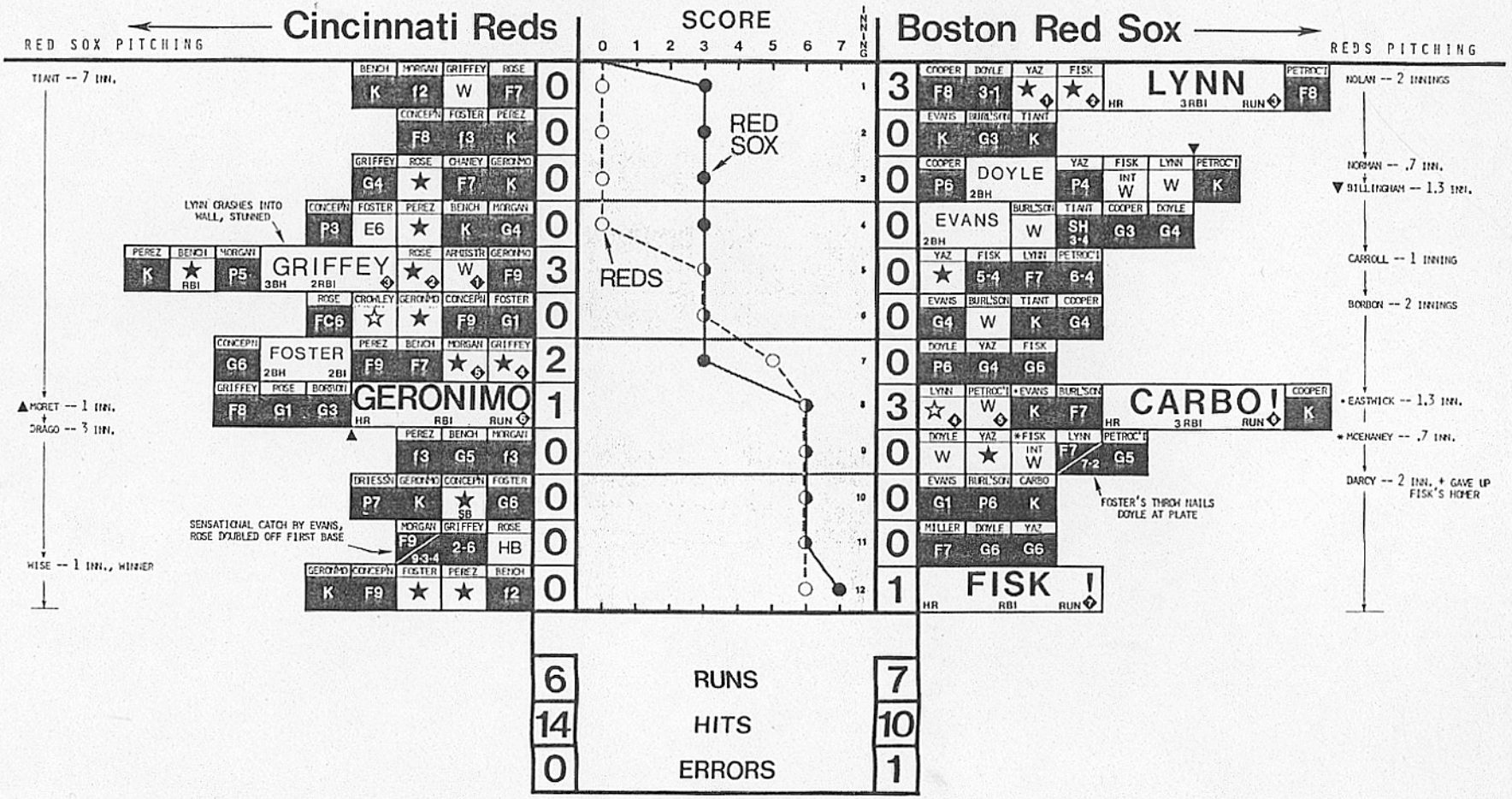
Jul 2009

Day	MaxT	MinT	Records		Norms	
1	86	67	102	52	84	68
2	83	67	103	52	84	68
3	82	66	104	54	84	68
4	83	65	103	52	85	68
5	80	64	100	55	85	69
6	85	62	98	52	85	69
7	88	68	98	55	85	69
8	80	64	100	53	85	69
9	81	62	103	53	85	69
10	83	61	104	53	85	69
11	82	63	100	55	85	70
12	86	68	97	55	85	70
13	84	65	98	57	86	70
14	84	63	101	52	86	70
15	87	60	103	56	86	70
16	91	72	102	55	86	70
17	88	71	102	56	86	70
18	83	69	99	57	86	70
19	84	63	100	58	86	70
20	87	67	99	57	86	70
21	72	67	103	51	86	70
22	86	67	100	56	86	70
23	79	67	99	58	86	70
24	84	66	95	57	86	71
25	89	64	96	56	86	71
26	91	70	101	56	86	71
27	87	73	100	53	86	71
28	91	72	100	53	86	71
29	92	74	98	59	86	70
30	88	73	98	58	86	70
31	89	72	102	57	86	70

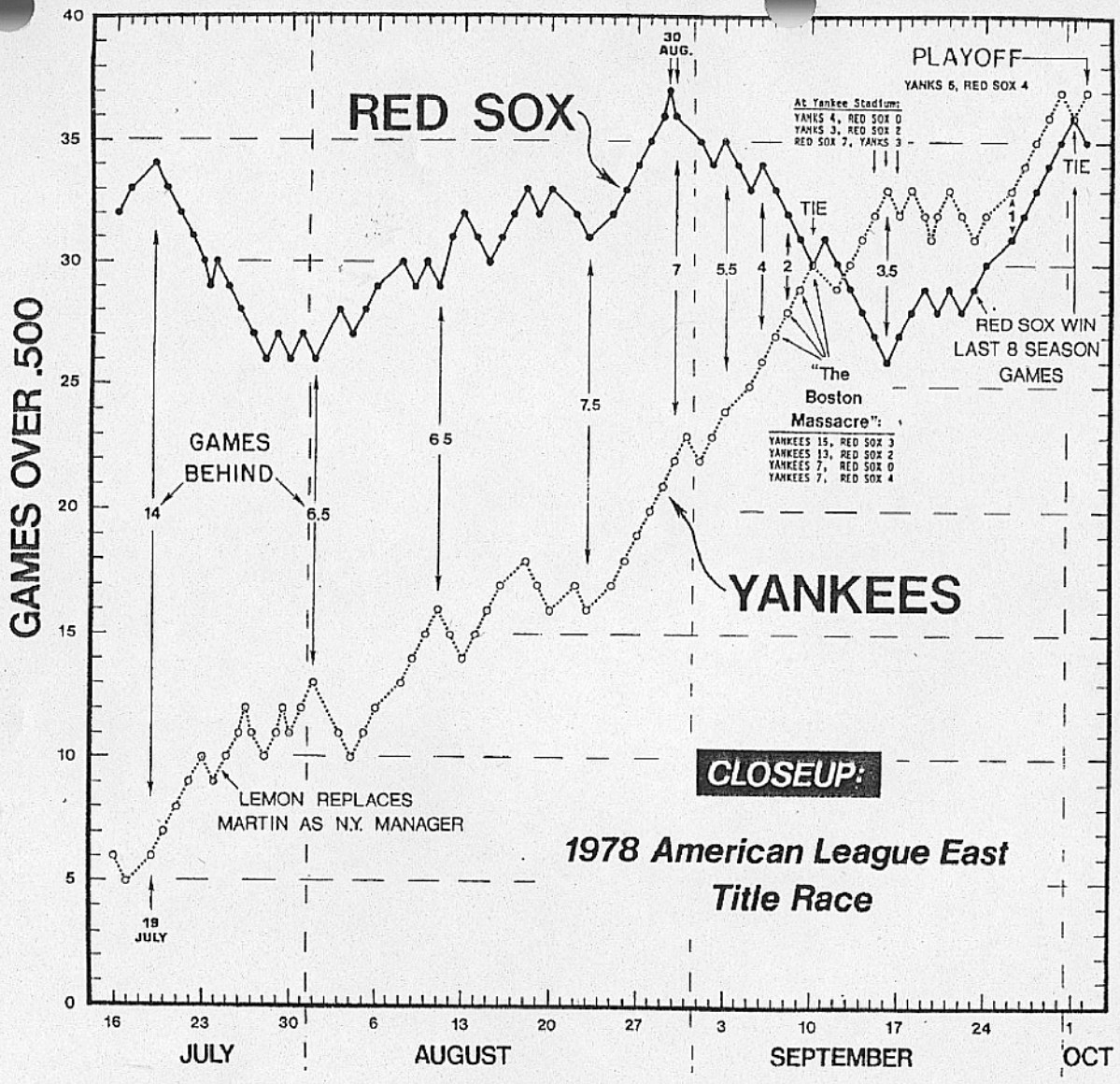
Aug 2009

Day	MaxT	MinT	Records		Norms	
1	86	68	99	56	86	70
2	80	70	99	58	86	70
3	86	73	98	56	86	70
4	89	70	98	52	86	70
5	87	75	98	52	86	70
6	78	65	103	53	85	70
7	78	55	106	54	85	70
8	83	67	100	55	85	70
9	85	70	101	54	85	70
10	95	72	98	54	85	70
11	89	77	101	55	85	69
12	87	72	99	53	85	69
13	78	71	99	51	85	69
14	85	67	99	50	85	69
15	89	70	98	50	84	69
16	91	70	98	53	84	69
17	93	72	96	50	84	69
18	92	71	97	52	84	68
19	90	73	94	51	84	68
20	90	74	99	52	84	68
21	95	73	96	54	83	68
22	85	72	97	52	83	68
23	88	74	94	53	83	68
24	85	71	93	50	83	67
25	87	68	97	47	83	67
26	89	72	100	51	82	67
27	83	70	98	51	82	67
28	77	68	99	49	82	67
29	84	69	98	44	82	66
30	84	69	100	47	81	66
31	74	62	101	45	81	66

GAME SIX, 1975



Graph 97. The most dramatic game in Boston Red Sox history, and perhaps World Series history — the sixth game of the 1975 World Series. In addition to the usual abbreviations for a walk (W, "INT" if intentional), error (E), hit batsman (HB), and stolen base (SB), common symbols and player numbers of game-scoring are used (white-on-black) to identify outs (F = fly, f = foul, G = ground-out, P = pop fly, FC = fielder's choice, SH = sacrifice bunt, K = strikeout). Black stars represent regular (outfield) singles; white stars stand for infield singles. Extra-base hits are labeled (2BH, 3BH, HR), runs batted in (RBI, 2RBI, 3RBI) are also indicated, and runs scored are shown by black diamonds with white numbers representing the ordinal number of each run. Asterisks and black triangles show where pitching changes occurred within innings.



FENWAY FIASCO. In 1978, the Boston Red Sox and New York Yankees, probably the two best teams in the majors that year, staged one of the great dramas of the century. Fourteen games ahead of the Yankees on July 19th, the Red Sox suddenly lost half of their lead with a bad road trip at the end of July, matched Yankee wins through August, then lost the other half of the lead in early September, completing what was, numerically, the worst fold in modern major league history. The collapse of the injury-riddled Bosox in September was climaxed by a four-game slaughter by the Yankees at Fenway Park called The Boston Massacre. Later that month, Boston removed part of the stigma of its disintegration by recovering remarkably, rallying from 3½ games behind to tie New York on the closing day. In the October 2 playoff game at Fenway Park, Bucky Dent's three-run homer over The Wall put the Yanks ahead in the seventh inning and another homer by Reggie Jackson gave them their winning run in a 5-4 thriller.