Lecture 01 – Intro to the Course

Course Learning Objectives:

1. Understand the basic principles of data visualization and communication

2. Understand the basic principles of visual processing.

3. Independently perform basic data analysis and visualizations in a way that communicates ideas clearly.

Things to do ASAP:

1. **Download R and RStudio**

2. **Download git and sign up for Github with your Chapman email.**

3. **Join the Course Slack:**

   https://join.slack.com/t/cs710datavizs-izs3765/shared_invite/zt-lp3sibkj-CUVgo5GqSY3J~gfGY9mJqg

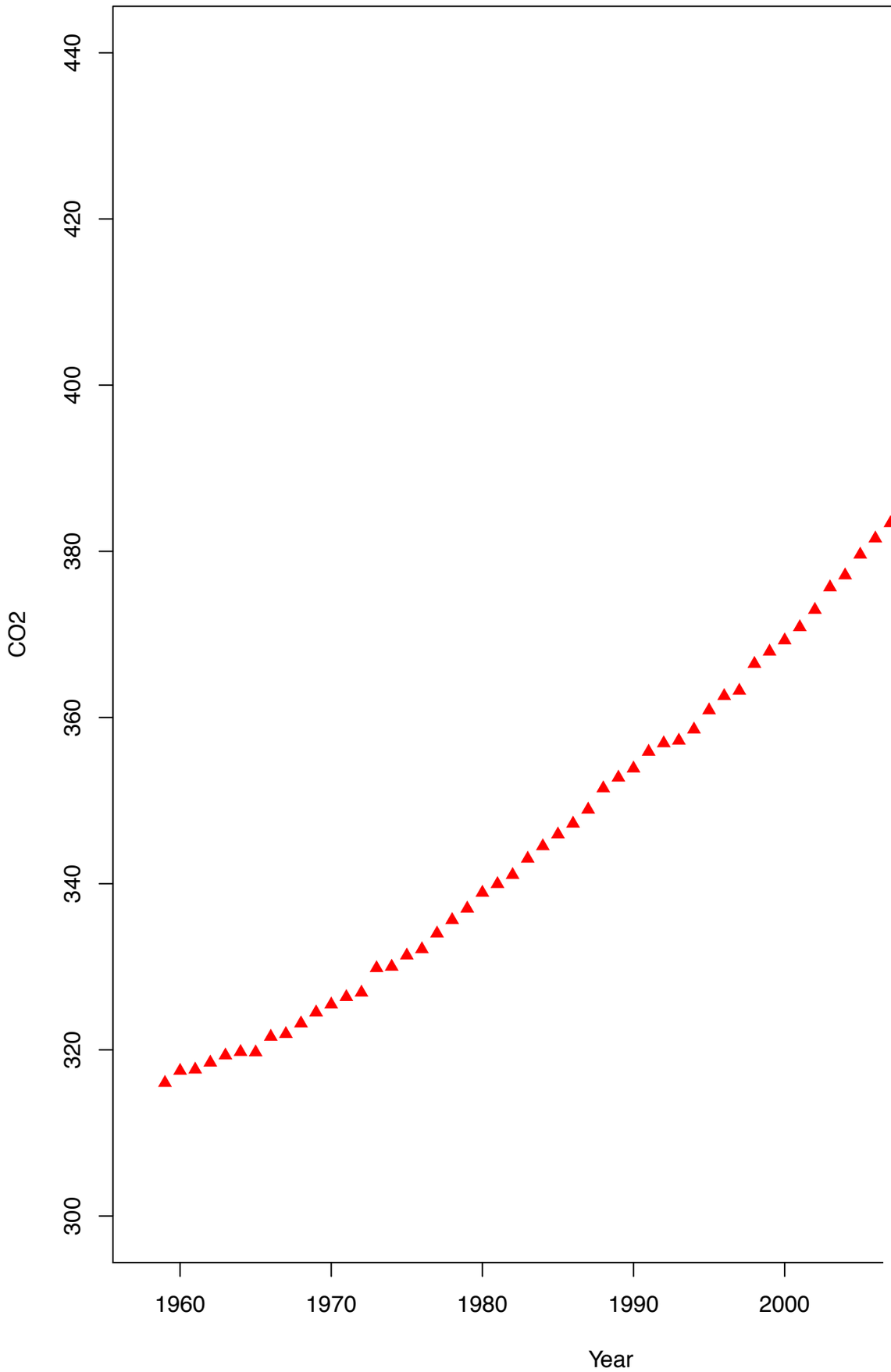
4. **Join the Course Github Organization: Send me your Github username and I will add you.**

   https://github.com/CS-710-DataViz-Spring2021

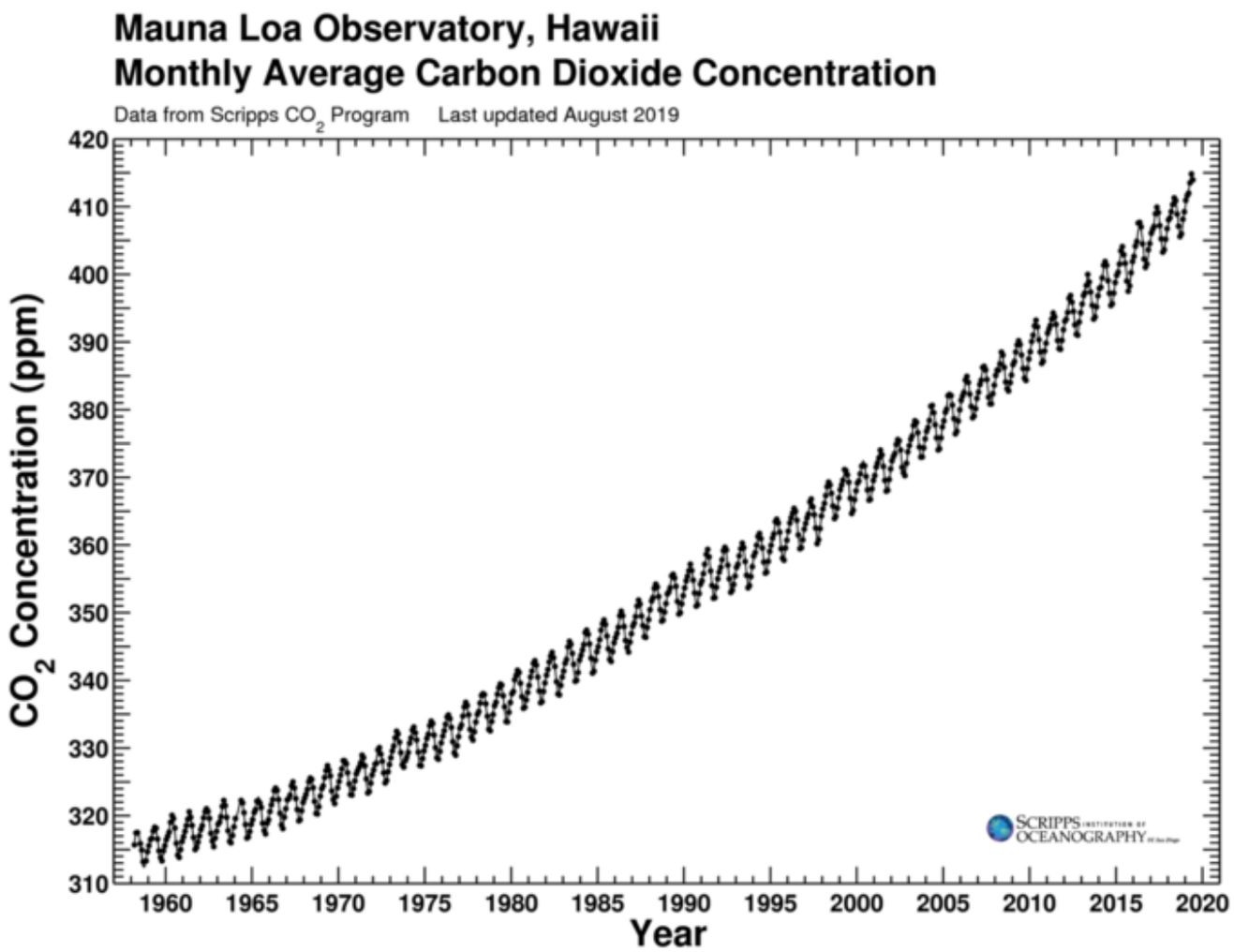
Why create data visualizations?

https://www.ted.com/talks/david_mccandless_the_beauty_of_data_visualization

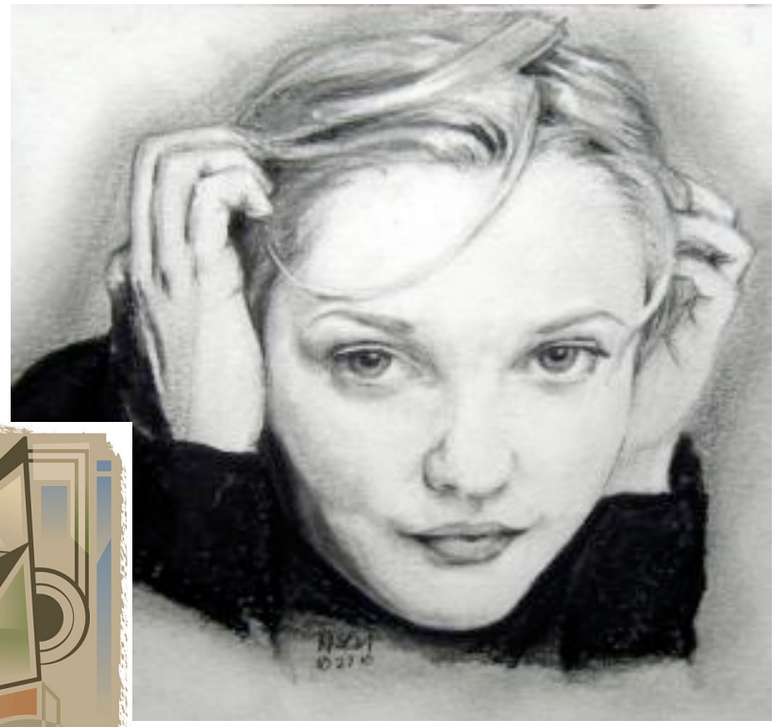
2003	4	37726	2003.2877	377.65	374.98	377.82	375.13	377.65	374.98
2003	5	37756	2003.3699	378.35	375.11	378.58	375.33	378.35	375.11
2003	6	37787	2003.4548	378.13	375.67	377.97	375.54	378.13	375.67
2003	7	37817	2003.5370	376.60	375.82	376.48	375.73	376.60	375.82
2003	8	37848	2003.6219	374.48	375.94	374.43	375.92	374.48	375.94
2003	9	37879	2003.7068	372.98	376.32	372.74	376.10	372.98	376.32
2003	10	37909	2003.7890	373.00	376.46	372.82	376.27	373.00	376.46
2003	11	37940	2003.8740	374.35	376.51	374.29	376.43	374.35	376.51
2003	12	37970	2003.9562	375.69	376.58	375.70	376.57	375.69	376.58
2004	1	38001	2004.0410	376.79	376.75	376.76	376.71	376.79	376.75
2004	2	38032	2004.1257	377.37	376.64	377.57	376.84	377.37	376.64
2004	3	38061	2004.2049	378.39	376.89	378.48	376.96	378.39	376.89
2004	4	38092	2004.2896	380.50	377.80	379.80	377.08	380.50	377.80
2004	5	38122	2004.3716	380.62	377.36	380.44	377.19	380.62	377.36
2004	6	38153	2004.4563	379.55	377.11	379.72	377.31	379.55	377.11
2004	7	38183	2004.5383	377.76	377.00	378.16	377.43	377.76	377.00
2004	8	38214	2004.6230	375.83	377.32	376.04	377.57	375.83	377.32
2004	9	38245	2004.7077	374.05	377.41	374.34	377.72	374.05	377.41
2004	10	38275	2004.7896	374.22	377.69	374.43	377.88	374.22	377.69
2004	11	38306	2004.8743	375.84	378.01	375.92	378.06	375.84	378.01
2004	12	38336	2004.9563	377.44	378.33	377.37	378.25	377.44	378.33
2005	1	38367	2005.0411	378.34	378.30	378.50	378.45	378.34	378.30
2005	2	38398	2005.1260	379.61	378.88	379.40	378.66	379.61	378.88
2005	3	38426	2005.2027	380.08	378.60	380.36	378.86	380.08	378.60
2005	4	38457	2005.2877	382.05	379.36	381.78	379.08	382.05	379.36
2005	5	38487	2005.3699	382.24	378.98	382.55	379.29	382.24	378.98
2005	6	38518	2005.4548	382.08	379.61	381.96	379.51	382.08	379.61
2005	7	38548	2005.5370	380.66	379.87	380.48	379.72	380.66	379.87
2005	8	38579	2005.6219	378.67	380.13	378.44	379.94	378.67	380.13
2005	9	38610	2005.7068	376.42	379.78	376.77	380.15	376.42	379.78
2005	10	38640	2005.7890	376.80	380.28	376.88	380.35	376.80	380.28
2005	11	38671	2005.8740	378.31	380.48	378.39	380.55	378.31	380.48
2005	12	38701	2005.9562	379.96	380.85	379.86	380.73	379.96	380.85
2006	1	38732	2006.0411	381.37	381.32	380.97	380.91	381.37	381.32
2006	2	38763	2006.1260	382.02	381.29	381.82	381.09	382.02	381.29
2006	3	38791	2006.2027	382.56	381.07	382.74	381.23	382.56	381.07
2006	4	38822	2006.2877	384.36	381.67	384.10	381.39	384.36	381.67
2006	5	38852	2006.3699	384.92	381.65	384.81	381.53	384.92	381.65

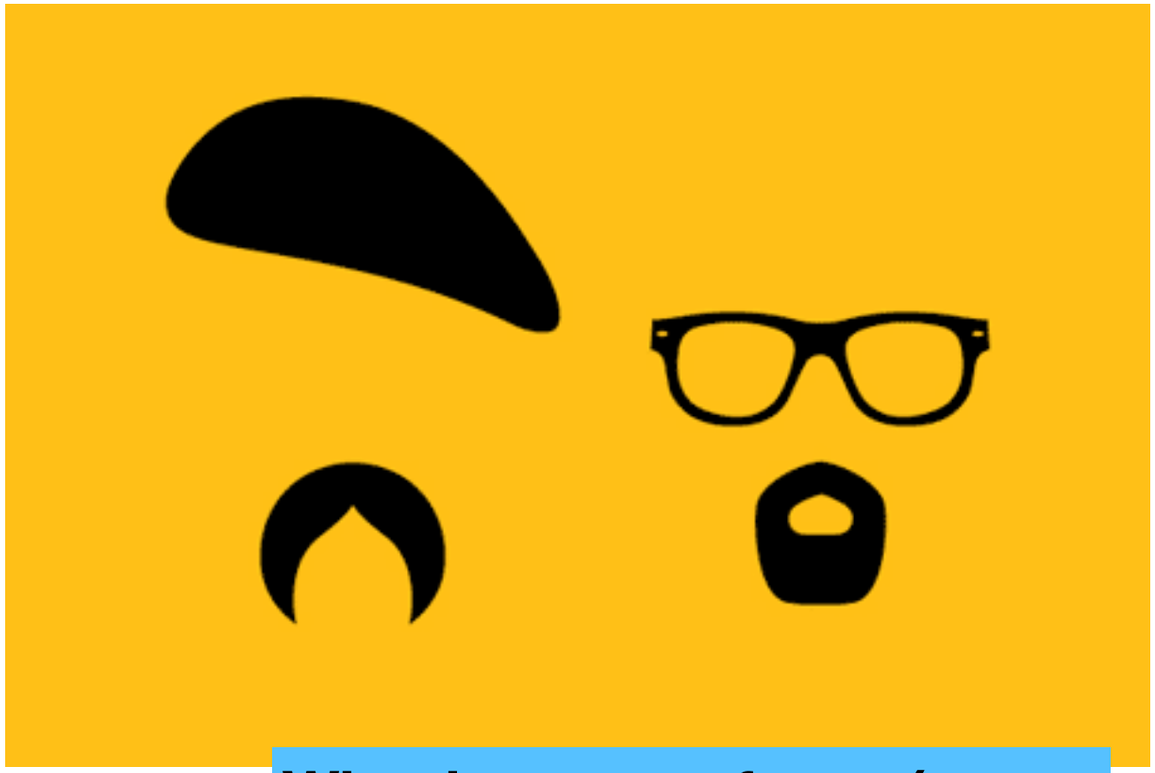


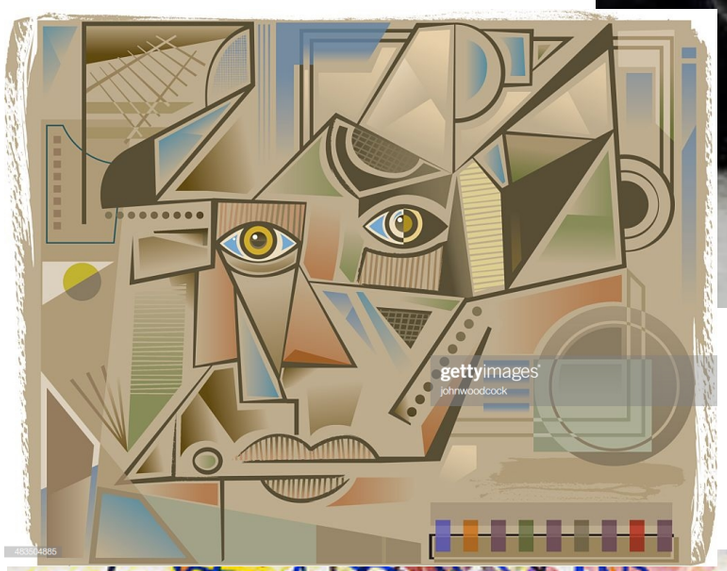
What makes some visualizations better than others?

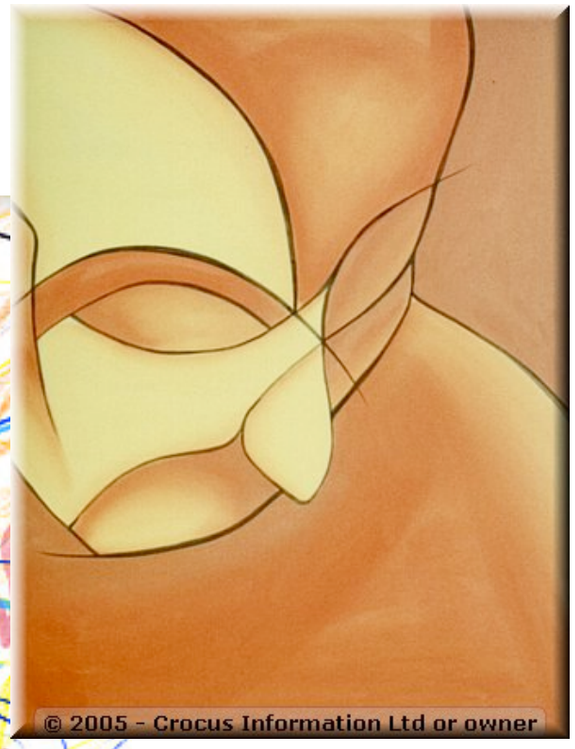


Visualization of a concept in art









Why do we see faces (even when they aren't there)?

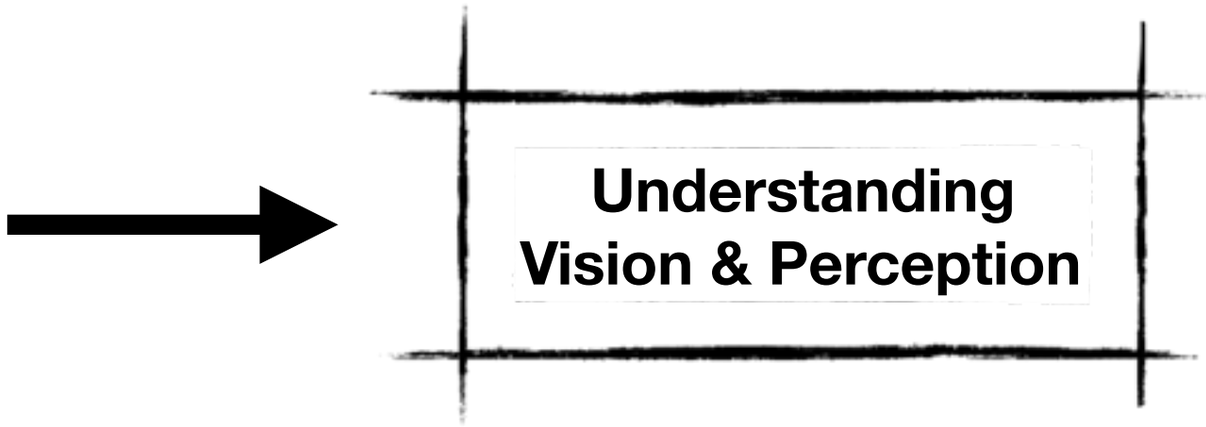
How can we *reliably* create powerful visualizations?

Why create data visualizations?

What makes some visualizations better than others?

Why do we see faces (even when they aren't there)?

How can we *reliably* create powerful visualizations?



- Perception for Design

- Understanding how we process info

- Tools and Best Practices for data viz

Action Items for Next Time:

Homework:

1. Watch Margaret Livingstone's Lecture.
2. Have R and RStudio installed on your personal computer.
3. Join Slack and Github, send me your user name!

Reading for next time:

1. (Optional) Complete Data Carpentry R tutorial Section "Before We Start"
2. (Optional) Complete Data Carpentry git for novices: https://swcarpentry.github.io/git-novice/