

INTRO TO DATA COLLECTION METHODS

Sandeep Soni

08/30/2023

CLASS LOGISTICS

CLASS LOGISTICS

- Hw2 is released

ZIPF'S LAW

Notebook from last class

HW1 REVIEW

Give one example each for:

- Ambiguity
- Change and variation
- Shared context

HW1 REVIEW

HW1 REVIEW

- Ambiguity
 - Burger King cannot ignore customers' beef with size of Whoppers, court rules
 - I saw Taylor Swift with a telescope

HW1 REVIEW

- Ambiguity
 - Burger King cannot ignore customers' beef with size of Whoppers, court rules
 - I saw Taylor Swift with a telescope
- Change and variation
 - A-R you so COLD man!!!
 - WHAT.A.MATCH,WHAT.A.REACTION

HW1 REVIEW

- Ambiguity
 - Burger King cannot ignore customers' beef with size of Whoppers, court rules
 - I saw Taylor Swift with a telescope
- Change and variation
 - A-R you so COLD man!!!
 - WHAT.A.MATCH,WHAT.A.REACTION
- Shared context
 - School closures due to possible impacts from Idalia
 - I've never been so excited to see a movie

QUESTION FOR THE DAY

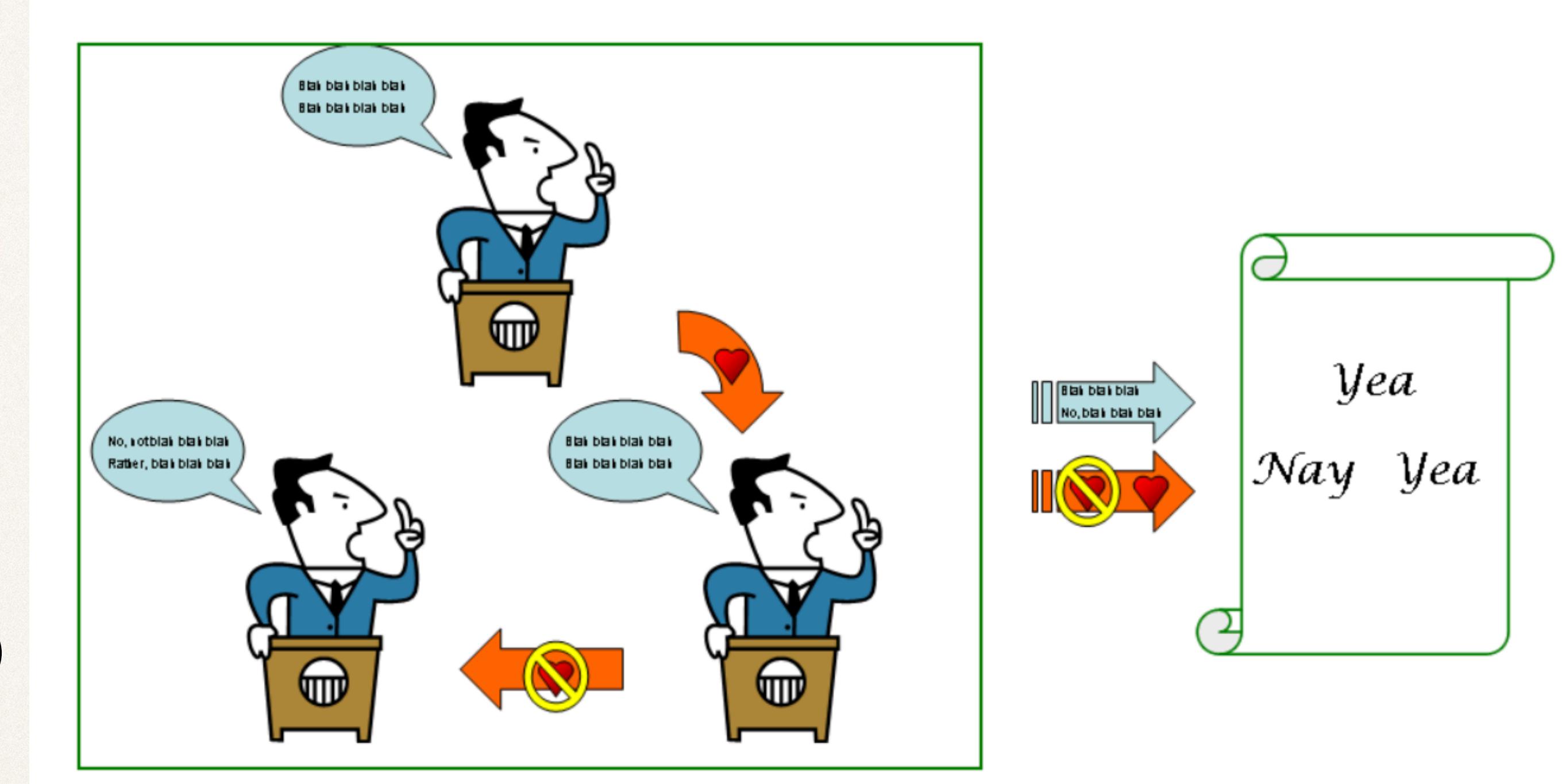
“Are longer movie reviews on IMDB generally negative?”

AGENDA

- How to collect data such as movie reviews?
- What are the different general techniques of getting data?
- What should we remember when we are collecting data?

AT THE CLICK OF A BUTTON

- Many text datasets are just available online for free (e.g., [convote](#))



Thomas, Pang, and Lee (2006) "Get Out The Vote: Determining Support Or Opposition From {Congressional} Floor-Debate Transcripts"

PAY FOR IT

Corpus	Overview  	Download	# words	Dialect	Time period	Genre(s)
News on the Web (NOW)			17.9 billion+	20 countries	2010-yesterday	Web: News
iWeb: The Intelligent Web-based Corpus			14 billion	6 countries	2017	Web
Global Web-Based English (GloWbE)			1.9 billion	20 countries	2012-13	Web (incl blogs)
Wikipedia Corpus			1.9 billion	(Various)	2014	Wikipedia
Coronavirus Corpus			1.5 billion	20 countries	Jan 2020-Dec 2022	Web: News
Corpus of Contemporary American English (COCA)			1.0 billion	American	1990-2019	Balanced
Corpus of Historical American English (COHA)			475 million	American	1820-2019	Balanced
The TV Corpus			325 million	6 countries	1950-2018	TV shows
The Movie Corpus			200 million	6 countries	1930-2018	Movies
Corpus of American Soap Operas			100 million	American	2001-2012	TV shows

<https://www.english-corpora.org>

- Many bigger text collections are available but only if you pay

FOR HISTORICAL TEXTS

- For historical texts, we often have to acquire data by doing optical character recognition (OCR)

ita exultam hauit disciplinam, atq; peritiam, Ut Prospere, natura cunctatoris
cautum, et iuictu robur. A 29 of Warre. Fabrit. Fol. iiiij. Vero prefigura
in expedientis armis vni, nobili, salubri, temperamento moderati didicerit.
visite the Dukes excellencie, and to see certayne gentil-
men, whiche in times paste hee had beeue acquainted
withall. For which cause, unto Cosimo it was thought
best to bid him into his Orchard, not so much to vse his
liberalitie, as to haue occasion to talke with him at leas-
ture, and of him to understande and to learne diuers
things, according as of such a man may be hoped for, see
Prosperi Col.

(a) Princeton copy, annotated by Gabriel Harvey

the Art of Warre. Fol. iiiij.
visite the Dukes excellencie, and to see certayne gentil-
men, whiche in times paste hee had beeue acquainted
withall. For which cause, unto Cosimo it was thought
best to bid him into his Orchard, not so much to vse his
liberalitie, as to haue occasion to talke with him at leas-
ture, and of him to understande and to learne diuers
things, according as of such a man may be hoped for, see

Image taken from David Smith's NEH Proposal

FOR HISTORICAL TEXTS

NATIONAL ANTI-SLAVERY STANDARD.

Without Concealment—Without Compromise.

NEW-YORK, THURSDAY, JANUARY 7, 1841.

NUMBER 31.

VOLUME I.

PUBLISHED WEEKLY,
BY THE
AMERICAN ANTI-SLAVERY SOCIETY,
AT 143 NASSAU STREET.
NATHANIEL P. ROGERS, Editor.
W. C. ROGERS, General Agent.
JEP To whom Agents, Traveling and Local, will address
all letters relating to their agencies.

TERMS.—TWO DOLLARS A YEAR, IN ADVANCE.
Three Dollars if delayed until the end of the year.
Ten Dollars, in advance, will pay for 7 copies one year,
sent to one address.
Twenty-Five Dollars in advance, will pay for twenty
copies one year, sent to one address.

WILLIAM S. DORR, Printer.

SELECTIONS.

The Slave-Trade in Egypt.
LETTER OF DR. MADDEN TO MEHMET ALI.
ALEXANDRIA, September 6, 1840.

MAY IT PLEASE YOUR HIGHNESS.—On the 4th September last I had the honor to lay before your highness an address from the delegates of the Anti-Slavery Convention recently held in London, expressive of the gratification it afforded me to learn that your highness, in your late expedition into Africa, had prohibited the crime of slave-stealing, and that you had prohibited the Egyptian trade slaves in Dongola, Semnar, and Cordofan, in slaves, & practice which on the part of your authority, had hitherto been pursued without let or hindrance.

The communication I had the honor to lay before your highness further expressed an ardent hope that the slave trade, in every place that is subject to your authority, would be entirely prohibited, and the great evil of slavery itself ultimately abolished.

These sentiments and wishes, may it please your highness, are well deserving of consideration, and, even on account of the character of those who have expressed them, are worthy of attention.

The persons who composed that convention (some 400 individuals) were men delegated by bodies of great moral weight and influence in every quarter of the globe, to represent their enlightened and benevolent opinions in that assembly.

They were not selected for the sake of their rank or wealth, but on account of their worth and intelligence, their devotion to the cause of civil, personal, and religious liberty, and the boldness of their maintenance of the interests of

only a moment the crowded state of the slave-markets of Alexandria and Cairo. At the present time there are nearly 200 women and children exposed for sale in the slave-markets of Cairo, and upwards of 100 in that of Alexandria. On the 30th of August, 1840, the following were the numbers in the slave-market of Cairo —

Abyssinian women,	17
Ditto boys,	9
Negro women,	75
Ditto boys,	90

191

These returns were obtained from one of the principal gabbabs of the slave-market of Cairo; and the following from the general book of registry, kept by the same person, of all the slaves brought from the upper country in the year ending the 31st of August, 1840 —

Abyssinian women,	1700
Ditto children,	125
Negro women,	3000
Ditto children,	270

5900

Enough,

Negro-men of different countries, not brought down to the markets of Cairo and Alexandria, and sold in Semnar, Darfour, &c. 5000

10,490

So that the number of negroes captured by your people, in the different slave-hunts during the year ending the 31st of August, 1840, exceeded 10,000!

Now I have positive information, that a large portion of this number were captured by marauding parties, composed chiefly of your soldiers, and consisting of so many as a thousand persons on a single occasion, coming from Semnar so recently as 1839; nay, more, that your troops were paid even so late with the slaves taken in one of these expeditions. My informant, a German sailor, who accompanied your troops on these expeditions, has given me the details at large, and of their fidelity; there cannot be the slightest doubt, corroborated as they are by reports of other Europeans still in your employment.

This state of things, may it please your highness, and the atrocious mode in which these unfortunate countries are ravaged by your Egyptian and Nubian subjects, the people of the British and Foreign Anti-Slavery Society will lament to find that one solitary act of justice to the negro race, performed by your highness in your expedition to Fezaghanamely, the liberation of the slaves who were brought to you at that place, and the very problem of the slave-hunts, and to your officers on that occasion, as far as regarded the payment of your troops with the stolen men, produced no beneficial effects, and has not been followed up by any other measures of *bona fide* efficacy, that are calculated or intended to put a stop to this abominable trade.

The members of the convention will hear with surprise

must go to Constantinople, because slavery has the sanction of the sultan.

In a country like this, that slays its hundreds of human creatures every year, that degrades the miserable beings who survive its sufferings in the eyes of their fellow-men, that is sanguinary in its operation, and brutalizing in its influence on the perpetrators of it, to be considered not only a part, but a necessary consequence, of that slavery that has the sanction of law!

If the sanction that is accorded to slavery were to extend to such a crime as this, what a weapon would be placed in the hands of those who were hostile to that law, or whose opinions were regulated by another code?

But, previously to the sale of the slaves in Cairo and Alexandria, nothing that takes place on board the slave-ships of other countries, or in the route of the slave "coffle" in their march across the desert to the coast, can exceed the barbarity with which the gabbabs, or slave-traders of the East, treat the unfortunate captives which they carry from the greater part of Africa, Fezagan, Dongola, Darfour, Casrion, Canoman, and Candofan.

In their route to Egypt, the wretched slaves are huddled together in small boats on the Nile, in the same way that the wretched negroes are crowded in one dense mass of human beings, jaded and cast down on board the Spanish slave-ships.* It would be idle to expatiate on the sufferings of these creatures during the voyage, or on the horrors they endured in the previous journey over land.

Suffice it to say, on the authority of persons who have very recently even accompanied your soldiers in the slave-hunting expeditions from Semnar, and have returned disgusted from them, that nothing can exceed the barbarity of the slaves captured negroes experience at the hands of the "gabbab."

It is still, with a confident hope in the justice and generosity of your highness, I look forward to the success of this application to your highness, and I most earnestly desire that the sufferings it details may reach your heart. And in the name of humanity itself I appeal to you, on behalf of the poor natives of Africa, whose country your people have hitherto desolated and robbed of its inhabitants, not only with impunity, but even with the sanction of your highness's officers in these distant provinces.

There may be some exaggeration in the account of the mortality given by Clot Bey, in that it is still great enough to justify the use of the term "miserable," in speaking of this operation. The number of envoys made at this place is, however, understated by him; in the last year the number amounted to four hundred. It is to be borne in mind, that the persons on whom this cruelty is practised are children from the age of six to twelve, and the price for which they are sold varies from one hundred to two hundred dollars.

The operation is performed under circumstances most unfavorable to the safety of those who undergo it. It is performed by savages, brutal, and unfeeling men. It is one of a most horrid nature than it is generally understood to be.

The barbarous application of heated oil, is the medication employed to prevent immediate death from hemorrhage, and the after treatment, the cruel practice of throwing the unfortunate child on his face in the hot sand, and piling it up above his loins, and then keeping him immovably fixed in that position for 30 or 40 hours, undergoing torments that cannot be described.

These things, may it please your highness, are done in Egypt.

They are done by Egyptians!

They are done on poor helpless children!

And you are the ruler of the land!

What a curse upon your country! What a land where such savage crimes are committed with impunity!—where they are encouraged by the highest officers of the state, who are compelled by their station to follow the example of your highness, and to surround their doors with a retinue of mulatto "gabbabs."

Whatever the treatment may be in Egypt, the savagery of the war in Africa is all the same. The natives are hunted like wild beasts; their fields are wasted, their villages destroyed, and the defenceless people continually exposed to the marauding attacks of the subjects of your highness.

But, previously to the sale of the slaves in Cairo and Alexandria, nothing that takes place on board the slave-ships of other countries, or in the route of the slave "coffle" in their march across the desert to the coast, can exceed the barbarity with which the gabbabs, or slave-traders of the East, treat the unfortunate captives which they carry from the greater part of Africa, Fezagan, Dongola, Darfour, Casrion, Canoman, and Candofan.

In their route to Egypt, the wretched slaves are huddled together in small boats on the Nile, in the same way that the wretched negroes are crowded in one dense mass of human beings, jaded and cast down on board the Spanish slave-ships.* It would be idle to expatiate on the sufferings of these creatures during the voyage, or on the horrors they endured in the previous journey over land.

Suffice it to say, on the authority of persons who have very recently even accompanied your soldiers in the slave-hunting expeditions from Semnar, and have returned disgusted from them, that nothing can exceed the barbarity of the slaves captured negroes experience at the hands of the "gabbab."

It is still, with a confident hope in the justice and generosity of your highness, I look forward to the success of this application to your highness, and I most earnestly desire that the sufferings it details may reach your heart. And in the name of humanity itself I appeal to you, on behalf of the poor natives of Africa, whose country your people have hitherto desolated and robbed of its inhabitants, not only with impunity, but even with the sanction of your highness's officers in these distant provinces.

There may be some exaggeration in the account of the mortality given by Clot Bey, in that it is still great enough to justify the use of the term "miserable," in speaking of this operation. The number of envoys made at this place is, however, understated by him; in the last year the number amounted to four hundred. It is to be borne in mind, that the persons on whom this cruelty is practised are children from the age of six to twelve, and the price for which they are sold varies from one hundred to two hundred dollars.

The operation is performed under circumstances most unfavorable to the safety of those who undergo it. It is performed by savages, brutal, and unfeeling men. It is one of a most horrid nature than it is generally understood to be.

The barbarous application of heated oil, is the medication employed to prevent immediate death from hemorrhage, and the after treatment, the cruel practice of throwing the unfortunate child on his face in the hot sand, and piling it up above his loins, and then keeping him immovably fixed in that position for 30 or 40 hours, undergoing torments that cannot be described.

These things, may it please your highness, are done in Egypt.

They are done by Egyptians!

They are done on poor helpless children!

And you are the ruler of the land!

What a curse upon your country! What a land where such savage crimes are committed with impunity!—where they are encouraged by the highest officers of the state, who are compelled by their station to follow the example of your highness, and to surround their doors with a retinue of mulatto "gabbabs."

Whatever the treatment may be in Egypt, the savagery of the war in Africa is all the same. The natives are hunted like wild beasts; their fields are wasted, their villages destroyed, and the defenceless people continually exposed to the marauding attacks of the subjects of your highness.

But, previously to the sale of the slaves in Cairo and Alexandria, nothing that takes place on board the slave-ships of other countries, or in the route of the slave "coffle" in their march across the desert to the coast, can exceed the barbarity with which the gabbabs, or slave-traders of the East, treat the unfortunate captives which they carry from the greater part of Africa, Fezagan, Dongola, Darfour, Casrion, Canoman, and Candofan.

In their route to Egypt, the wretched slaves are huddled together in small boats on the Nile, in the same way that the wretched negroes are crowded in one dense mass of human beings, jaded and cast down on board the Spanish slave-ships.* It would be idle to expatiate on the sufferings of these creatures during the voyage, or on the horrors they endured in the previous journey over land.

Suffice it to say, on the authority of persons who have very recently even accompanied your soldiers in the slave-hunting expeditions from Semnar, and have returned disgusted from them, that nothing can exceed the barbarity of the slaves captured negroes experience at the hands of the "gabbab."

It is still, with a confident hope in the justice and generosity of your highness, I look forward to the success of this application to your highness, and I most earnestly desire that the sufferings it details may reach your heart. And in the name of humanity itself I appeal to you, on behalf of the poor natives of Africa, whose country your people have hitherto desolated and robbed of its inhabitants, not only with impunity, but even with the sanction of your highness's officers in these distant provinces.

There may be some exaggeration in the account of the mortality given by Clot Bey, in that it is still great enough to justify the use of the term "miserable," in speaking of this operation. The number of envoys made at this place is, however, understated by him; in the last year the number amounted to four hundred. It is to be borne in mind, that the persons on whom this cruelty is practised are children from the age of six to twelve, and the price for which they are sold varies from one hundred to two hundred dollars.

The operation is performed under circumstances most unfavorable to the safety of those who undergo it. It is performed by savages, brutal, and unfeeling men. It is one of a most horrid nature than it is generally understood to be.

The barbarous application of heated oil, is the medication employed to prevent immediate death from hemorrhage, and the after treatment, the cruel practice of throwing the unfortunate child on his face in the hot sand, and piling it up above his loins, and then keeping him immovably fixed in that position for 30 or 40 hours, undergoing torments that cannot be described.

These things, may it please your highness, are done in Egypt.

They are done by Egyptians!

They are done on poor helpless children!

And you are the ruler of the land!

What a curse upon your country! What a land where such savage crimes are committed with impunity!—where they are encouraged by the highest officers of the state, who are compelled by their station to follow the example of your highness, and to surround their doors with a retinue of mulatto "gabbabs."

Whatever the treatment may be in Egypt, the savagery of the war in Africa is all the same. The natives are hunted like wild beasts; their fields are wasted, their villages destroyed, and the defenceless people continually exposed to the marauding attacks of the subjects of your highness.

But, previously to the sale of the slaves in Cairo and Alexandria, nothing that takes place on board the slave-ships of other countries, or in the route of the slave "coffle" in their march across the desert to the coast, can exceed the barbarity with which the gabbabs, or slave-traders of the East, treat the unfortunate captives which they carry from the greater part of Africa, Fezagan, Dongola, Darfour, Casrion, Canoman, and Candofan.

In their route to Egypt, the wretched slaves are huddled together in small boats on the Nile, in the same way that the wretched negroes are crowded in one dense mass of human beings, jaded and cast down on board the Spanish slave-ships.* It would be idle to expatiate on the sufferings of these creatures during the voyage, or on the horrors they endured in the previous journey over land.

Suffice it to say, on the authority of persons who have very recently even accompanied your soldiers in the slave-hunting expeditions from Semnar, and have returned disgusted from them, that nothing can exceed the barbarity of the slaves captured negroes experience at the hands of the "gabbab."

It is still, with a confident hope in the justice and generosity of your highness, I look forward to the success of this application to your highness, and I most earnestly desire that the sufferings it details may reach your heart. And in the name of humanity itself I appeal to you, on behalf of the poor natives of Africa, whose country your people have hitherto desolated and robbed of its inhabitants, not only with impunity, but even with the sanction of your highness's officers in these distant provinces.

There may be some exaggeration in the account of the mortality given by Clot Bey, in that it is still great enough to justify the use of the term "miserable," in speaking of this operation. The number of envoys made at this place is, however, understated by him; in the last year the number amounted to four hundred. It is to be borne in mind, that the persons on whom this cruelty is practised are children from the age of six to twelve, and the price for which they are sold varies from one hundred to two hundred dollars.

The operation is performed under circumstances most unfavorable to the safety of those who undergo it. It is performed by savages, brutal, and unfeeling men. It is one of a most horrid nature than it is generally understood to be.

The barbarous application of heated oil, is the medication employed to prevent immediate death from hemorrhage, and the after treatment, the cruel practice of throwing the unfortunate child on his face in the hot sand, and piling it up above his loins, and then keeping him immovably fixed in that position for 30 or 40 hours, undergoing torments that cannot be described.

These things, may it please your highness, are done in Egypt.

They are done by Egyptians!

They are done on poor helpless children!

And you are the ruler of the land!

What a curse upon your country! What a land where such savage crimes are committed with impunity!—where they are encouraged by the highest officers of the state, who are compelled by their station to follow the example of your highness, and to surround their doors with a retinue of mulatto "gabbabs."

Whatever the treatment may be in Egypt, the savagery of the war in Africa is all the same. The natives are hunted like wild beasts; their fields are wasted, their villages destroyed, and the defenceless people continually exposed to the marauding attacks of the subjects of your highness.

But, previously to the sale of the slaves in Cairo and Alexandria, nothing that takes place on board the slave-ships of other countries, or in the route of the slave "coffle" in their march across the desert to the coast, can exceed the barbarity with which the gabbabs, or slave-traders of the East, treat the unfortunate captives which they carry from the greater part of Africa, Fezagan, Dongola, Darfour, Casrion, Canoman, and Candofan.

In their route to Egypt, the wretched slaves are huddled together in small boats on the Nile, in the same way that the wretched negroes are crowded in one dense mass of human beings, jaded and cast down on board the Spanish slave-ships.* It would be idle to expatiate on the sufferings of these creatures during the voyage, or on the horrors they endured in the previous journey over land.

Suffice it to say, on the authority of persons who have very recently even accompanied your soldiers in the slave-hunting expeditions from Semnar, and have returned disgusted from them, that nothing can exceed the barbarity of the slaves captured negroes experience at the hands of the "gabbab."

It is still, with a confident hope in the justice and generosity of your highness, I look forward to the success of this application to your highness, and I most earnestly desire that the sufferings it details may reach your heart. And in the name of humanity itself I appeal to you, on behalf of the poor natives of Africa, whose country your people have hitherto desolated and robbed of its inhabitants, not only with impunity, but even with the sanction of your highness's officers in these distant provinces.

There may be some exaggeration in the account of the mortality given by Clot Bey, in that it is still great enough to justify the use of the term "miserable," in speaking of this operation. The number of envoys made at this place is, however, understated by him; in the last year the number amounted to four hundred. It is to be borne in mind, that the persons on whom this cruelty is practised are children from the age of six to twelve, and the price for which they are sold varies from one hundred to two hundred dollars.

The operation is performed under circumstances most unfavorable to the safety of those who undergo it. It is performed by savages, brutal, and unfeeling men. It is one of a most horrid nature than it is generally understood to be.

The barbarous application of heated oil, is the medication employed to prevent immediate death from hemorrhage, and the after treatment, the cruel practice of throwing the unfortunate child on his face in the hot sand, and piling it up above his loins, and then keeping him immovably fixed in that position for 30 or 40 hours, undergoing torments that cannot be described.

These things, may it please your highness, are done in Egypt.

They are done by Egyptians!

They are done on poor helpless children!

And you are the ruler of the land!

What a curse upon your country! What a land where such savage crimes are committed with impunity!—where they are encouraged by the highest officers of the state, who are compelled by their station to follow the example of your highness, and to surround their doors with a retinue of mulatto "gabbabs."

Whatever the treatment may be in Egypt, the savagery of the war in Africa is all the same. The natives are hunted like wild beasts; their fields are wasted, their villages destroyed, and the defenceless people continually exposed to the marauding attacks of the subjects of your highness.

But, previously to the sale of the slaves in Cairo and Alexandria, nothing that takes place on board the slave-ships of other countries, or in the route of the slave "coffle" in their march across the desert to the coast, can exceed the barbarity with which the gabbabs, or slave-traders of the East, treat the unfortunate captives which they carry from the greater part of Africa, Fezagan, Dongola, Darfour, Casrion, Canoman, and Candofan.

In their route to Egypt, the wretched slaves are huddled together in small boats on the Nile, in the same way that the wretched negroes are crowded in one dense mass of human beings, jaded and cast down on board the Spanish slave-ships.* It would be idle to expatiate on the sufferings of these creatures during the voyage, or on the horrors they endured in the previous journey over land.

Suffice it to say, on the authority of persons who have very recently even accompanied your soldiers in the slave-hunting expeditions from Semnar, and have returned disgusted from them, that nothing can exceed the barbarity of the slaves captured negroes experience at the hands of the "gabbab."

It is still, with a confident hope in the justice and generosity of your highness, I look forward to the success of this application to your highness, and I most earnestly desire that the sufferings it details may reach your heart. And in the name of humanity itself I appeal to you, on behalf of the poor natives of Africa, whose country your people have hitherto desolated and robbed of its inhabitants, not only with impunity, but even with the sanction of your highness's officers in these distant provinces.

There may be some exaggeration in the account of the mortality given by Clot Bey, in that it is still great enough to justify the use of the term "miserable," in speaking of this operation. The number of envoys made at this place is, however, understated by him; in the last year the number amounted to four hundred. It is to be borne in mind, that the persons on whom this cruelty is practised are children from the age of six to twelve, and the price for which they are sold varies from one hundred to two hundred dollars.

The operation is performed under circumstances most unfavorable to the safety of those who undergo it. It is performed by savages, brutal, and unfeeling men. It is one of a most horrid nature than it is generally understood to be.

The barbarous application of heated oil, is the medication employed to prevent immediate death from hemorrhage, and the after treatment, the cruel practice of throwing the unfortunate child on his face in the hot sand, and piling it up above his loins, and then keeping him immovably fixed in that position for 30 or 40 hours, undergoing torments that cannot be described.

These things, may it please your highness, are done in Egypt.

They are done by Egyptians!

They are done on poor helpless children!

And you are the ruler of the land!

What a curse upon your country! What a land where such savage crimes are committed with impunity!—where they are encouraged by the highest officers of the state, who are compelled by their station to follow the example of your highness, and to surround their doors with a retinue of mulatto "gabbabs."

Whatever the treatment may be in Egypt, the savagery of the war in Africa is all the same. The natives are hunted like wild beasts; their fields are wasted, their villages destroyed, and the defenceless people continually exposed to the marauding attacks of the subjects of your highness.

But, previously to the sale of the slaves in Cairo and Alexandria, nothing that takes place on board the slave-ships of other countries, or in the route of the slave "coffle" in their march across the desert to the coast, can exceed the barbarity with which the gabbabs, or slave-traders of the East, treat the unfortunate captives which they carry from the greater part of Africa, Fezagan, Dongola, Darfour, Casrion, Canoman, and Candofan.

In their route to Egypt, the wretched slaves are huddled together in small boats on the Nile, in the same way that the wretched negroes are crowded in one dense mass of human beings, jaded and cast down on board the Spanish slave-ships.* It would be idle to expatiate on the sufferings of these creatures during the voyage, or on the horrors they endured in the previous journey over land.

Suffice it to say, on the authority of persons who have very recently even accompanied your soldiers in the slave-hunting expeditions from Semnar, and have returned disgusted from them, that nothing can exceed the barbarity of the slaves captured negroes experience at the hands of the "gabbab."

It is still, with a confident hope in the justice and generosity of your highness, I look forward to the success of this application to your highness, and I most earnestly desire that the sufferings it details may reach your heart. And in the name of humanity itself I appeal to you, on behalf of the poor natives of Africa, whose country your people have hitherto desolated and robbed of its inhabitants, not only with impunity, but even with the sanction of your highness's officers in these distant provinces.

There may be some exaggeration in the account of the mortality given by Clot Bey, in that it is still great enough to justify the use of the term "miserable," in speaking of this operation. The number of envoys made at this place is, however, understated by him; in the last year the number amounted to four hundred. It is to be borne in mind, that the persons on whom this cruelty is practised are children from the age of six to twelve, and the price for which they are sold varies from one hundred to two hundred dollars.

The operation is performed under circumstances most unfavorable to the safety of those who undergo it. It is performed by savages, brutal, and unfeeling men. It is one of a most horrid nature than it is generally understood to be.

The barbarous application of heated oil, is the medication employed to prevent immediate death from hemorrhage, and the after treatment, the cruel practice of throwing the unfortunate child on his face in the hot sand, and piling it up above his loins, and then keeping him immovably fixed in that position for 30 or 40 hours, undergoing torments that cannot be described.

These things, may it please your highness, are done in Egypt.

They are done by Egyptians!

They are done on poor helpless children!

And you are the ruler of the land!

What a curse upon your country! What a land where such savage crimes are committed with impunity!—where they are encouraged by the highest officers of the state, who are compelled by their station to follow the example of your highness, and to surround their doors with a retinue of mulatto "gabbabs."

Whatever the treatment may be in Egypt, the savagery of the war in Africa is all the same. The natives are hunted like wild beasts; their fields are wasted, their villages destroyed, and the defenceless people continually exposed to the marauding attacks of the subjects of your highness.

But, previously to the sale of the slaves in Cairo and Alexandria, nothing that takes place on board the slave-ships of other countries, or in the route of the slave "coffle" in their march across the desert to the coast, can exceed the barbarity with which the gabbabs, or slave-traders of the East, treat the unfortunate captives which they carry from the greater part of Africa, Fezagan, Dongola, Darfour, Casrion, Canoman, and Candofan.

In their route to Egypt, the wretched slaves are huddled together in small boats on the Nile, in the same way that the wretched negroes are crowded in one dense mass of human beings, jaded and cast down on board the Spanish slave-ships.* It would be idle to expatiate on the sufferings of these creatures during the voyage, or on the horrors they endured in the previous journey over land.

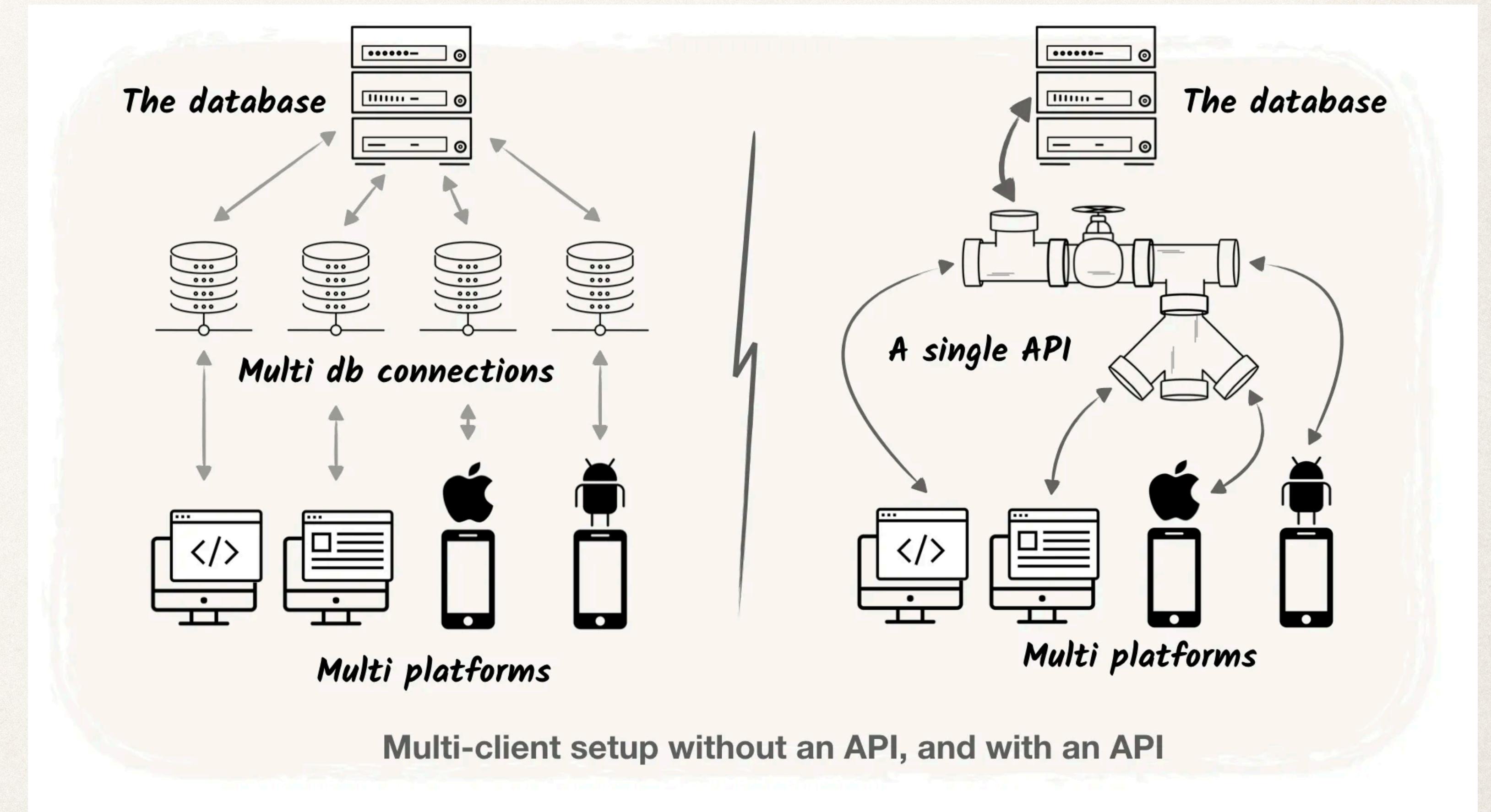
Suffice it to say, on the authority of persons who have very recently even accompanied your soldiers in the slave-hunting expeditions from Semnar, and have returned disgusted from them, that nothing can exceed the barbarity of the slaves captured negroes experience at the hands of the "gabbab."

It is still, with a confident hope in the justice and generosity of your highness, I look forward to the success of this application to your highness, and I most earnestly desire that the sufferings it details may reach your heart. And in the name of humanity itself I appeal to you, on behalf of the poor natives of Africa, whose country your people have hitherto desolated and robbed of its inhabitants, not only with impunity, but even with the sanction of your highness's officers in these distant provinces.

There may be some exaggeration in the account

WEB DATA

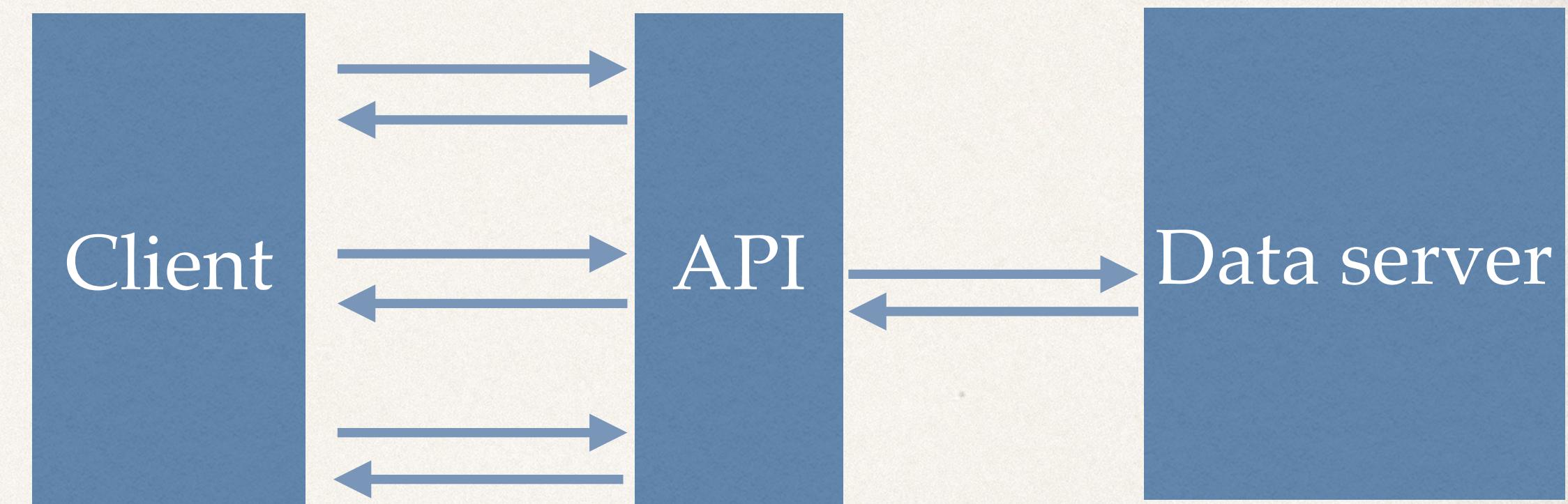
Text data on the web can be collected by APIs or web scraping



Xavier et. al. 2019 "An illustrated introduction to APIs"

REST APIs

- Clients make requests for data at some endpoints and the server responds
- The requests can be GET or POST
- Additional headers may need to be passed to requests



EXAMPLES OF APIs

The screenshot shows the Spotify for Developers API documentation for the "Get Artist" endpoint. The page has a dark purple header with the Spotify logo, "Spotify for Developers", "Documentation" (which is underlined), "Community", and "Log in". The main content area has a white background. On the left, there's a sidebar with a purple header "Web API" containing links like "Overview", "Getting started", "Concepts", "Tutorials", and "How-Tos". Below that is a "REFERENCE" section with "Albums" and "Artists". Under "Artists", "Get Artist" is highlighted. The main content area starts with a breadcrumb "Web API • References / Artists / Get Artist". The title "Get Artist" is bolded, followed by "OAuth 2.0". A sub-section "Important policy notes" lists three points: "Spotify content may not be downloaded", "Keep visual content in its original form", and "Ensure content attribution". Below this is a "Request" section for a GET request to "/artists/{id}". It shows a parameter "id" as a required string, with a note that it's the Spotify ID of the artist, and an example value "0TnOYISbd1XYRBk9myaseg". The "Response" section lists status codes 200, 401, 403, and 429. To the right, there's a "REQUEST SAMPLE" section with an "id" field containing "0TnOYISbd1XYRBk9myaseg" and a "Try it" button. Below that is a "RESPONSE SAMPLE" section showing a JSON object with various fields like external_urls, followers, genres, href, id, images, name, popularity, type, and uri.

ENDPOINT <https://api.spotify.com/v1/artists/{id}>

id 0TnOYISbd1XYRBk9myaseg

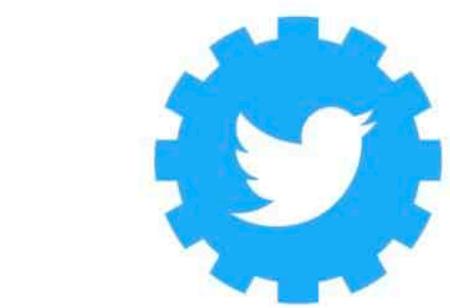
Try it

REQUEST SAMPLE

RESPONSE SAMPLE

```
1  {
2    "external_urls": {
3      "spotify": "string"
4    },
5    "followers": {
6      "href": "string",
7      "total": 0
8    },
9    "genres": ["Prog rock", "Grunge"],
10   "href": "string",
11   "id": "string",
12   "images": [
13     {
14       "url":
15       "https://i.scdn.co/image/ab67616d00001e02ff9ca10
16       "b55ce82ae553c8228",
17       "height": 300,
18       "width": 300
19     }
20   ],
21   "name": "string",
22   "popularity": 0,
23   "type": "artist",
24   "uri": "string"
25 }
```

GET OR POST



Twitter API

[https://api.twitter.com/2/tweets/counts/recent?
query=from%3ATwitterDev&granularity=day](https://api.twitter.com/2/tweets/counts/recent?query=from%3ATwitterDev&granularity=day)

```
1 curl -X POST 'https://api.twitter.com/2/tweets/search/stream/rule'  
2 -H "Content-type: application/json" \  
3 -H "Authorization: Bearer $APP_ACCESS_TOKEN" -d \  
4 '{  
5   "add": [  
6     {"value": "cat has:images", "tag": "cats with images"}  
7   ]  
8 }'
```

ENDPOINTS



Name	Path	Description
Business Search	<code>/businesses/search</code>	Search for businesses by keyword, category, location, price level, etc.
Phone Search	<code>/businesses/search/phone</code>	Search for businesses by phone number.
Business Match	<code>/businesses/matches</code>	Find the Yelp business that matches an exact input location. Use this to match business data from other sources with Yelp businesses.
Business Details	<code>/businesses/{id}</code>	Get rich business data, such as name, address, phone number, photos, Yelp rating, price levels and hours of operation.
Transaction Search	<code>/transactions/{transaction_type}/search</code>	Search for businesses which support food delivery transactions.
Business Engagement Metrics	<code>businesses/engagement</code>	Get engagement metrics information for the provided businesses.
Business Service Offerings	<code>/businesses/{business_id_or_alias}/service_offerings</code>	Get active and eligible service offerings for a business.

ADVANTAGES OF APIs

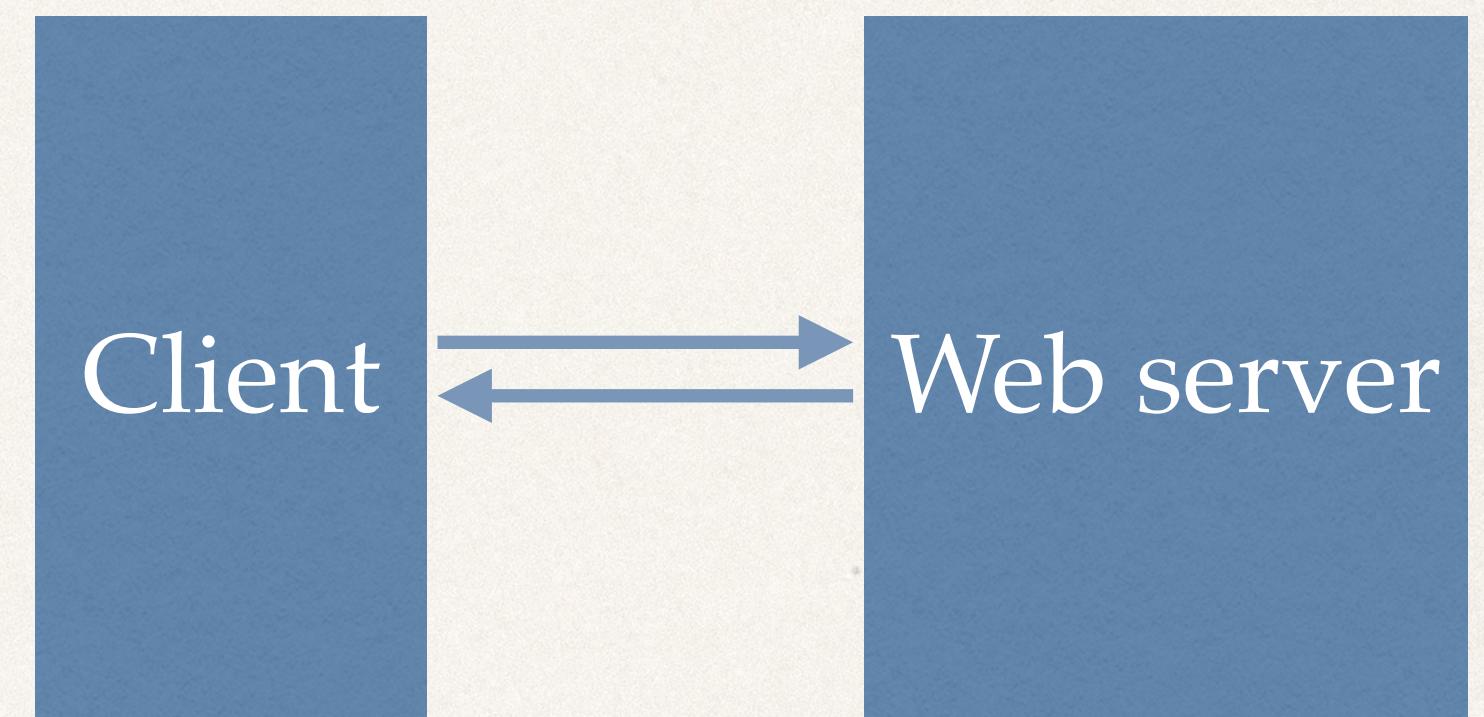
- APIs are optimized for scale, reusability, and repeatability in data querying.
- Support in any programming language to query from an API
- Allows for controlled access

BUT, ALSO REMEMBER

- Querying requires authentication artifacts (e.g., passwords, access tokens, etc) which need to be setup and carefully stored
- APIs can be rate limited
- You have to figure out things by reading the documentation

WEB SCRAPING

- Similar to API requests but you make webpage requests and you get back html
- The content can be extracted by parsing the html



BUT, REMEMBER

- Websites place restrictions on what can be scraped
- Sometimes webpages get updated because of javascript which is not executed while scraping

IN CLASS

- 02 api demo.ipynb
- 02 web scraping.ipynb