

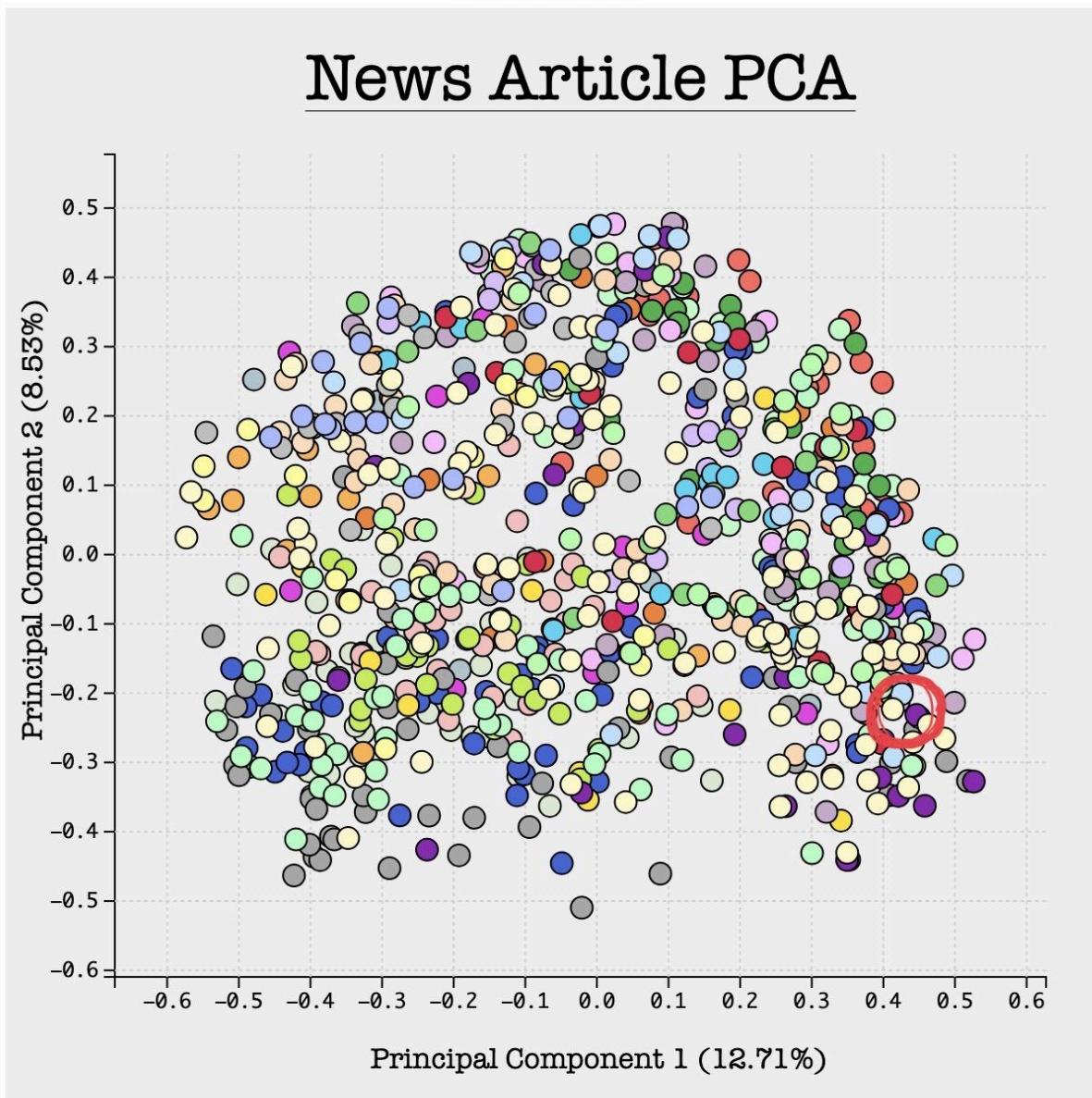
Maddy Dumont, Sam Hecht and Maya Kennedy

Visual Analytics Final Project - May 4th 2025

MC Answer Sheet

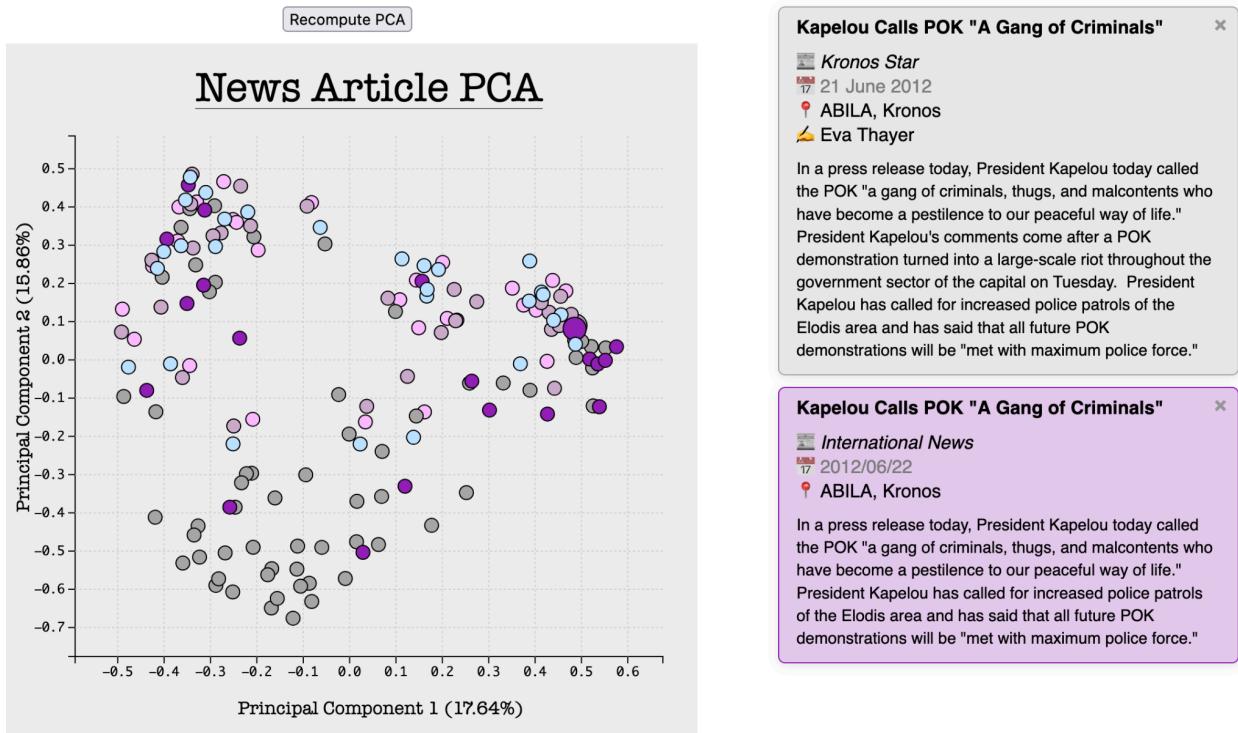
MC1

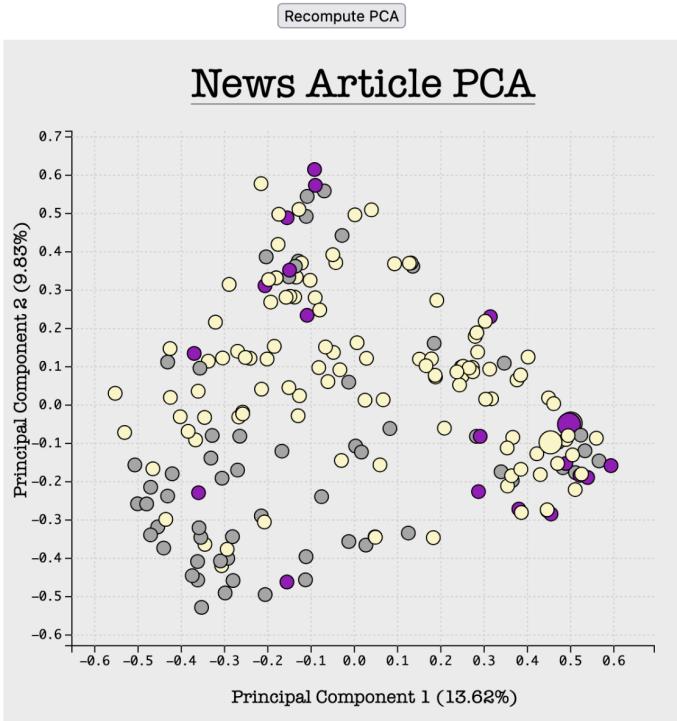
1. Characterize the news data sources provided. Which are primary sources and which are derivative sources? What are the relationships between the primary and derivative sources? Please limit your answer to 8 images and 300 words.



To determine which sources were primary and which were derivative, we developed a

visualization to find article similarity. On the backend, we find embeddings for each news article and embed them all in the same space. Then, we perform PCA on these embeddings and graph the first two principal components. Points that are close to each other on the graph often contain similar contents. On the front end, we are able to read the articles by clicking on individual points, and limit the scope of sources we want to look at. Through this method, we are able to identify which sources are primary and which sources are derivative. For example, we'll zoom in on the articles circled in red on the first image, relating to Kapelou labeling POK "A Gang of Criminals"





Kapelou Calls POK "A Gang of Criminals"

International News

17/ 2012/06/22

ABILA, Kronos

In a press release today, President Kapelou today called the POK "a gang of criminals, thugs, and malcontents who have become a pestilence to our peaceful way of life." President Kapelou has called for increased police patrols of the Elodis area and has said that all future POK demonstrations will be "met with maximum police force."

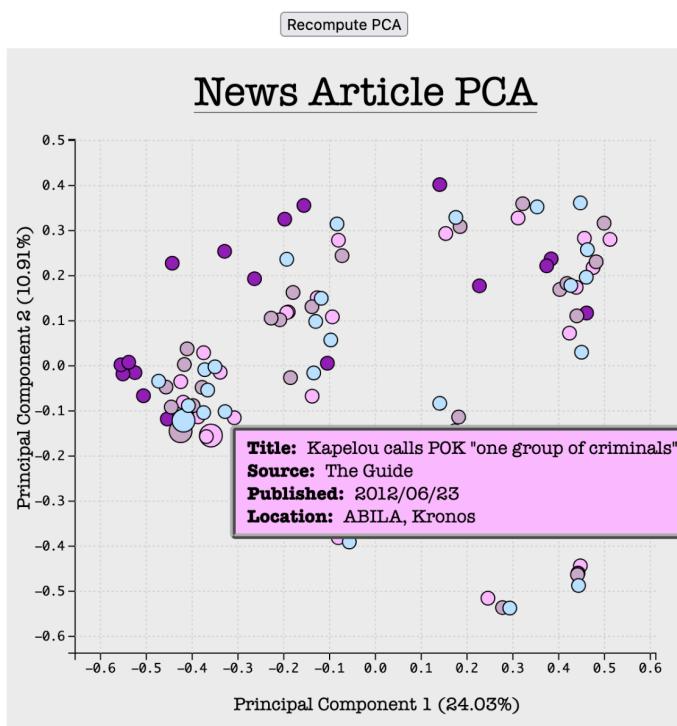
Kapelou Calls POK "A Gang of Criminals"

News Online Today

17/ 2012/06/22

ABILA, Kronos

In a press release today, President Kapelou today called the POK "a gang of criminals, thugs, and malcontents who have become a pestilence to our peaceful way of life."



The question POK of Kapelou a troop of criminals

The Truth

17/ 2012/06/23

ABILA, Kronos

In a press communication today, president Kapelou today called POK a troop of criminals, criminals, and malcontents who pestilence to our peaceful manner of living. have become the comments of president Kapelou's come after a demonstration POK have been converted into babble on large scale in the government sector of the capital on Tuesday. President Kapelou has requested raised police force patrols of the area Elodis and has said that all future demonstrations POK maximum police force will be met.

Kapelou calls POK "a troop of the criminals"

Worldwise

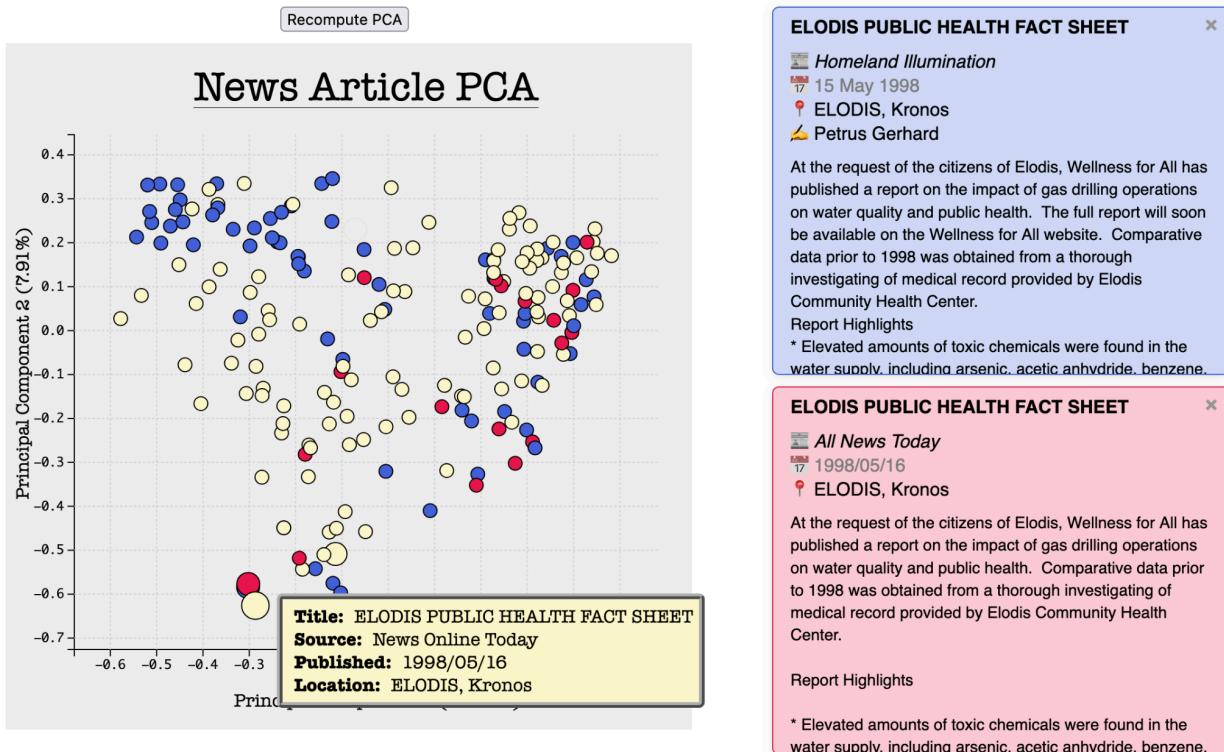
17/ 2012/06/22

ABILA, Kronos

In a press release today today, President Kapelou called the POK "a troop of the criminals, gangsters, and the dissatisfied ones who became a plague with our peaceful way of life." The comments of the President Kapelou come after a demonstration from POK transformed into riot on a large scale in all the sector from government from the capital Tuesday. President Kapelou claimed the largest patrols of police force of the area of Elodis and stated that all the demonstrations of the future POK "will be met the maximum force of police force."

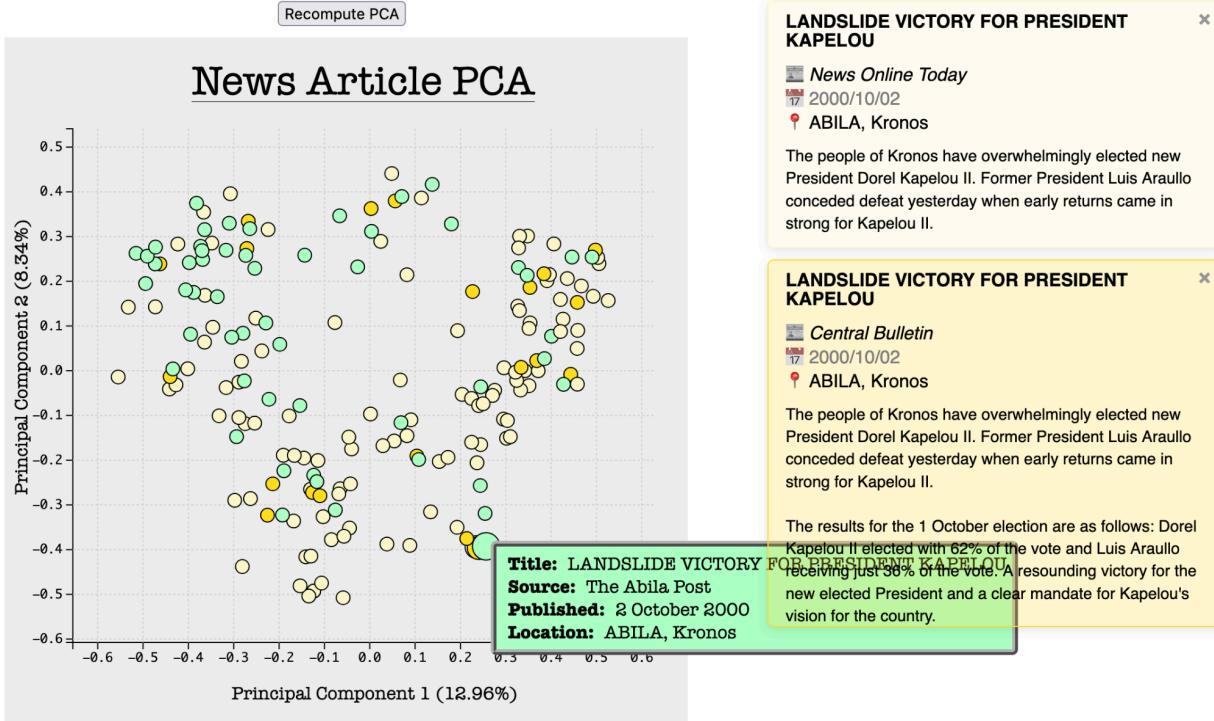
As can be seen in the images shown above, Kronos Star published an article on June 21st, 2012 with the title *Kapelou Calls POK “A Gang of Criminals”*, and at least 5 other news sources, International News, News Online Today, The Truth, Worldwise, and The Guide all publish articles with very similar titles and content within the next 2 days. From this, we can determine that Kronos Star is a primary source, and these other 5 sources must be derivative.

Looking at another example:



From this, we can see that 3 different news sources publicized the same health fact sheet. Homeland Illumination published it one day earlier, so we can assume Homeland Illumination is a primary source, while All News Today and News Online Today (again) must be derivative.

Interestingly, the two primary sources contain an author. One more example of article similarity can be seen below:



- Characterize any biases you identify in these news sources, with respect to their representation of specific people, places, and events. Give examples. Please limit your answer to 6 images and 500 words.

Our Bias Dashboard reveals clear differences in how various news sources represent people and groups central to the GASTech conflict in Kronos. By comparing sentiment scores and mention frequencies, we identified patterns of bias toward GASTech, the Protectors of Kronos (POK), and the Kronos Government.

Group Sentiment Trends

Sentiment Comparison (by Person or Group)

This chart displays the sentiment score toward each selected person or group across news sources, ranging from -1 (negative) to +1 (positive).



In the above screenshot, when comparing sentiment between GAStech, POK, and the Kronos Government, we observe that *The Truth* exhibits strong pro-government and pro-GAStech bias, with high sentiment scores. In contrast, *Centrum Sentinel* and *The World* display more negative sentiment toward the Kronos Government and GAStech, possibly indicating alignment with environmental or anti-corporate perspectives.

Mention Frequency of Key Individuals

Mention Count Heatmap

This heatmap shows how often each selected individual or group was mentioned by each news source. Darker red means higher mention count.

Person	All News Today	Athena Speaks	Central Bulletin	Centrum Sentinel	Modern Rubicon	News Online Today	The Truth	The World
Elian Karel	7	1	9	5	10	1	1	8
Henk Bodrogí	11	4	13	7	2	3	2	4
Carmine Osvaldo	4	13	14	0	6	6	12	13
Jeroen Karel	9	14	2	14	6	9	11	7
Valentine Mies	11	18	7	11	4	4	1	2

This image shows that Valentine Mies and Jeroen Karel are the most frequently mentioned figures in outlets like *The Abila Post* and *Athena Speaks*. Meanwhile, Elian Karel, a controversial figure linked to POK, receives relatively few mentions from *Athena Speaks* and *The Truth*, suggesting underreporting of POK-affiliated individuals by pro-government media.

Individual Sentiment Bias

Sentiment Comparison (by Person or Group)

This chart displays the sentiment score toward each selected person or group across news sources, ranging from -1 (negative) to +1 (positive).

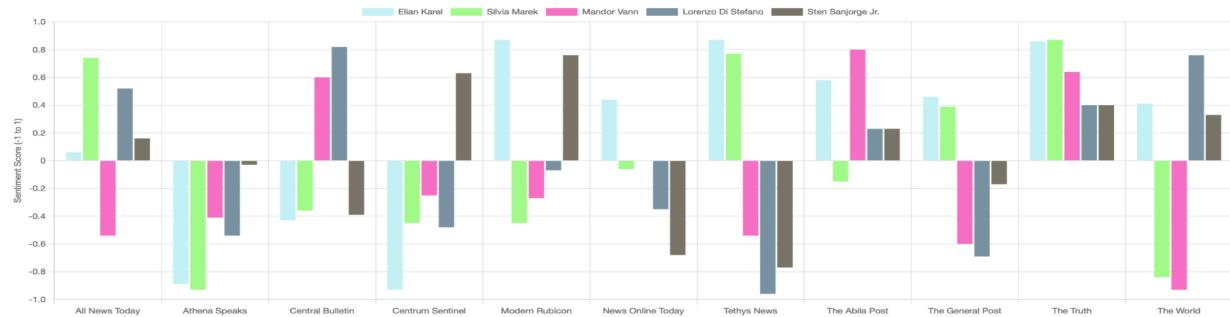


Image 3 displays sentiment scores for five individuals: Elian Karel (POK), Silvia Marek (POK), Mandor Wann (GAStech executive), Lorenzo Di Stefano (minister), and Sten Sanjorge Jr. (GAStech CEO). Here, *Central Bulletin* and *The World* are highly positive toward Di Stefano, government-affiliated, while showing consistent negativity toward Marek, who represents dissenting voices. This suggests these outlets favor the Kronos Government narrative.

Cross-Source Mention Heatmap

Mention Count Heatmap

This heatmap shows how often each selected individual or group was mentioned by each news source. Darker red means higher mention count.

Person	All News Today	Athena Speaks	Central Bulletin	Centrum Sentinel	Homeland Illumination	International News	Modern Rubicon	News Online Today	Tethys News	The Abila Post	The General Post	The Truth	The World
Elian Karel	7	1	9	5	3	4	10	1	10	8	10	1	8
Henk Bodrogi	11	4	13	7	10	3	2	3	14	7	13	2	4
Carmine Osvaldo	4	13	14	0	3	7	6	6	11	7	10	12	13
Jeroen Karel	9	14	2	14	1	15	6	9	8	15	15	11	7
Valentine Mies	11	15	7	11	5	9	4	4	8	9	4	1	2

Image 4 highlights how often key individuals are mentioned across sources. Carmine Osvaldo and Jeroen Karel dominate coverage in *The General Post* and *Athena Speaks*, whereas *Centrum Sentinel* conspicuously omits Carmine entirely. The absence of certain individuals from specific sources may indicate selective reporting.

Bias in Coverage of Executives

Sentiment Comparison (by Person or Group)

This chart displays the sentiment score toward each selected person or group across news sources, ranging from -1 (negative) to +1 (positive).



In Image 5, sentiment toward GAStech executives—including the Chief Legal Officer and COO—is overwhelmingly positive in sources such as *The Truth*, *Central Bulletin*, and *Modern Rubicon*. Conversely, *Tethys News* and *News Online Today* show negative sentiment across all executives, reflecting anti-corporate leanings.

From the LLM with all of the news sources, we discovered that sources such as Homeland Illumination, Daily Pegasus, The Orb, Centrum Sentinel, and The Wrap often frame the narrative from the perspective of POK and the people of Elodis, emphasizing grievances related to environmental pollution, government corruption, and portraying figures like Juliana Vann and Elian Karel as "martyrs". The Centrum Sentinel published a message from POK claiming responsibility for apprehending "the elitist ones" on January 20th. Conversely, outlets including International News, Kronos Star, The Abila Post, The Truth, News Online Today, Tethys News, The Explainer, The Guide, and Worldwise tend to reflect the Kronos government and police perspective, frequently quoting officials who label POK as a "public threat".

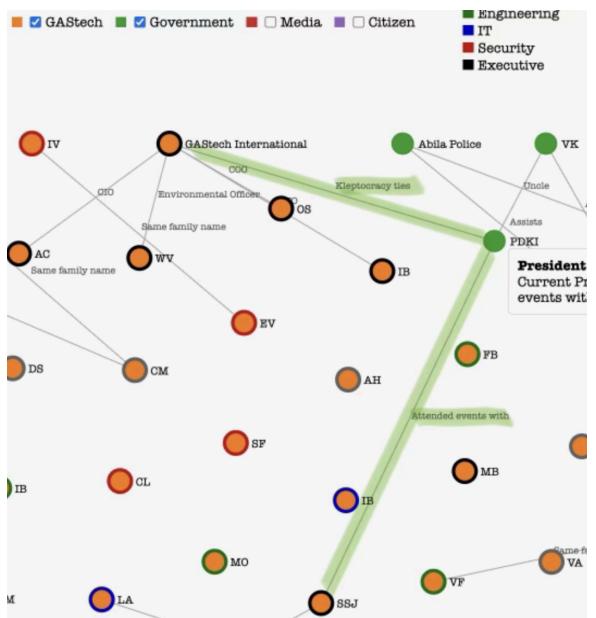
Conclusion: Our dashboard illustrates that bias in Kronos's media landscape manifests through both sentiment and coverage. Government-aligned sources tend to positively portray officials

and executives while downplaying dissenting voices. Conversely, independent or critical sources offer more negative sentiment and broader individual coverage. These trends underscore the importance of cross-source comparison when interpreting news in politically charged environments.

- 3. Given the data sources provided, use visual analytics to identify potential official and unofficial relationships among GASTech, POK, the APA, and Government. Include both personal relationships and shared goals and objectives. Provide evidence for these relationships. Please limit your answer to 6 images and 400 words**

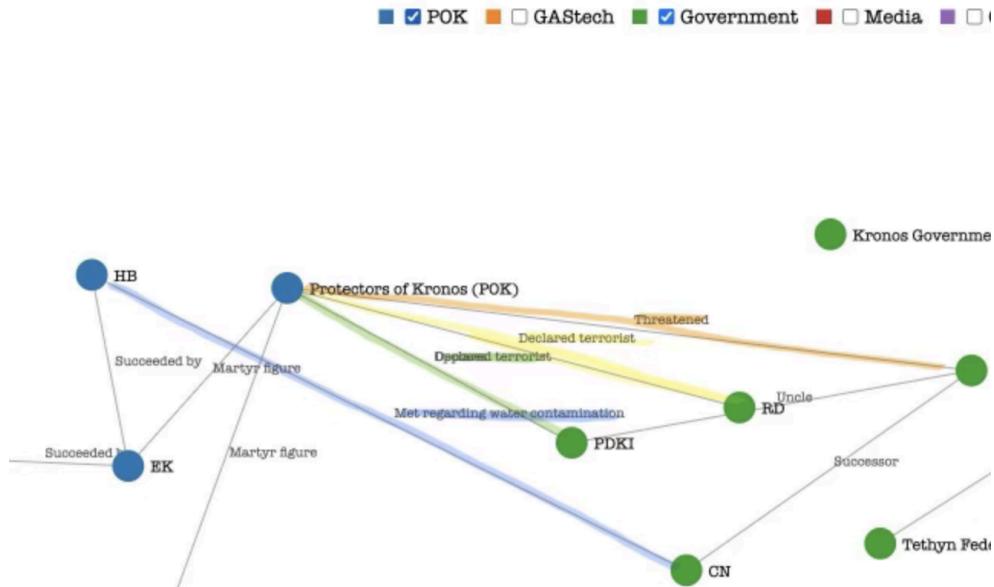
Using both the People/Org network graph and the LLM (Gemini), we identified official and unofficial relationships among four key entities: GASTech, POK, the Government, and the APA. The network graph displays individuals and organizations as nodes, with node colors representing affiliation—orange for GASTech, blue for POK, and green for Government. Edges between nodes are labeled to indicate the nature of each relationship, including personal ties, professional interactions, and political tension.

- **Government - GASTech Relationship:**



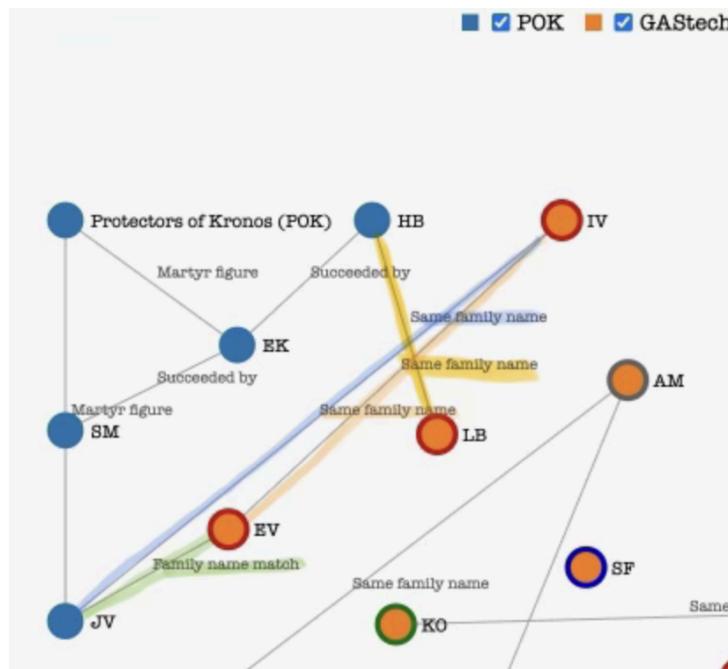
The graph shows direct ties between President Kapelou and GAStech International. The president has attended events with GAStech executives, suggesting a cooperative relationship. LLM analysis of documents indicates shared interests in foreign investments and economic development, consistent with GAStech's business operations. Both GAStech's operations and Kapelou's policies emphasize economic expansion.

- POK - Government Relationship



Visual links confirm that President Kapelou, Minister Vincent Kapelou, and spokesman Rufus Drymiau have all publicly condemned the POK as a terrorist organization. In 2009, the group was officially labeled a terrorist organization. These edges indicate an antagonistic relationship rooted in conflicting agendas - public security versus environmental activism. Conflicting objectives center on POK's environmental activism versus the government's pro-industry agenda.

- GAStech - POK relationship



Members of the GASTech security team are connected to members in POK through family name. Although not officially connected, names like Edvard Vann and Isia Vann (GASTech Security) and Juliana Vann (POK martyr) show a familial relationship, supported by the “Same family name” links. Isia Vann is the older brother of Juliana Vann. Similarly, Loreto Bodrogi at GASTech and Henk Bodrogi, early POK leader, share a surname. These overlaps in last names, especially in sensitive departments like Security, suggest unofficial, possibly concealed, connections.

- **Within GASTech**



The graph reveals several clusters of people within GASTech that are related: Varja and Linda Lagos, Henk, Minke, and Ruscella Mies, and Adan, Valeria, and Cecilia Morluniau are all linked by shared surnames. Other notable pairs include Birgitta and Vira Frente, and Elsa and Kare Orilla.

- **APA**

The screenshot shows a user interface for an LLM system. At the top, there is a light blue header bar with the text "Can you please tell me everything known about the APA?". Below this is a white content area containing a paragraph of text and a bulleted list. At the bottom, there is a search bar and a set of checked checkboxes.

Based on the provided documents, here is what is known about the APA (Asterian People's Army):

- **Activities:** The APA is described as a paramilitary organization involved in terrorist activities. It finances these activities through criminal ventures, which include drug trafficking.
- **Involvement with Drugs:** The APA is connected to the illegal drug trade.
- **Propaganda:** The APA is known for creating and distributing professional, high-quality illustrated magazines called "Arise".

Insert query here Historical_Documents Resumes FactBooks collated_sources email_headers.csv

We used the built in LLM on all of the sources to give us information on the APA. There is not much available. Both the APA and POK are mentioned in the context of the increased risk of executive kidnappings in Kronos. As the LLM told us, John Rathburn, an American expert on executive kidnappings living in Tethys, states that while Kronos was not previously known as a typical country for kidnapping, the increased activity by POK, APA, and others in the region has significantly increased this risk.