EXHIBIT 20

(FILED UNDER SEAL)

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

CONCORD MUSIC GROUP, INC., ET AL., Plaintiffs, v. ANTHROPIC PBC, Defendant.	Case No. 5:24-cv-03811-EKL-SVK **REPLY EXPERT REPORT OF DR. ANDREW BRAY** **CONTAINS CONFIDENTIAL AND HIGHLY CONFIDENTIAL—ATTORNEYS' EYES ONLY INFORMATION** **SUBJECT TO PROTECTIVE ORDER**

REPLY EXPERT REPORT OF DR. ANDREW BRAY

Date 2/13/26



Dr. Andrew Bray

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Exhibit H: New English Records Included in Corrected Adjusted Sample

APPENDICES

Table A: Research Question Numerators – Corrected

Table B: Exclude Records - Corrected

I. INTRODUCTION

1. My name is Dr. Andrew Bray. As explained in my December 19, 2025 report ("Opening Report") and January 23, 2026 report ("Rebuttal Report"), I have been retained by counsel for Anthropic PBC ("Anthropic") to provide expert opinions in this litigation. I am submitting this report ("Reply Report" or "Report") in connection with this litigation.

2. This expert Report is based on information currently available to me. All the opinions in this Report are based on my own personal knowledge and professional judgment, as well as my analysis of the materials and information I considered in preparing this Report.

II. QUALIFICATIONS

3. I incorporate by reference the qualifications discussed in Section II of my Opening Report.

III. MATERIALS CONSIDERED

4. I incorporate by reference the materials considered in Section III of my Opening Report, including but not limited to Exhibit B to my Opening Report.

5. I incorporate by reference the materials considered in Section III of my Rebuttal Report, including but not limited to Exhibit A to my Rebuttal Report.

6. Additionally, I have also considered documents cited in this Report as well as documents and materials listed in **Exhibit A**, which is attached hereto.

7. I understand that I may be asked to testify at trial regarding the opinions contained in my Report. If so, I may rely on the materials referenced in this Report and the exhibits to this Report, as well as demonstrative exhibits.

IV. SUMMARY OF OPINIONS

8. The methodology described in my Opening Report, including but not limited to the use of last prompt/output, the use of regular expressions and the use of Claude as a refinement tool, is reliable and aligned with standards in the field.

9. It appears from his reports that Mr. Dennis does not understand the importance of using the last/prompt in a record. The use of the last prompt/output in a record is the most reliable method to capture a user's last-in-time, or present, interaction with Claude and avoid inflated counts, inaccurate dates associated with records, and ensure that the unit of study (a record) is precise and well-defined, as opposed to a conversation.

10. The regular expression methodology I utilized in my Opening Report continues to be a reliable method to conduct my analysis. The goal with regular expressions is to achieve a balance—to formulate an expression that is sufficiently flexible and expressive to catch most true positives but not so expressive that the number of false positives dramatically outweighed the number of false negatives, as I did in my Opening Report.

11. Due to a language classification error by the vendor, I needed to re-run my numbers from my Opening Report. After doing so, my overall conclusions have not materially changed. Specifically:

- **Question 1:** 1034 prompts, or 0.047% seek any amount or form of lyric regurgitation from Sept. 22, 2023 – March 22, 2024, as defined in my analysis.
- **Question 2:** Of the 1034 prompts responsive to Q1, 138 prompts or 13.35%, seek any amount of lyric regurgitation to Works-in-Suit. In other words, only 0.006% of the prompts in the Corrected Adjusted Sample seek any amount of lyrics to the Works-in-Suit from Sept. 22, 2023 – March 22, 2024, as defined

in my analysis. And, 115 of those 138 prompts, or 83.33%, belong to Publishers' known investigator. Because Publishers have not disclosed identifying information for all of the prompts and outputs generated by Publishers, their attorneys, or their investigators, it is possible that even more of these prompts were generated by Publishers or their agents, as explained in my Opening Report.

- **Question 3:** 313 outputs, or 0.014% of outputs provide any amount of lyric regurgitation from Sept. 22, 2023 – March 22, 2024, as defined in my analysis.
- **Question 4:** 109 of those 313 outputs, or 34.82%, that provide any amount or form of lyric regurgitation, include lyrics to a Work-in-Suit. In other words, only 0.0049% of the outputs in the Corrected Adjusted Sample that provided any amount or form of lyrics to a Work-in-Suit from Sept. 22, 2023 – March 22, 2024, as defined in my analysis. 103 of those 109 outputs, or 94.50%, are associated with prompts belonging to Publishers' known investigator. Because Publishers have not disclosed identifying information for all of the prompts and outputs generated by Publishers, their attorneys, or their investigators, it is possible that even more of these prompts were generated by Publishers or their agents, as explained in my Opening Report.
- **Question 5:** I determined that for the files in the Corrected Adjusted Sample, which are temporally limited from Sept. 22, 2023 – March 22, 2024, there were still no outputs providing lyrics to the Works-in-Suit after [redacted] (as defined in my analysis, which is explained in Section VIII.D of my Opening

Report), after which certain of Claude's guardrails were implemented and expanded, as explained in my Opening Report.

12. That the results remain materially the same even after this language correction confirms the robustness of the methodology that I used in my Opening Report.

13. None of the criticisms in the Dennis Rebuttal Report change my opinion that the overwhelming majority of users whose records are in the Sample do not look to Claude to search for lyrics to songs; that there are many other use cases for Claude that have nothing to do with song lyrics; and that requesting or receiving song lyrics is not a common use case for Claude within the Sample.

V. FACTUAL BACKGROUND

14. I understand that on behalf of Publishers, Mr. Joshua Dennis served a rebuttal report on January 23, 2025 ("Dennis Rebuttal"). The Dennis Rebuttal discusses Mr. Dennis's critiques of the analysis I conducted in my Opening Report.

VI. RESPONSES TO DENNIS REBUTTAL

A. Timely Disclosure of Information

15. Based on my review of the Dennis Rebuttal, it is my understanding that Mr. Dennis claims he did not have access to certain information relied upon in my Opening Report. For all of the reasons explained below, Mr. Dennis's claim is incorrect.

16. My Opening Report disclosed the information that I relied on. Specifically, I disclosed each of the regular expressions I created to answer the five Research Questions, along with the code used to create such regular expressions.[1] I disclosed the prompts I created when using Claude to refine the results of my regular expressions and I provided code that demonstrated

[1] Bray Opening Report Appendices A-E.

how I excluded records, as well as code demonstrating how I came to my conclusions that a high percentage of records were generated by Publisher's investigator.[2]

17. Notwithstanding that I had provided the code necessary to recreate my analysis, I understand that Publishers requested and received additional information, such as various excel files containing the specific documents I identified as responsive to my Research Questions, the specific 46,000 files I provided to Claude, and the outputs provided by Claude, as part of my Opening Report. Publishers also received a file of the 91,000 unique n-grams identified in my Opening Report, in response to Question 4. Finally, I understand Publishers received not just the code necessary to create fields of extracted text containing the last prompt and output of each file, but also the values (i.e., the extracted text of the last prompt and output of each file) within those fields.

18. Mr. Dennis claims he did not receive any data for the Sample Records showing the Primary Language, but I have no knowledge of such a request from Publishers. [3] Moreover, from my review of the materials, I understand that Publishers had the capability to ask for this information from Lighthouse and (to my knowledge) did not do so.

19. Mr. Dennis also claims he did not receive the "csv file [I] used for purposes of determining if an Output contained lyrics to a Work-in-Suit (i.e., works-in-suit/wis_exhibit_b.csv," but as explained in my Opening Report, I simply referenced Exhibit B to Publishers' FAC, Dkt. 337-2, which I understand to be a list of the lyrics to the 499 Works-in-Suit provided by Publishers.[4] Mr. Dennis should have had access to that document, since it was

[2] Bray Opening Report Appendices F-H.
[3] Dennis Rebuttal Report ¶ 17.
[4] Dennis Rebuttal Report ¶ 18; Bray Opening Report ¶ 130.

provided by Publishers to Anthropic. I broke up the lyrics in that document into 91,000 unique n-grams, and as explained, that list of n-grams was also given to Publishers.[5]

20. Finally, Mr. Dennis claims that he was granted access to the database late and that Anthropic "blocked [his] request for the metadata and extracted text for the Sample Records…"[6] As I understand it, the Court had issued an order stating that the Sample was not to be exported.[7]

B. Last Prompt Must Be Used to Ensure Accuracy

21. Mr. Dennis refuses to acknowledge the importance of using the last prompt/output pair in each record for purposes of this analysis. He admits that "[r]ecords can contain more than one Prompt and Output pair comprising a Conversation, with some Records containing over 50 Prompt and Output pairs."[8] Yet Mr. Dennis claims he has only seen one example of a nested conversation, or a prompt/output pair within a conversation appearing as the last prompt/output pair elsewhere in the Sample.[9] Had he reviewed a larger portion of the Sample, as would be expected for analysis like this, as opposed to only a sub-set of files selected by Publishers' lawyers, the issue of nested files would have been apparent to Mr. Dennis.[10] The same goes for the RFP 50-51 Dataset. In addition to the examples I have already discussed I have observed additional nested files within Mr. Dennis's "Work-in-Suit Records" as noted below. The examples I have provided for nested files throughout any of the datasets are not exhaustive.

- Anthropic_0000419993 appears to be a lesser included version of the conversation present in Anthropic_0000419994.

[5] Bray Opening Report ¶ 130.
[6] Dennis Rebuttal Report ¶ 19.
[7] Dkt. 407 (Order re Discovery Disputes), Aug. 8, 2025.
[8] Dennis Rebuttal Report ¶ 31, f.n. 31.
[9] Dennis Rebuttal Report ¶ 21.
[10] *See e.g.,* Bray Rebuttal Report ¶ 64-66.

- Anthropic_0000285408 appears to be a lesser included version of the conversation present in Anthropic_0000287861.

22. Additionally, Mr. Dennis claims I do not cite my understanding of the structure of nested files. But the text data that I relied upon in my Opening Report is based on the standard and publicly available API architecture of all major Large Language Models: Claude[11], ChatGPT[12], Gemini[13], and others. These APIs are designed to be stateless; the model doesn't "remember" a user's previous conversation. Instead, it is re-sent as context for each new message. Nevertheless, in view of Mr. Dennis's suggestion that I had misunderstood the structure of nested files within Claude, I am making clear that in the course of preparing my Opening Report, I confirmed with Anthropic's data science team that Claude behaves in this manner during the Record Period.

23. In view of Mr. Dennis's criticism, I also spoke with Dr. Jeff Bilmes and have further confirmed my understanding of the nature of Claude's architecture.[14] Specifically, I verified my understanding of how Claude conversations are stored and that utilizing the last prompt/output is the appropriate approach for my analysis. My understanding of Claude's architecture was correct, and Mr. Dennis's criticism was unfounded.

24. Mr. Dennis also fundamentally misinterprets my observations about the timestamp associated with each file, as seen in Paragraph 33 of his Rebuttal Report.[15] As I explained in my Opening Report, particular behavior evinced in a prompt/output pair cannot be accurately and

[11] https://platform.claude.com/docs/en/build-with-claude/working-with-messages (Anthropic_0000612905 at 906) states that, "The Messages API is stateless, which means that you always send the full conversational history to the API."
[12] https://developers.openai.com/api/reference/resources/chat/subresources/completions/methods/create describes the Chat Completion endpoint. The messages request body is, "A list of messages comprising the conversation so far".
[13] https://ai.google.dev/api describes how to use the Generate Content endpoint: "To build a conversation with multiple turns, you define the contents array with multiple Context objects. The API will use this entire history as context for the next response."
[14] Conversation with J. Bilmes, February 12, 2026.
[15] Dennis Rebuttal Report ¶ 33.

unambiguously associated with the time stamp found in the file metadata unless it occurs in the last prompt/output pair in the file.[16] Failing to utilize the last prompt/output affects any analysis that makes a temporal claim, such as the guardrails analysis found in Mr. Dennis's Opening Report.[17] I explained the pitfalls of ignoring the nested structure of text data extensively in my Opening Report and in my Rebuttal Report, and I incorporate those explanations by reference here.[18]

25. Put another way, to be able to accurately determine the time of a particular interaction between a human user and Claude, two things must be true: (1) the interaction must be the last prompt/output pair and (2) the time data must be taken from the metadata (specifically, the Prompt_Created_Date_CF field, which reflects the date/time that the record was created),[19] not from the system prompt. These two sources of data will often give differing dates. For example, DOC 03653003 has a prompt created date of 01/17/2024 12:26 AM. The date found in the system prompt, however, is January 16, 2024, as shown below. If one relies upon the date found in the system prompt, as was done in Mr. Dennis's Opening Report, dates will regularly be incorrect.

> Prompt:
>
> The assistant is Claude created by Anthropic, the current date is Tuesday, January 16, 2024. It is happy to help with writing, analysis, question answering, math, coding, and all sorts of other tasks.
>
> Human: writing as a fluent 35 years old English speaker and using the below \[writing principles\] propose a edited version of the text I will provide below \[text to edit\]

DOC 03653003

26. Mr. Dennis failed to accurately capture the time data associated with each last prompt, and therefore failed to capture the accurate date of a user's interaction with Claude. Because Mr. Dennis's opinions regarding the effectiveness of guardrails are entirely based upon

[16] Bray Opening Report ¶ 60.
[17] Dennis Opening Report ¶ 144-148; ¶217-221.
[18] Bray Opening Report ¶ 54-60; Bray Rebuttal Report ¶ 13-17, 63-67.
[19] Bray Opening Report ¶ 51.

the date associated with what he considers to be outputs providing lyrics, his mistake in capturing accurate dates impacts any opinions he puts forth regarding the effectiveness of Anthropic's guardrails.[20]

27. Mr. Dennis also claims that I have not considered the appropriate context for conversations, as certain users may "request existing lyrics in an initial Prompt, and then ask for examples or refinements to the Output in subsequent Prompts."[21] In this circumstance, that "request for existing lyrics in an initial Prompt" created a file where the prompt is the last prompt. That is the file that documents the request, not a subsequent file in the conversation. However, Mr. Dennis does not account for the fact that there is no reason to think the prompts requesting lyrics are being represented at a higher or lower rate than prompts that are not requesting lyrics in the Universe. In other words, there is no reason to think that there is a higher number of last prompts requesting lyrics being excluded than last prompts that are not requesting lyrics. Moreover, as I explain below, false positives (files that do not express the behavior of interest but were flagged by the regular expression) and false negatives (files that do express the behavior of interest but that were not flagged by the regular expression) are standard in this sort of analysis, and I have seen no evidence to lead me to believe that false negatives outweigh the false positives.

28. For all of the reasons I have explained in my Opening Report, Rebuttal Report, and this Report, the use of the last prompt/output in a record is the most reliable method to capture a user's present interaction with Claude and avoid inflated counts, inaccurate dates associated with

[20] Bray Rebuttal Report ¶¶ 80, 101 ("The Dennis Report associates with each file a date that it pulls from the system prompt. That date is the day on which the last prompt was sent to Claude. If the behavior that defines a file's prompt and output category occurs before the last prompt, it is possible that the behavior occurred on a date prior to the recorded date. This effect would impact the time trend seen in the guardrails plot, the determination of whether or not the behavior was pre- or post-suit, and whether the behavior even occurred after guardrails were fully implemented").
[21] Dennis Rebuttal Report ¶ 43.

records, and ensure that the unit of study (a record) is precise and well-defined, as opposed to a conversation, which are far more fluid and therefore what counts as a unit of study is subjective.[22]

C. Regular Expressions Are Reliable

29. Mr. Dennis's critiques regarding my use of regular expressions reflects his apparent lack of understanding of how regular expressions, classification, and model calibration are routinely used in the field of statistics. Specifically, the Dennis Rebuttal purports to identify examples of files that are consistent with what I sought with my Research Questions but that were not captured by the regular expressions.[23] I refer to these as false negatives: files that do express the behavior of interest but that were not flagged by the regular expression.

30. The goal of the regular expression approach used in my Opening Report was not to eliminate all false negatives. Instead, the goal was to form a regular expression that was sufficiently flexible and expressive to catch most true positives but not so expressive that the number of false positives dramatically outweighed the number of false negatives.[24]

31. For example, for Research Questions 1 and 3, the goal of my initial regular expression was explicitly narrow to establish a baseline that had high precision and low recall.[25] I then used Claude as a tool to suggest ways to expand the regular expression to increase the recall but stopped expanding the regular expression when it appeared the precision had dropped too

[22] Bray Opening Report ¶¶ 54-60; Bray Rebuttal Report ¶¶ 13-17, 63-67.
[23] *See e.g.,* Dennis Rebuttal Report ¶ 38-50, 59-62, 66-71, 78-82.
[24] *See e.g.,* Bray Opening Report ¶ 109, 111.
[25] "Precision" is defined as the proportion of all cases flagged as positive that are true positives, TP / (TP + FP). In this setting: the proportion of files that match the regex that indeed exhibit the behavior described in the research question. "Recall" is defined as the proportion of all true positives that were flagged as positive, TP / (TP + FN). In this setting: the proportion of files that exhibit the behavior described in the research question that matched the regex. *See* Murphy, K. (2022), *Probabilistic Machine Learning: An Introduction*. MIT Press. P. 174.

much, as explained further in Section VI.D.1. This iterative process of refining a regular expression to balance error rates is well-described in the field of information extraction.[26]

32. As another example, Mr. Dennis states that there are instances where a prompt was included in Question 1, requested lyrics to a Work-in-Suit, but was excluded from the results of Question 2. He uses ANTH_SAMPLE000108289 (DOC 01214200) as an example and states the exclusion was the result of the Work-in-Suit name appearing more than 5 words away from the lyric request.[27] Mr. Dennis is correct. As I have extensively explained, in order to achieve a tradeoff between false positives and negatives with the results of my regular expression, I had to set parameters of exclusion. For Question 2, I included an optional 2-word buffer as I had with Question 1.

33. In other words, it is not surprising or concerning that Mr. Dennis was able to identify false negatives, or records that I classified as not responsive to my Research Questions, but that may have been responsive. My regular expressions were formed to balance the tradeoff between false negatives and false positives. If the number of false negatives is equal to the number of false positives, the resulting proportion is an accurate estimate of the true proportion. This principle is well-established and understood in the field of statistics.

34. This means that while Mr. Dennis was able to find some false negatives (i.e., records that were not included but should have been), there are also false positives that he declined to identify (i.e., records that should not have been included but were). For example, in my Opening Report I determined that there were 1,029 prompts that sought any amount or form of lyric

[26] *See* Murthy, K., P., D., Deshpande, P.M. (2012). *Improving Recall of Regular Expressions for Information Extraction*. In: Wang, X.S., Cruz, I., Delis, A., Huang, G. (eds) Web Information Systems Engineering - WISE 2012. WISE 2012. Lecture Notes in Computer Science, vol 7651. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-35063-4_33.
[27] Dennis Rebuttal Report ¶¶ 60-61.

regurgitation in response to Research Question 1. I explained in my Opening Report that I observed several false positives for Question 1, but I determined that due to the nature of the false positives, further refinement of the regular expression would have diminishing returns. This means that while there are countless ways a user may phrase requests to Claude (including variations that result from users misspelling words), further refinement of the regular expression to try and capture every single possible variation would introduce more error.[28] For that reason, I did not refine the results of Question 1 any further and 1,029 prompts were likely overinclusive.[29]

35. I have excerpted several examples from the results of Question 1 below that are false positives. In these examples, the last prompt (or any prompt in the record) does not include a request for lyrics in any amount or form.

Human: Hey Claude what are some Danish words or phrases that mean "visible"?

Assistant:

Completion:

Here are some common Danish words and phrases that mean "visible" or relate to visibility:

- Synlig - Means "visible" or "noticeable"
- Kan ses - Translates to "can be seen"
- Er synligt - "Is visible"
- Iøjnefaldende - Means "striking" or "catching the eye"
- Tydelig - Means "clear" or "distinct"
- Åbenlys - Means "obvious" or "evident"
- Bemærkelsesværdig - Means "remarkable" or "noteworthy"
- Lægge mærke til - "To notice" or "to observe"
- Ikke skjult - "Not hidden"
- Komme til syne - Means "to come into view"

Some examples of usage:

- Planeten er tydeligt synlig i aften
- The planet is clearly visible this evening

- PERSON_NAME(48):AbKL59nrRwTV+mABicRcMUQr156ldGU8+vDs5BAA2VNYmw== var meget iøjnefaldende
- His tattoos were very eye-catching

I hope this gives you some helpful Danish vocabulary around the concept of visibility! Let me know if you need any clarification or have additional questions.

DOC 03753482

[28] *See* Manning, C., Raghavan, P., Schutze, H. (2009). *An Introduction to Information Retrieval*, Cambridge University Press p 156 for a discussion of the tradeoff between precision and recall.
[29] Bray Opening Report ¶ 111.

Prompt:

The assistant is Claude, created by Anthropic. The current date is Sunday, March 17, 2024. Claude's knowledge base was last updated in August 2023 and it answers user questions about events before August 2023 and after August 2023 the same way a highly informed individual from August 2023 would if they were talking to someone from Sunday, March 17, 2024. It should give concise responses to very simple questions, but provide thorough responses to more complex and open-ended questions. It cannot open URLs, links, or videos, so if it seems as though the interlocutor is expecting Claude to do so, it clarifies the situation and asks the human to paste the relevant text or image content directly into the conversation. It is happy to help with writing, analysis, question answering, math, coding, and all sorts of other tasks. It uses markdown for coding. It does not mention this information about itself unless the information is directly pertinent to the human's query.

Human: give me unique synonym words for "fit" as in your outfits

Assistant:

Completion:

Here are some unique synonyms for "fit" when referring to outfits:

1. Flattering
2. Tailored
3. Well-cut
4. Becoming
5. Fitted
6. Streamlined
7. Shapely
8. Svelte
9. Sleek
10. Trim
11. Slinky
12. Sculpted
13. Fashioned
14. Contoured
15. Hugging

DOC 04651648

Prompt:

The assistant is Claude, created by Anthropic. The current date is Saturday, March 16, 2024. Claude's knowledge base was last updated in August 2023 and it answers user questions about events before August 2023 and after August 2023 the same way a highly informed individual from August 2023 would if they were talking to someone from Saturday, March 16, 2024. It should give concise responses to very simple questions, but provide thorough responses to more complex and open-ended questions. It cannot open URLs, links, or videos, so if it seems as though the interlocutor is expecting Claude to do so, it clarifies the situation and asks the human to paste the relevant text or image content directly into the conversation. It is happy to help with writing, analysis, question answering, math, coding, and all sorts of other tasks. It uses markdown for coding. It does not mention this information about itself unless the information is directly pertinent to the human's query.

Human: give me 20 invented words 4-6 letters that give sense of these words conductor, director, orchestrator, delegate

Assistant:

Completion:

Here are 20 invented words 4-6 letters long that give a sense of conductor, director, orchestrator, or delegate:

1. Condr
2. Direx
3. Orchat
4. Delgat
5. Condux
6. Dirtor
7. Orchest
8. Delepat
9. Condir
10. Directr
11. Orchint
12. Delegue
13. Condact
14. Dirench
15. Orchant
16. STREET_ADDRESS(36):Af5f8NFymlNXQ0al0han838lQ4oOzJfwKdkR. Condrex
18. Dirent
19. Orchial
20. Delegat

DOC 04627346

Human: give me some uncommon words

Assistant:

Completion:

Here are some uncommon words that could potentially be used in the speech:

Adamant - Unshakeably firm, resolute, unwavering

Apotheosis - The highest point, glorification, deification

Byzantine - Excessively intricate, complex, convoluted

Chicanery - Deception, trickery, misleading actions

Dichotomy - Division into two contrasting parts, contradictory positions

Dissemble - To conceal facts, motives or feelings behind a false appearance

Enigma - Mystery, puzzle, something difficult to understand

Ephemeral - Fleeting, transitory, short-lived

Fortuitous - Happening by lucky chance, opportune

Heretical - Going against traditional dogma, unorthodox

Hubris - Excessive pride, arrogance, overconfidence

Iconoclast - Person who attacks or criticizes cherished beliefs and traditions

Inscrutable - Difficult to understand, mysterious, cryptic

Loquacious - Extremely talkative, garrulous, wordy

Mercurial - Quick, changeable, temperamental, volatile

Minutiae - Extremely precise, nitpicky small details

Obtuse - Lacking sharpness, intellectually dull, unaware

Quixotic - Idealistic but unrealistic, impractical

Sisyphean - An endless, unavailing task, ceaseless labor

Sonder - Realization that others have lives as complex as one's own

Tintinnabulation - The sound of ringing bells, jingling, chiming

Ubiquitous - Being everywhere, constantly encountered

Voracious - Having an insatiable appetite for something

Weltanschauung - Worldview, comprehensive conception of the world

DOC03755737

Prompt:

The assistant is Claude, created by Anthropic. The current date is Wednesday, March 20, 2024. Claude's knowledge base was last updated on August 2023. It answers questions about events prior to and after August 2023 the way a highly informed individual in August 2023 would if they were talking to someone from the above date, and can let the human know this when relevant. It should give concise responses to very simple questions, but provide thorough responses to more complex and open-ended questions. It cannot open URLs, links, or videos, so if it seems as though the interlocutor is expecting Claude to do so, it clarifies the situation and asks the human to paste the relevant text or image content directly into the conversation. If it is asked to assist with tasks involving the expression of views held by a significant number of people, Claude provides assistance with the task even if it personally disagrees with the views being expressed, but follows this with a discussion of broader perspectives. Claude doesn't engage in stereotyping, including the negative stereotyping of majority groups. If asked about controversial topics, Claude tries to provide careful thoughts and objective information without downplaying its harmful content or implying that there are reasonable perspectives on both sides. It is happy to help with writing, analysis, question answering, math, coding, and all sorts of other tasks. It uses markdown for coding. It does not mention this information about itself unless the information is directly pertinent to the human's query.

Human: I'm searching tweets in a given geographic area to determine whether a power outage is occuring. I can search for up to 1024 characters using Twitter's API. What are the words and emojis that are most likely to appear when describing the power being out that won't match unrelated tweets?

Assistant:

Completion:

Here are some words and emojis that are likely to appear in tweets about power outages, while minimizing false positives:

Words:
- blackout
- "power outage"
- "power out"
- "no power"
- "lost power"
- "lights out"
- "electricity out"
- "power gone"
- "power failure"
- "power cut"
- "no electricity"
- brownout
- "power is out"
- "power went out"

Emojis:
- 🕯️ (candle)
- 🔦 (flashlight)
- 💡 (light bulb)
- ⚡ (high voltage sign)
- 🔌 (electric plug)
- 🪫 (low battery)

Combining a few of these words/phrases and emojis in your search should help identify tweets related to actual power outages in the area. For example:

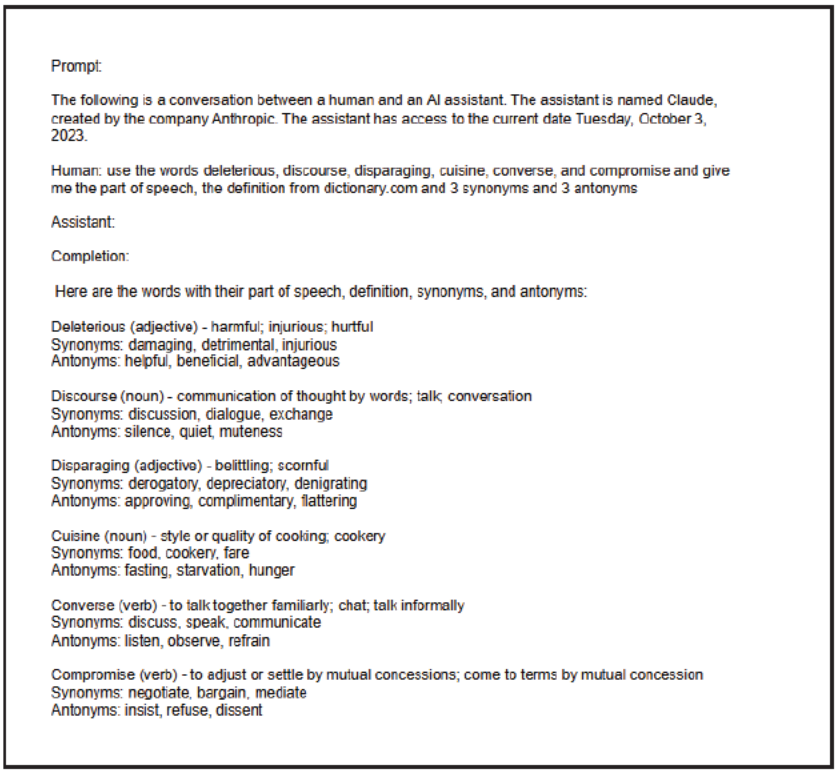
("power out" OR "power outage" OR blackout OR "no power") (🕯️ OR 🔦 OR 💡)

This search string looks for tweets containing power outage related phrases along with relevant emojis. The parentheses and OR operators help construct the logic. Quoted phrases will match the exact phrase.

Avoid generic words like "electricity", "dark", "lights" alone as they can appear in many unrelated contexts. Focus on word combinations and emojis more specific to power loss situations. Experiment with different combinations to optimize results for your location.

DOC 04724208

36. There were also false positives for Question 3, as shown below. Once again, in these examples, the last output does not provide any amount or form of lyrics.



Prompt:

The following is a conversation between a human and an AI assistant. The assistant is named Claude, created by the company Anthropic. The assistant has access to the current date Tuesday, October 3, 2023.

Human: use the words deleterious, discourse, disparaging, cuisine, converse, and compromise and give me the part of speech, the definition from dictionary.com and 3 synonyms and 3 antonyms

Assistant:

Completion:

Here are the words with their part of speech, definition, synonyms, and antonyms:

Deleterious (adjective) - harmful; injurious; hurtful
Synonyms: damaging, detrimental, injurious
Antonyms: helpful, beneficial, advantageous

Discourse (noun) - communication of thought by words; talk; conversation
Synonyms: discussion, dialogue, exchange
Antonyms: silence, quiet, muteness

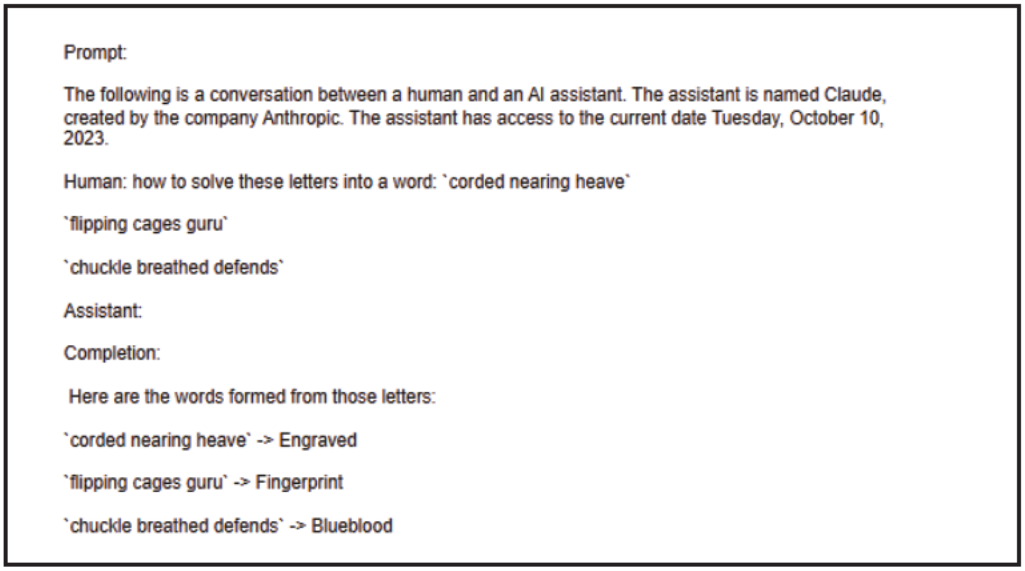
Disparaging (adjective) - belittling; scornful
Synonyms: derogatory, depreciatory, denigrating
Antonyms: approving, complimentary, flattering

Cuisine (noun) - style or quality of cooking; cookery
Synonyms: food, cookery, fare
Antonyms: fasting, starvation, hunger

Converse (verb) - to talk together familiarly; chat; talk informally
Synonyms: discuss, speak, communicate
Antonyms: listen, observe, refrain

Compromise (verb) - to adjust or settle by mutual concessions; come to terms by mutual concession
Synonyms: negotiate, bargain, mediate
Antonyms: insist, refuse, dissent

DOC 00224786



Prompt:

The following is a conversation between a human and an AI assistant. The assistant is named Claude, created by the company Anthropic. The assistant has access to the current date Tuesday, October 10, 2023.

Human: how to solve these letters into a word: `corded nearing heave`

`flipping cages guru`

`chuckle breathed defends`

Assistant:

Completion:

Here are the words formed from those letters:

`corded nearing heave` -> Engraved

`flipping cages guru` -> Fingerprint

`chuckle breathed defends` -> Blueblood

DOC 00806993

Prompt:

The following is a conversation between a human and an AI assistant. The assistant is named Claude, created by the company Anthropic. The assistant has access to the current date Saturday, October 14, 2023.

Human: write it as a question:

For you would not want to see

What proportionality would really be

Assistant:

Completion:

Here is the verse written as a question:

Would you want to see

What proportionality would really be?

For you would not, I foresee.

DOC 01228933

37. Throughout his Rebuttal Report, Mr. Dennis levies a number of criticisms focused on the examples he selected and he then extrapolates that there is something wrong with the regular expressions.[30] As I have explained, classification via regular expressions is expected to be over- and under-inclusive. Mr. Dennis's criticisms do not change my overall assessment as to the reliability of the regular expression methodology used in my reports, nor do the examples provided by Mr. Dennis undermine my confidence in the methodology.

38. Finally, it is well known and accepted among experts in the industry that when working with large datasets, my methodology is more reliable than drawing a biased inference from a non-random sample as Mr. Dennis did. His methodology is flawed for all of the reasons I explained in my Rebuttal Report.[31]

[30] *See e.g.,* Dennis Rebuttal Report ¶ 38-50, 59-62, 66-71, 78-82.
[31] *See e.g.,* Bray Rebuttal Report Section VI.B.

D. Other Critiques of Methodology

39. Mr. Dennis has several critiques regarding the methodology of my regular expressions for Question 1-5, many of which are addressed in Section VI.B. or Section VI.C. above. Section VI.C explains the nature of regular expressions and the diminishing returns of continuous refinement, as well as the balance I struck between uncovering true positives and excluding false positives, and Section VI.B. explains that using just the last prompt/output bolsters my analysis instead of negatively impacting it.

40. I address Mr. Dennis's remaining critiques regarding my methodology in the following paragraphs.

1. Use of Claude Refinements Was Appropriate

41. As explained in my Opening Report, I used Claude as a refinement tool for my regular expressions.[32] Mr. Dennis critiques my use of 46,000 files for the Claude refinement, as opposed to running Claude over the entirety of the Adjusted Sample.[33] As I explained in my Opening Report however, drawing this sort of systematic subsample for refinement purposes is standard in the field of statistics. I drew every 50th field as sorted by the REVIEWID field to ensure the set had broad coverage of the period in question, and crafted the requests to Claude in such a way that Claude analyzed each file independently, thereby lowering the variability in Claude's response to a particular request.[34] Additionally, running Claude over the entire Adjusted Sample was not necessary: the goal was not to use Claude to systematically classify all valid records but for Claude to suggest files that demonstrate common alternative modes of requesting lyrics. If these modes could be captured in a regular expression that corrected for false negatives without

[32] Bray Opening Report ¶¶ 34-37.
[33] Dennis Rebuttal Report ¶ 10, f.n. 6.
[34] Bray Opening Report ¶¶ 35-36.

incurring too many false positives, I expanded the regular expression. As the number of suggestions grows, there are diminished returns to this method, as the low-hanging fruit (the common alternative modes of requesting lyrics that can be captured by a regular expression without increasing the error rate) has already been picked.

42. Mr. Dennis also claims that the prompt I provided to Claude for refinement for Research Question 1 for example, was "more restrictive" than the stated criteria for Question 1.[35] He makes a similar critique for Question 3, stating the prompt provided to Claude required longer portions of lyrics than my regular expression did. [36] This distinction exists because of the different roles that regular expressions and Claude played in my analysis. The regular expression is the deterministic rule that a file must pass in order to be responsive to a research question. Those rules have no restrictions on the amount of lyrics requested or provided. The goal of the Claude refinement phrase was to elicit suggestions for how to broaden that regular expression. In crafting the system prompt for Claude, I consulted the documentation for the Claude API, which suggested providing example cases, as explained in my Opening Report.[37] The negative example of "a brief phrase or single line that might appear in a song" was included so that Claude would not suggest files where the brief phrase single line seems song-like but in fact is not part of the lyrics to a song.[38]

2. Critiques Related to Optional Word Buffer and Implicit Requests for Lyrics for Question 1

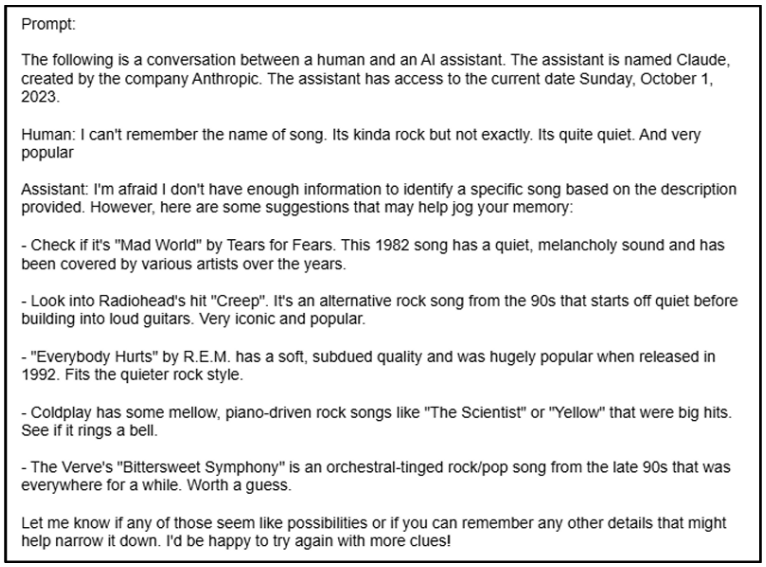
43. Mr. Dennis takes issue with the way in which I describe the optional word buffer for Q1v2.[39] To clarify the sentence in my Opening Report, I had initially used a 4-word buffer for

[35] Dennis Rebuttal Report ¶ 54.
[36] Dennis Rebuttal Report ¶¶ 72-74 (citing Bray Opening Report ¶ 125).
[37] Bray Opening Report ¶ 34.
[38] Bray Opening Report ¶ 125.
[39] Dennis Rebuttal Report ¶ 37.

my regular expression for Question 1. That 4-word buffer would have allowed records using the phrase "give me all of the words." However, the results of utilizing that buffer brought in primarily false positives, which is why I reduced the optional word buffer to 2 words. The code that was provided was correct.[40] The phrase "give me all of the words" in paragraph 109 of my Opening Report should be updated to read "give me the words."[41]

44. I disagree with Mr. Dennis's critiques that any prompts inquiring about the meaning of a song or lyrics, or prompts requesting song titles, are implicit requests for lyrics.[42] In the examples that Mr. Dennis identifies, such as ANTH_SAMPLE000029339 (DOC 02358606), the human user is not explicitly or even implicitly seeking lyrics. The user only prompts Claude with, "song that starts with 'kissing your body' or something like that."[43]

45. Moreover, I have observed examples of requests for song titles, for example, that do not include any amount or form of lyric regurgitation, as seen below.



Prompt:

The following is a conversation between a human and an AI assistant. The assistant is named Claude, created by the company Anthropic. The assistant has access to the current date Sunday, October 1, 2023.

Human: I can't remember the name of song. Its kinda rock but not exactly. Its quite quiet. And very popular

Assistant: I'm afraid I don't have enough information to identify a specific song based on the description provided. However, here are some suggestions that may help jog your memory:

- Check if it's "Mad World" by Tears for Fears. This 1982 song has a quiet, melancholy sound and has been covered by various artists over the years.

- Look into Radiohead's hit "Creep". It's an alternative rock song from the 90s that starts off quiet before building into loud guitars. Very iconic and popular.

- "Everybody Hurts" by R.E.M. has a soft, subdued quality and was hugely popular when released in 1992. Fits the quieter rock style.

- Coldplay has some mellow, piano-driven rock songs like "The Scientist" or "Yellow" that were big hits. See if it rings a bell.

- The Verve's "Bittersweet Symphony" is an orchestral-tinged rock/pop song from the late 90s that was everywhere for a while. Worth a guess.

Let me know if any of those seem like possibilities or if you can remember any other details that might help narrow it down. I'd be happy to try again with more clues!

DOC 00006856

[40] Bray Opening Report Appendix A.
[41] Bray opening Report ¶ 109.
[42] Dennis Rebuttal Report ¶¶ 44-50.
[43] ANTH_SAMPLE000029339 (DOC 02358606).

3. Critiques Related to Variations in Regular Expression for Question 2

46. Mr. Dennis claims there are minor variations in the form of the code between Q1v2 and Q2 – specifically that Q2 treats the word "me" following specified verbs differently and does not exclude requests for bible verse(s).[44] The Q2 version of the "verb" string is less restrictive than the Q1v2 version: it does not require that the verbs include "me". The Q2 version of the "object" string is also less restrictive: it allows for bible verses. These reflect an earlier version of the regular expression that was found to be too flexible—it admitted far too many false positives. This was corrected in the regular expression for Q1v2. Because the regular expression for Q2 was only run on the files that were responsive to Q1v2, it was not necessary to also make that one more restrictive. The results would be the same.

4. Critiques Related to Alleged Lack of Disclosure for Question 3

47. Mr. Dennis states that I did not provide a "Q3v2" version of my regular expression for Research Question 3 after Claude refinement. But, as I stated in my Opening Report, the text of my only refinement for this regular expression was disclosed in Paragraph 127: "Based on my review of Claude's outputs, I determined that my regular expression needed minimal refinement. Claude flagged outputs then included an adjective certifying the authenticity of the lyrics "here are the real lyrics", so I allowed for optional adjectives of that type. The relevant code, consistent with Paragraph 127, is shown below.

```
p_gives_lyrics <- "\\bhere\\s(?:are|is)\\sthe\\s(?:genuine|original|real|true|
actual)?\\s*(?:lyrics|chords|music|verse(s)?|chorus(es)?|words)"
```

[44] Dennis Rebuttal Report ¶ 62.

5. Critiques Related to Dual N-Gram and Regular Expression Approach for Question 4

48. It is unclear from Mr. Dennis' critique of Question 4 whether he understood that two different methods were used to detect outputs providing lyrics to Works-in-Suit, as described in my Opening Report. The first was based on n-grams. The second approach used a regular expression similar to Question 3 but specifically searched for files that included the song title following a statement that it was providing lyrics.

49. Regarding the n-gram method, Mr. Dennis claims I implemented an "arbitrary 5% threshold, meaning a file had to contain at least 5% of the n-grams found in the lyrics of one of the Works-in-Suit in order for it to be considered a match."[45] A 5% threshold was used in order to balance false positives and false negatives. Once a song is split into 4-grams, many of them are very generic sequences of tokens (e.g. "no matter how many" from "Hurricane") that are commonly found in English language unrelated to lyrics. 5% was a threshold that was permissive without triggering too many false positives. Ultimately 54 files were responsive to the n-gram approach.

50. Mr. Dennis also claims that I failed to consider that chords can be interspersed with lyrics in outputs, thereby "impacting the code's ability to match four successive words…"[46] I was aware that the irregular inclusion of chords would make it difficult for the n-gram approach to match all true positives. This was one of the motivations behind using a second method to detect outputs providing lyrics to Works-in-Suit. I crafted a regular expression similar to that used in Question 3 to match phrases such as "Here are the chords to the song" followed by the song title to one of the Works-in-Suit.[47] As described in Paragraph 136 of the Opening Report, the final set

[45] Dennis Rebuttal Report ¶ 80.
[46] Dennis Rebuttal Report ¶ 81.
[47] See Bray Opening Report Table D.

of files responsive to Question 4 were all files that were responsive to the n-gram method and all of the files that were responsive to the regular expression, or 87 files in total.

51. While reviewing the files that Mr. Dennis flags as present in Question 3 but not in Question 4, I found a typographical error in my regular expression, specifically the last section of the pattern that preceded the song title. There are several patterns that I sought to include which erroneously would have required two spaces before the song title instead of one. I corrected this error and re-ran the regular expression over the 313 files responsive to Q3 after the correction of the language classification. After correcting for this typographical error, it added 23 files to the set of files responsive to Question 4 for a total of 109 files, which are seen in **Exhibit E**, attached to this Report.

52. Of the 23 files that were added to the count, 21 of them record an email address belonging to the Publisher's investigator.[48] Additionally, all 23 of these files have a prompt created date that precedes [redacted], which further reinforces my conclusion that there are no files with last outputs providing lyric regurgitation to the Works-in-Suit after [redacted], as further explained below.

6. Critiques Related to Outputs Dated After [redacted] for Question 5

53. Mr. Dennis's only critique against my analysis for Question 5 appears to be that there are two outputs which, according to Mr. Dennis, provide lyrics to the Works-in-Suit.[49] But Mr. Dennis only provides two examples, both of which I have snipped below. In the first, ANTH_SAMPLE000217578 (DOC 04127174), the human user asks Claude for the meaning of "Viva la vida" and Claude responds by explaining it is a song "about the rise and fall of power and

[48] I note that throughout his Rebuttal Report, several of the examples that Mr. Dennis claims I did not include in response to various of my research questions appear to be associated with Publishers' investigator, Michael Candore. *See e.g.*, DOC 00000090, DOC 00000061, DOC 00000107, DOC 00000326.

success." Claude then explains the meaning of specific lines, quoting only the lyrics that are necessary for the reader to understand which line is being referred to.

Prompt:

The assistant is Claude created by Anthropic, the current date is Monday, February 19, 2024. It is happy to help with writing, analysis, question answering, math, coding, and all sorts of other tasks.

Human: What is PERSON_NAME(36):Abj4605ZK6Gvm74zCQEczyo/aE7+Zh5evu4= Viva la vida all about?

Assistant:

Completion:

"Viva la Vida" by PERSON_NAME(36):Ad73sE9pCuxGX7w5hs/tpYkYpXL9KbeyeA== is generally interpreted as being about the rise and fall of power and success. Here's a quick summary of the main themes and meaning:

- The lyrics tell the story of a character who once ruled powerfully over others ("I used to rule the world"), but has now fallen from grace and reflects on his former glory days.

- The title "Viva la Vida" translates to "Long Live Life" in Spanish, which contrasts with the theme of the ephemeral nature of power and success.

- The refrain ("one minute I held the key, next the walls were closed on me") suggests the character fell suddenly and unexpectedly from his position of power.

- Verses about being "swept out through the cathedral door" and left with "broken throne" and "broken strings" imply loss of power, status, and agency.

- There are references to revolution and downfall ("the vipers and thieves"), suggesting he may have been overthrown as a monarch or leader.

- The theme of the French Revolution with its guillotines is often cited as an inspiration, emphasizing how rapidly the mighty can fall from power.

So in summary, it's a reflective narrative about the rise and fall of kings, leaders, and those who once held influence or power over others, told from the perspective of the character reflecting after his downfall from glory. The abruptly changing fortunes are emphasized in the lyrics and themes.

ANTH_SAMPLE000217578 (DOC 04127174)

54. Similarly, for ANTH_SAMPLE000043934 (DOC 04326451), the human user states "more" and Claude provides "more inspiring and uplifting graduation song suggestions."[50] Again, any lyrics provided by Claude are minimal and only rendered to justify the song choice Claude is providing (i.e., to show that the song is inspiring and uplifting). Such results do not fall within the parameters of Questions 1, 2 or 4.

[50] ANTH_SAMPLE000043934 at 942-943 (DOC04326451).

Human: More

Assistant:

Completion:

Here are some more inspiring and uplifting graduation song suggestions that could be appropriate to sing in a church setting:

"Good Good Father" by PERSON_NAME(40):AdlmwPdN65Qh3g94cOgl+/nYji7d75RXYPhJWgl=
Celebrating having a loving, guiding presence through life's journeys
"You are perfect in all of your ways, You are perfect in all of your ways"

"10,000 Reasons (Bless the Lord)" by
PERSON_NAME(40):Aadb4CA6jKFyovYGEehK2z1MiP1YKd7fg+Qscg==
A praise song giving thanks for life's blessings and provisions
"Whatever may pass, and whatever lies before me, Let me be singing when the evening comes"

"The Blessing" by PERSON_NAME(40):Afn/UuEAcSurF4r9/PVIL7hCqydFTHfm76Jqug==,
PERSON_NAME(36):AfJl/tGtu/0jQRAs06mYbPFFtPpDlvgbD78=, Elevation Worship
Powerful declarations of hope and benediction for the path ahead
"May His favor be upon you, And a thousand generations"

"Way Maker" by Leeland
Worshipful song about God making a way even through unknowns
"You are way maker, miracle worker, promise keeper, light in the darkness"

"Raise a Hallelujah" by Bethel Music,
PERSON_NAME(68):AVEwefKb7IfikAnYC9Ae9WPzcTwiDySS8XWtgcpvbeJHxnrjNjLwB5QIORyu8fx5Bg
== anthem about having reason to praise through all circumstances
"I'm gonna sing, in the middle of the storm,
PERSON_NAME(32):AXdrn+jXyfTkQtb7iOkWAYChRtyc5EQ= and louder, you're gonna hear my praises roar"

"God of This City" by PERSON_NAME(40):AdlmwPdN65Qh3g94cOgl+/nYji7d75RXYPhJWgl=
Bold lyrics asking for God's presence and blessings in the next chapter
"For greater things have yet to come, And greater things are still to be done in this city"

Let me know if you need any other suggestions for congregational-friendly graduation worship songs!

ANTH_SAMPLE000043934 (DOC04326451)

55. Finally, Mr. Dennis states that Question 5 excludes the reported results for Question 3 (the outputs providing any amount or form of lyric regurgitation), but my understanding is that

only the Works-in-Suit are at issue in this litigation.[51] Therefore, the focus of my analysis was on whether or not there were any outputs that provided lyrics to the 499 Works-in-Suit after several of Anthropic's guardrails were implemented.

E. Exclusion of Non-English Records

56. Mr. Dennis's critique concerning Non-English records is that there are errors in both directions – there are files that were classified as English but should have been classified as Non-English, and there are files that should have been classified as Non-English but were classified as English.[52] He also states that I did not provide "any specific explanation regarding if or to what extent Records translated to English by Relativity could not be analyzed in the same manner as Records that were in English natively."[53]

57. As a preliminary matter, and as I have already explained in my Opening Report, Publishers did not provide translated lyrics, so I had no meaningful way to assess whether a non-English material included lyrics at issue in this case. As far as I am aware, they have still not provided translated lyrics. I reserve the right to opine on any files classified as Non-English to the extent Publishers provide any information regarding foreign-language translations.[54] Additionally, contrary to Mr. Dennis's suggestion, I have not assumed non-English prompts fail to request lyrics or that non-English outputs fail to provide lyrics.[55] Instead, I have determined that speculating on what non-English prompts and outputs provide without being provided with translations by Publishers is not methodologically sound. Additionally, I am not aware of any reason to believe

[51] Dennis Rebuttal Report ¶ 89; Dkt. 337 (First Amended Complaint).
[52] Dennis Rebuttal Report ¶¶ 27-30.
[53] Dennis Rebuttal Report ¶ 26.
[54] *See e.g.*, Bray Opening Report ¶ 157.
[55] Dennis Rebuttal Report ¶ 24.

that the proportions of user interactions that involve a request for lyrics would differ based on language.

58. In response to Mr. Dennis's identification of a handful of files that were misclassified, I reassessed the results of the Relativity vendor's language identification analysis. In doing so, I observed a technical error in the manner in which the results of the language identification analysis were populated, and I have corrected for that error as described in the following paragraphs.

59. As explained in my Opening Report, the vendor's language identification tool analyzes the extracted text of each document and populates a result for each file's "primary" language, or the language that is the most prevalent.[56] Upon re-review of the files identified by Mr. Dennis, I learned that, as the result of a vendor error, the primary language of the ***entire file's extracted text*** was populated into a field called "Primary Language." However, the primary language of the entire file's extracted text can be different from the primary language of ***just the last prompt*** of each file. The results relating to the last prompt are populated into fields called "Language Primary Last Prompt" and "Languages Last Prompt 2." This difference in fields accounts for all of the misclassifications that Mr. Dennis identified, as illustrated below.

Bates Number if applicable / (REVIEWID)	**Primary Language of Entire File (seen in Primary Language field)**	**Primary Language of Last Prompt (seen in Language Primary Last Prompt and Languages_LastPrompt2 fields)**
Last Prompts Mr. Dennis Claims Should Have Been Non-English Instead of English		
ANTH_SAMPLE000061616 (DOC 00006957)	English	Chinese
ANTH_SAMPLE000068937 at 947-950 (DOC 00171309)	English	Korean
ANTH_SAMPLE000063432 (DOC 00040618)	English	Japanese

[56] Bray Opening Report ¶¶ 61-63.

Bates Number if applicable / (REVIEWID)	Primary Language of Entire File (seen in Primary Language field)	Primary Language of Last Prompt (seen in Language Primary Last Prompt and Languages_LastPrompt2 fields)
ANTH_SAMPLE000074487 (DOC 00298129)	English	Japanese
ANTH_SAMPLE000010623 (DOC 00759014)	English	Chinese
ANTH_SAMPLE000104453 at 455-456 (DOC 01106440)	English	Russian
Last Prompts Mr. Dennis Claims Should Have Been English Instead of Non-English		
DOC 00527510	Vietnamese	English
ANTH_SAMPLE000072091 at 100 (DOC00243073)	Arabic	English
ANTH_SAMPLE000030394 (DOC02489651)	Spanish	English
ANTH_SAMPLE000005850 at 853 (DOC00266759)	Chinese	English
ANTH_SAMPLE000170489 (DOC02800068)	Tagalog	English

60. Consistent with the analysis in my Opening Report, it is the primary language of the last prompt in each file that is necessary to consider when excluding non-English files. I thus re-ran my regular expressions correcting for this vendor error. I determined that, of the initial 2,353,839 Valid Records from my Opening Report, 2,095,468 remained valid after correcting for the language identification error. 258,353 of the initial Valid Records, as seen in **Exhibit G**, were no longer valid, meaning they were deemed to have a last prompt that was not primarily in English and were therefore excluded. There were 109,818 files that were not initially part of the Valid Records set because their last prompt had incorrectly been classified as primarily non-English that were classified as English after the correction, as seen in **Exhibit H**. I did not change the exclusion criteria for LogID Duplicates, Title Records, Redacted Files or Privileged or Blank Files from my Opening Report. I excluded Non-English files from my analysis, because, as explained in my Opening Report, these files are not able to be analyzed in a manner similar to the English files and

Publishers have not provided any foreign-language translations for lyrics they contend belong to the 499 Works-in-Suit.[57]

61. I also corrected any code for the other exclusion criteria that relied upon the former, incorrect non-English values provided by the vendor. For example, the code I had written to exclude Quarantined Files (the definition of which is provided in my Opening Report), relied in part on the results of my non-English classifications. I have attached as **Table B** the code that I ran in coming to the Corrected Adjusted Sample.

62. After making these adjustments, the new set of Valid Records, or the Corrected Adjusted Sample included 2,205,304 files, as seen in **Exhibit F.** Since the denominator had changed, I needed to re-run my regular expressions to assess the values of the numerators for each Research Question as well, as seen in **Table A**. Other than correcting for the language field issue I have described above, I did not change any substantive aspect of my final regular expressions from my Opening Report. I did not utilize Claude for any additional refinement either.

63. The results of Questions 1, 2, 3 and 4 as compared to those reported in my Opening Report are as follows:

Question Number	Results from Opening Report	Results After Resolving Language Misclassification
Question 1: What percentage of prompts seek any amount or form of lyric regurgitation?	• **1029** prompts or **0.044%** (or less than 5/100th of a percent) seek any amount or form of lyric	• **1034** prompts, or **0.047%** (or less than 5/100th of a percent) seek any amount or form of lyric regurgitation from Sept. 22, 2023 – March 22,

[57] Bray Opening Report ¶ 67. The reference to exclusion of files for which the last prompt was "classified as anything other than 95% in English from my analysis" in Paragraph 67 of my Opening Report was erroneous. My analysis relied upon the primary language of the last prompt, and "the primary language is the language found with the highest percentage of use in a document," which is not necessarily 95% or higher. https://help.relativity.com/Server2025/Content/Relativity/Analytics/Language_identification_results.htm

Question Number	Results from Opening Report	Results After Resolving Language Misclassification
	regurgitation from Sept. 22, 2023 – March 22, 2024.[58]	2024, as seen in **Exhibit B.**
Question 2: Of the percentage of prompts that seek any amount or form of lyric regurgitation (i.e., prompts that are responsive to Q1), what percentage seek any amount or form of lyric regurgitation to Works-in-Suit?	• Of the **1029** prompts that seek any amount or form of lyric regurgitation (i.e. prompts that are responsive to Q1), **138** prompts or **13.41%** seek any amount of lyric regurgitation to Works-in-Suit. • Only **0.0059%**of the prompts in the Adjusted Sample seek any amount of lyrics to the Works-in-Suit from Sept. 22, 2023 – March 22, 2024. • **115** of those 138 prompts, or **83.33%**, belong to Publishers' known investigator.[59]	• Of the **1034** prompts that seek any amount or form of lyric regurgitation (i.e. prompts that are responsive to Q), **138** prompts or **13.35%** seek any amount of lyric regurgitation to Works-in-Suit, as seen in **Exhibit C.** • Only **0.006%** of the prompts in the Corrected Adjusted Sample seek any amount of lyrics to the Works-in-Suit from Sept. 22, 2023 – March 22, 2024. • **115** of those 138 prompts, or **83.33%,** belong to Publishers' known investigator.
Question 3: What percentage of outputs provide any amount or form of lyric regurgitation?	• **325** outputs, or **0.0138%** (less than 2/100th of a percent) of outputs provide any amount of lyric regurgitation from Sept. 22, 2023 – March 22, 2024.	• **313** outputs, or **0.014%** (or less than 2/100th of a percent) of outputs provide any amount of lyric regurgitation from Sept. 22, 2023 – March

[58] In footnote 22 of his Rebuttal Report, Mr. Dennis notes a typo found in Paragraph 104 of my Opening Report related to Question 1. Instead of ".0037% (0.000037 or less than 4/1000ths of a percent)" the line should read ".037% (.00037 or less than 4/100ths of a percent)".

[59] As explained in my Opening Report, because Publishers have not disclosed identifying information for all of the prompts and outputs generated by Publishers, their attorneys, or their investigators, it is possible that even more of these prompts were generated by Publishers or their agents. *See e.g.,* Bray Opening Report ¶¶ 40, 147-149.

Question Number	Results from Opening Report	Results After Resolving Language Misclassification
		22, 2024, as seen in **Exhibit D.**
Question 4: What percentage of outputs provide any amount or form of lyrics to Works-in-Suit?	• **87** of those 325 outputs, or **26.77%** of the outputs that provide any amount or form of lyric regurgitation, include lyrics to a Work-in-Suit. • Only **0.0037%** (or less than 4/1000ths of a percent) of the Adjusted Sample included outputs that provided any amount or form of lyrics to a Work-in-Suit from Sept. 22, 2023 – March 22, 2024. • **82** of those 87 outputs, or **94.25%**, are associated with prompts belonging to Publishers' known investigator.	• **109** of those 313 outputs, or **34.82%** of the outputs that provide any amount or form of lyric regurgitation, include lyrics to a Work-in-Suit, as seen in **Exhibit E**. • Only **0.0049%** (or less than 5/1000ths of a percent) of the Corrected Adjusted Sample included outputs that provided any amount or form of lyrics to a Work-in-Suit from Sept. 22, 2023 – March 22, 2024. • **103** of those 109 outputs, or **94.50%**, are associated with prompts belonging to Publishers' known investigator.

64. Because the values of Question 1, 2 and 4 had changed (although not materially), I recreated the table for Question 5, which demonstrated the distribution of the responsive records as divided into several time periods.

Time Period/Result	[redacted]	[redacted]	[redacted]	[redacted]
Q1: Percent of Prompts Seeking Any Amount or Form of Lyrics Regurgitation	714 / 1274016 = .056%	79 / 197247 = .040	10 / 35187 = .028%	231 / 698854 = .033%
Q2: Percent of Prompts Seeking Any Amount or Form of Lyrics Regurgitation to Work-in-Suit	134 / 714 = .188%	2 / 79 = .025%	0 / 10 = 0%	2 / 231 = .866%
Q4: Percent of Outputs Providing Any Amount or Form of Lyric Regurgitation to Work-in-Suit	109 / 248 = 43.95%	0 / 19 = 0%	0 / 2 = 0%	0 / 44 = 0%

65. I also recreated the Pre-Suit and Post-Suit table from my Opening Report. Consistent with Paragraph 150 of my Opening Report, this table shows that the majority of the prompts seeking lyrics to the Works-in-Suit (Question 2) or outputs providing lyrics to the Works-in-Suit (Question 4) were generated before this lawsuit was filed.

Time Period/Result	Pre-Suit (Sept. 22, 2023 – Oct. 17, 2023)	Filing Date of Suit / Post-Suit (Oct. 18, 2023 – March 22, 2024)
Q1: Percent of Prompts Seeking Any Amount or Form of Lyrics Regurgitation	624/1034 60.35%	410/1034 39.65%
Q2: Percent of Prompts Seeking Any Amount or Form of Lyrics Regurgitation to Work-in-Suit	131/138 94.93%	7/138 5.07%
Q4: Percent of Outputs Providing Any Amount or Form of Lyric Regurgitation to Work-in-Suit	109/109 100%	0/109 0%

66. I was able to determine that within the Corrected Adjusted Sample, which is temporally limited from Sept. 22, 2023 – March 22, 2024, there were no outputs providing lyrics to the Works-in-Suit after [redacted] (as defined in my analysis), after which certain of Claude's guardrails were implemented and expanded.

F. Response to Dennis Critique Regarding Size of Universe

67. I understand Mr. Dennis seems to indicate there is a dispute about the size of the Universe from which the Sample was pulled, but I do not understand there to be a dispute. In my Opening Report, I made clear that I understand the Pre-Suit Time Period contains 47,220,705 files and the Post-Suit Time Period contains 408,265,785 files, for a total of 455,486,490 files in the Universe.[60]

VII. CONCLUSION AND RESERVATION OF RIGHTS

68. My opinions are based on the information currently available to me. I reserve the right to supplement or revise my opinions, including to address additional information that I become aware of.

69. After the date of my rebuttal report, I understand that the billing data that Mr. Dennis relied on to create Exhibit 8 to his Opening Report was found to include a "data join error."[61] I understand that Anthropic produced a corrected version of the file as Anthropic_R_0000524085 (replacing Anthropic_0000524085) on February 4, 2026. To the extent any additional information is produced by the parties or their experts, I will be prepared to amend or supplement my reports as appropriate.

70. To the extent Publishers disclose additional information relevant to my Report I reserve the right to supplement my opinion.

71. I reserve the right to rely on demonstrative exhibits to explain my opinions. These exhibits may include documents, graphics, illustrations, videos, charts, discovery responses, deposition testimony, or other visual aids.

[61] Email from R. Burrell to N. Hailey, dated Feb. 4, 2026.