

ARTICLE

Identifying Universal Precedent Phenomena in Media Texts Using Python

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ABSTRACT

This article explores the role of precedent phenomena in media texts. The study's primary goal and innovation lie in analyzing how universal precedent phenomena – such as Stockholm Syndrome, Achilles' Heel – are used in contemporary Kazakh, Russian, and English media. A key focus is on how these phenomena are perceived by students. To conduct the research, we utilized materials from mass media and online sources from Kazakhstan, Russia, and the USA. We employed contextual analysis, generalization, and comparative and descriptive methods to systematize the data. Google Forms served as a research tool, and a custom Python program was developed for linguistic analysis and to create a comprehensive database of precedent phenomena across these three languages. The study revealed how well-known concepts like “Stockholm Syndrome”, “Achilles' Heel” are represented in media texts across the three languages. It also assessed students' recognition and acceptance of these phenomena. Additionally, we developed a detailed characterization of 55 universal and national precedent phenomena in English, Russian, and Kazakh. Examples include “Romeo and Juliet”, “Red Rose”, “Phoenix”, “White Rabbit”, “Pandora's Box”, “Baba Yaga”, “Korkyt Ata”, and “Asan Kaigy”. This information was integrated into a Python program that automatically identifies these phenomena within texts and provides descriptions in all three languages. The database will continue to grow, aiding in the identification of precedent phenomena in media content and helping readers quickly understand their specific usage.

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1. Introduction

In today's world, media wields significant influence over society. The primary functions of texts in newspapers and on the internet are to shape the reader's understanding and convey information effectively. Journalistic texts play a crucial role not only in disseminating information but also in shaping how this information is perceived through vocabulary, grammar, phraseological expressions, allusions, reminiscences, and precedent phenomena. These elements contribute to the text's cultural and historical depth, elevating its impact.

Our research focuses on the role of precedent phenomena in media texts. We analyzed how these phenomena appear in the headlines of contemporary Kazakh, Russian, and English newspapers to develop a comprehensive database. This analysis revealed the pragmatic potential of these phenomena and assessed how they are perceived by young readers.

The study aims to:

Define what constitutes a precedent phenomenon.

Classify various types of precedent phenomena.

Determine their functional role in media.

Examine their national significance.

Assess how readers perceive these phenomena through experimental research.

Create a database of precedent phenomena.

Newspaper articles aim to inform and engage, with each article serving a unique purpose. Historically, journalistic styles were conservative, but today's journalism varies widely, catering to different audiences with diverse methods. Modern journalists use emotive language to highlight topics and make a more significant impact on readers.

Moreover, journalists often incorporate excerpts from literature, poetry, proverbs, quotes from TV series, and song lyrics to create an immediate effect and captivate readers. The goal is to present information clearly and engagingly, demonstrating the journalist's competence.

Precedent phenomena are essential in media linguistics, reflecting the shift from traditional linear communication to interactive, hypertextual formats. This interactivity enhances the quality of newspaper articles. According to Kabankov ^[1], "Precedent phenomena in modern media are closely linked to transforming communication parameters: from linear to virtual, from traditional text to hypertext. The interactivity of new media enhances the quality of journalism, and the regulatory potential of precedent phenomena has not been fully explored or utilized."

Precedent phenomena have been extensively studied in linguistics by numerous scholars, including Krasnykh, Karaulov, Gudkov, Zakharenko, Vasiliev, and Nakhimova. The concept of precedent phenomena was first introduced into linguistics by Russian scientist Karaulov. Krasnykh analyzed these phenomena as national components of discourse, categorizing them into social and national types. Social precedent phenomena are understood by the general population, while national precedent phenomena are familiar to a specific linguistic and cultural group. Universal precedent phenomena are recognizable to people across different cultures, suggesting that these categories can evolve over time. Krasnykh views precedent phenomena as a national cognitive layer reflecting their cultural nature. They are well-known within their cultural community and remain relevant from a cognitive perspective, though they may be adapted by cultural groups ^[2].

Gudkov expanded on this by including a "creator" phenomenon in his classification, which refers to phenomena manifesting in individual consciousness and encompassing cognitive, emotional, and axiological significance ^[3].

Scholars such as Vasiliyev, Gudkov, Zakharenko, Krasnykh, and Bagayeva classify precedent phenomena into four main groups:

Precedent Names: Well-known proper names that serve as cultural symbols or signs based on significant events. Krasnykh identifies these names as having a core and periphery, which define their differential character.

Precedent Situations: Specific events or actions and their participants, which are embedded in the cognitive base of a linguistic and cultural society and familiar to its members.

Precedent Statements: Elements of everyday speech, including quotes, proverbs, and sayings, that are recognized within a particular linguistic and cultural context and can be repeated in different languages.

Precedent Texts: Complete works known to the broader middle class, encompassing well-established cultural narratives ^[4].

Our research focuses primarily on the scientific contributions of Russian and Kazakh scholars. In contrast, European and American linguistic traditions often recognize precedent-related phenomena as manifestations of allusion or intertextuality, though the term “precedent-related phenomenon” is less commonly used. Intertextuality is seen as a broader concept that may not always be immediately recognizable, whereas precedent-related phenomena are expected to be readily identifiable by readers ^[5,6]. Foreign studies often emphasize intertextuality as a crucial element for understanding literature and culture, exploring it through various theoretical lenses such as structuralism, poststructuralism, postcolonialism, Marxism, feminism, and psychoanalysis ^[7]. Folklore research has also contributed to the understanding of intertextuality, revealing new perspectives ^[8]. Additionally, the concept of hypertextuality has been explored alongside intertextuality ^[9,10], with Piégay-Gros offering a comprehensive review of these studies in “Introduction à l’intertextualité” ^[11]. In recent years, the scholar Panasenko has conducted a comprehensive study of the issue of the media text, considering the phenomenon of intertextuality as its key semantic category ^[12,13,14,15,16]. In literary texts, intertextuality is expressed through various forms, including quotes, parody, allusion, and paraphrasing. Our research specifically examines precedent phenomena across Kazakh, Russian, and English languages.

2. Materials and Methods

To explore the topic, we examined materials from media and internet resources in Kazakhstan, Russia, and

the United States. This included websites such as Egemen Kazakhstan, Forbes Russia, WNYC Studios, and Psihomed. The texts analyzed covered the period from 2010 to 2023. During systematization, we employed methods such as contextual analysis, generalization, and comparative and descriptive approaches. Google Forms and a Python program were utilized as research tools.

A comprehensive software application has been developed in Python, utilizing a range of advanced libraries. The Tkinter library was employed to design an intuitive graphical user interface (GUI), while matplotlib was integrated to enable robust data visualization. Additionally, several natural language processing (NLP) libraries were incorporated to facilitate text analysis. The program is divided into multiple sub-files to ensure both structure and efficiency. The main file, `main.py`, manages the coordination of the other sub-files, which include the following: `script.py`; `analyzer.py`; `analyzer_gui.py`; `text_processor.py`; (<https://github.com/Anna-ann/nlp/tree/main>)

To assess the popularity and perception of precedent phenomena among young people, we surveyed 234 students aged 18 to 21, all fluent in Kazakh and Russian. (https://drive.google.com/drive/folders/18OrvSUYqK6z2QNQYQgFHDE0qPgYumghX?usp=drive_link)

We collected universal precedent phenomena from Kazakh, Russian, and English-language media for comparative analysis. A significant portion of this material was used to create a database of precedent phenomena within a Python program.

Our analysis focused on articles from various Kazakh-speaking, Russian-speaking, and English-speaking internet resources to identify precedent phenomena in these texts. We developed a characterization of 55 universal and nationally significant precedent phenomena, including examples such as “Romeo and Juliet,” “Red Rose,” “Phoenix,” “White Rabbit,” “Pandora’s Box,” “Baba Yaga,” “Korkyt Ata,” and “Asan Kaigy.”

Additionally, we examined specific precedent phenomena like “Stockholm Syndrome,” “Achilles’ Heel”. Although these phenomena are universal, they are rarely found in Kazakh media. Our primary objective was to identify universal precedent phenomena across Kazakh,

Russian, and English languages. Thus, we focused on these phenomena, which appear in media texts in all three languages and are recognized in Kazakhstan, Russia, and

English-speaking countries. The table below provides descriptions of these universal precedent phenomena, which have been incorporated into our Python program (**Table 1**).

Table 1. Characteristics of precedent phenomena.

Cultural Significance	(Stockholm Syndrome) A Psychological Phenomenon	(The Achilles' Heel) A Mythological Analogy
The level of recognition	emely high	emely high
General interpretation	Survivors form emotional bonds with kidnapers	A vulnerable point that leads to a severe disadvantage
The reference character	It is widely mentioned in psychology	It is often mentioned in literature and conversations
Symbolic meaning	The psychological impact of trauma and attachment	A very vulnerable place or a weak link
Related Story	It arose as a result of a bank robbery in Stockholm in 1973	From Greek mythology: Achilles has one invulnerable place - the heel
Adaptable use	Metaphorically used to describe similar situations	It is used to indicate a particularly vulnerable weakness
Cultural variations	English: Stockholm Syndrome, Russian: Стокгольмский синдром, Kazakh: Стокгольмдік синдром	English: Achilles' heel, Russian: Ахиллесова пята, Kazakh: Ахиллестің өкшесі
Semantic association	Terms such as "hostage", "kidnapping", "psychological trauma"	Terms such as "vulnerability", "flaw", "weak spot"
Patterns of phrases	Often rused with "hostage", "kidnapping", "psychological trauma"	Often used with "vulnerability", "flaw", "weak spot"
Intertextual links	It is mentioned in discussions in psychology, media and real cases	It is mentioned in literature, media and conversations

Operational Mechanism Of The Python Program

A sophisticated software application was developed using Python, incorporating several powerful libraries: tkinter for creating an intuitive graphical user interface (GUI), matplotlib for robust data visualization, and various natural language processing (NLP) libraries for text analysis. This application facilitates working with linguistic tools in English, Kazakh, and Russian. By leveraging advanced NLP techniques, the program accurately identifies precedent phenomena in user-provided texts.

The core functionality of the program lies in its database of precedent phenomena. The program can automatically recognize and classify these phenomena according to the previously mentioned categories. Users can access detailed analyses for each phenomenon, including general interpretation, symbolic meaning, associated events, adaptable usage, semantic associations, collocation patterns, evolution over time, cultural variations, and historical context.

The software serves as a valuable tool for researchers and linguists, providing an efficient means to explore the

nuanced world of precedent phenomena within a linguistic microcosm. Future developments could expand the program's capabilities to analyze internet content and social media platforms, such as Twitter and news websites.

Program Structure and Workflow (see **Figure 1**).

The program is organized into several sub-files to ensure structure and efficiency. The main file, main.py, coordinates the other sub-files, which include:

script.py: Contains the main logic of the program.

analyzer.py: Identifies precedent phenomena in the text and provides detailed analysis.

analyzer_gui.py: Provides the user interface for selecting and managing multiple precedent phenomena. This user-friendly interface makes the program accessible to the general public.

text_processor.py: Handles NLP tasks and processes text in Kazakh, Russian, and English. It ensures the program can handle variations in spelling or conjugation.

```

1  import tkinter as tk
2  from tkinter import filedialog, listbox, scrollbar, Button, Label, messagebox, Toplevel
3  from text_processor import preprocess_text, identify_precedent_phenomena
4  import matplotlib.pyplot as plt
5  from matplotlib.backends.backend_tkagg import FigureCanvasTkAgg, NavigationToolbar2Tk
6
7  class PrecedentAnalyzerGUI:
8      def __init__(self, master, identified_phenomena):
9          self.master = master
10         master.title("Identified Precedent Phenomena")
11         self.identified_phenomena = identified_phenomena
12         self.listbox = listbox(master, width=60, height=20, font=("courier", 12))
13         self.listbox.pack(pady=10)
14         scrollbar = scrollbar(master, command=self.listbox.yview)
15         self.listbox.config(yscrollcommand=scrollbar.set)
16         scrollbar.pack(side=tk.RIGHT, fill=tk.Y)
17         self.view_details_button = Button(master, text="View Details", command=self.view_details)
18         self.view_details_button.pack()
19         self.cultural_analysis_button = Button(master, text="Cultural Analysis", command=self.cultural_analysis)
20         self.cultural_analysis_button.pack()
21         self.social_impact_button = Button(master, text="Social Impact Analysis", command=self.social_impact_analysis)
22         self.social_impact_button.pack()
23         self.visualization_button = Button(master, text="Visualize Data", command=self.visualize_data)
24         self.visualization_button.pack()
25
26     def set_identified_phenomena(self, identified_phenomena):

```

```

ess,' vulnerability,' fatal flaw'', 'cultural_variations': "Often used with 'fatal flaw,' 'vulnerable point,' 'weakness'"), {'na
ma': 'Don Quixote', 'cultural_meaning': 'Spanish literature', 'recognition_level': 'High', 'interpretation': 'Pursuit of idealisti
c and impractical endeavors', 'symbolic_meaning': 'Fictional character: Don Quixote', 'associated_event': 'Symbolizes idealism and
chivalry', 'adaptable_usage': 'Don Quixote de la Mancha', 'semantic_association': 'widely used to describe idealistic pursuits',
'collocation_patterns': 'English: Don Quixote, Russian: Дон Кихот, Kazakh: Дон Кижот', 'evolution_over_time': 'Terms like 'quixoti
c adventures,' 'chasing windmills,' 'idealism'', 'cultural_variations': "Often used with 'quixotic adventures,' 'impractical pursu
its,' 'chasing windmills'"]

```

Figure 1. Program Structure.

The program is launched using the analyzer_gui.py select files in formats such as Word, PDF, or TXT for analysis (see Figure 2).

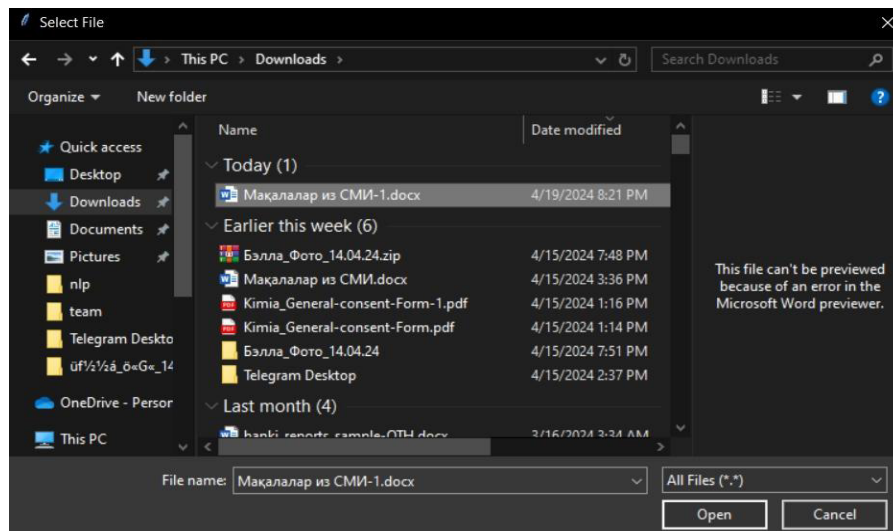


Figure 2. File Selection.

For demonstration, a research Word file titled “Мақалалар из СМИ” (Articles from the Media) was used. This file contains articles in Kazakh, Russian, and English that discuss precedent phenomena like Stockholm Syndrome, Achilles’ Heel.

After opening the selected file, the program displays a list of identified precedent phenomena. Figure 3 shows three examples, although more may be present. To avoid duplication, the program only displays unique occurrences.

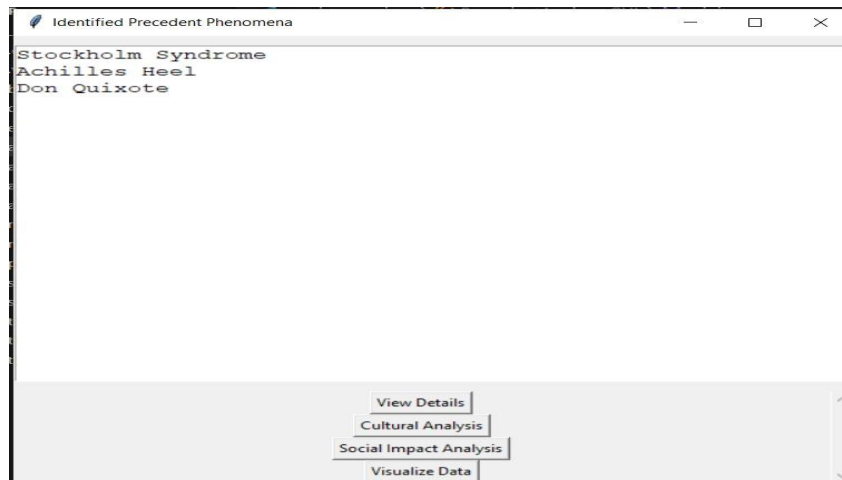


Figure 3. Identified Precedent Phenomena.

The database, which is a crucial component of the program, includes detailed information on various precedent phenomena. This allows the program to avoid re-showing previously identified phenomena, maintaining efficiency across all supported languages.

For example, the description of the universal precedent phenomenon “Stockholm Syndrome” in the program is shown in Figure 4. This feature provides users with comprehensive insights into each identified phenomenon.

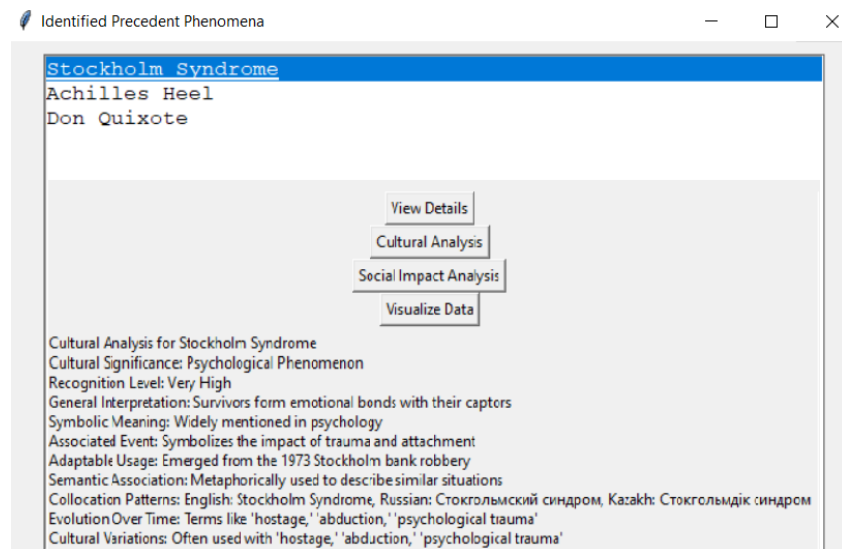


Figure 4. Description of Stockholm Syndrome.

3. Discussions and Results

3.1. The Origin of the Universal Precedent Phenomenon "Stockholm Syndrome," Its Usage in the Media, and the Extent of Its Recognition

In this article, we explore the origin of the univer-

sal precedent phenomenon “Stockholm Syndrome,” its representation in Kazakh, Russian, and English-language media, and how young people perceive this information.

On August 23, 1973, Swedish criminal Jan Erik Ohlsson took four hostages in a bank in central Stockholm. He demanded the release of his accomplice from prison, along with weapons, money, bulletproof vests, and a high-speed car. The first signs of what would later be

known as “Stockholm Syndrome” appeared almost immediately. One of the hostages pleaded with the police not to storm the bank, expressing trust in the terrorists who had promised not to harm them.

The following day, the terrorist called Prime Minister Olof Palme, threatening to kill all the hostages if his demands were not met. Subsequently, a hostage called the Prime Minister to criticize him for his slow response and demanded the release of both the criminals and the hostages. Many people inside the bank even defended the terrorists, arguing that they could be understood.

After their release, the hostages created a scene, refusing to part ways and pleading for their “friends” to be spared. They expressed greater fear of the police intervention than of the terrorists. Some hostages even praised the terrorists, with one Canadian businessman describing the leader of the gang as a polite and educated man. Additionally, after their release, the hostages began collecting money for the lawyers of their captors^[17].

This event, preserved in Swedish national memory, occurred in Stockholm and can be considered a precedent situation. Following this event, the term “Stockholm Syndrome” emerged as a psychological concept referring to a phenomenon where captives begin to identify closely with their captors and their demands. The four employees of Sveriges Kreditbank were held hostage in the bank’s vault for six days. Although such psychological reactions are rare, they have fascinated filmmakers and scholars, leading to several movies and extensive research on the syndrome. For example, Yu. Gladilshikov’s article on Forbes, “How the Stockholm Syndrome Was Born”^[18], explores the phenomenon in detail.

Robert Boudreau directed a thriller based on the 1973 bank heist titled “Stockholm” (“Alone in Stockholm”). Additionally, Minu S. Nair’s work, “Stockholm Syndrome - A Self-Delusive Survival Strategy,” provides an in-depth analysis of the history, causes, symptoms, and treatment of Stockholm Syndrome. Nair argues that the syndrome can be traced back to ancient times, where women captured by rival tribes often formed bonds with their captors to ensure their survival. These women, facing the murder of their children and severe threats to their lives, developed psychological ties to their captors as a survival strategy. The

work also examines notable cases such as the kidnapping of Patty Hearst in 1974 and Mac Erloy in 1933, both of whom suffered significant psychological trauma post-abduction^[19].

Cassidy James Patrick conducted a study comparing Stockholm Syndrome with other psychological conditions such as Battered Woman Syndrome and Cult Personality Syndrome. His work, “Stockholm Syndrome: Psychiatric Diagnosis or Urban Myth?” explores whether this syndrome is a genuine psychological condition or merely a myth^[20]. Namnyak and Tufton further investigated Stockholm Syndrome, using real-life stories to raise public awareness and validate its existence^[21].

In Kazakh media, the term “Stockholm Syndrome” has been discussed extensively. For example, an article by Abai Otar in “Egemen Kazakhstan” examines the syndrome and notes, “P.S. Observing how some people in the country still long for the return of Soviet power, one might conclude that our society is afflicted with ‘Stockholm Syndrome,’ seemingly forgetting the brutal repressions, political persecution, and the events of December.” This highlights how the syndrome’s symptoms can reflect both individual and collective psychological states^[22].

Russian media often uses “Stockholm Syndrome” in political discourse, particularly in discussions about the ongoing conflict between Russia and Ukraine. Terms like “Stockholm Khoroshkovsky Syndrome,” “Holodomor and Stockholm Syndrome,” and “Stockholm Syndrome Based on Russophobia and Natural Patriotism” are common. An article titled “Ukraine and the Stockholm Syndrome” explains that “Stockholm Syndrome is a special mental state of hostages, recognized as a cooperation between two temporarily related parties. One seeks to survive, while the other strives for freedom and to meet their needs and demands”^[23].

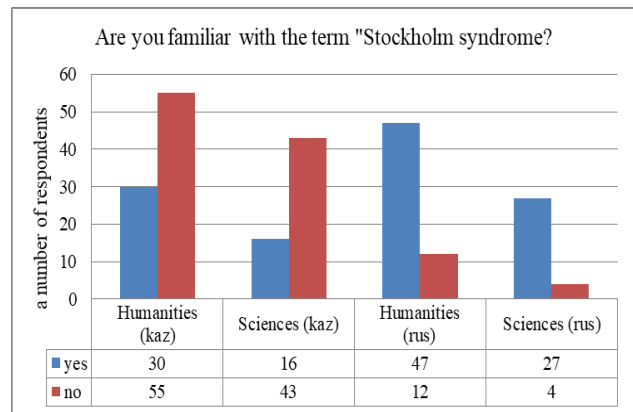
Thus, the term “Stockholm Syndrome” is closely linked with both psychological and political states. It represents a universal precedent phenomenon, reflecting human responses in specific situations and actions that occur with individuals or groups. Such unique situations are considered common within a social group and are stored in the cognitive base of a linguistic and cultural environment. Reading about these situations in the context of modern

historical circumstances reveals the growing influence of the media during political conflicts. This influence can create a divide between the “regular” and the “irregular,” leading to negative stereotypes and even demonization [24].

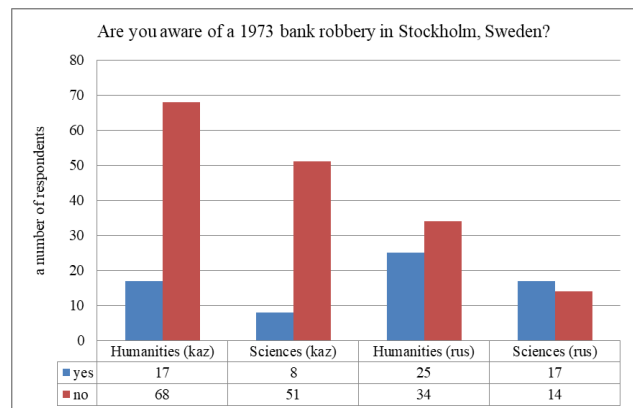
In many English-language articles, “Stockholm Syndrome” has been discussed in relation to the coronavirus pandemic. For instance, an article titled “Are Americans Suffering from Stockholm Syndrome?” examines how the pandemic has led to financial instability, rising crime rates, and increasing food prices in America. The discourse suggests that large segments of the population might experience a form of Stockholm Syndrome as a coping mechanism for the social and emotional stress brought about by scarcity and deprivation. The article notes, “A disturbing aspect of a national collapse is how large portions of the population can undergo a form of Stockholm Syndrome to cope with the social and emotional stress of scarcity and deprivation. Stockholm Syndrome can be both a personal and societal phenomenon shared by a group experiencing the same crisis. The primary concern in both cases is survival” [25]. The author posits that Americans may be suffering from Stockholm Syndrome due to the irrational choices and perpetual social insecurity caused by declining living standards, stress, and anxiety.

In conclusion, “Stockholm Syndrome” serves as a universal precedent phenomenon that, through textual context, mirrors the political and social conditions of various nations. In the journalistic articles we analyzed, this phenomenon was employed to highlight and reflect these conditions.

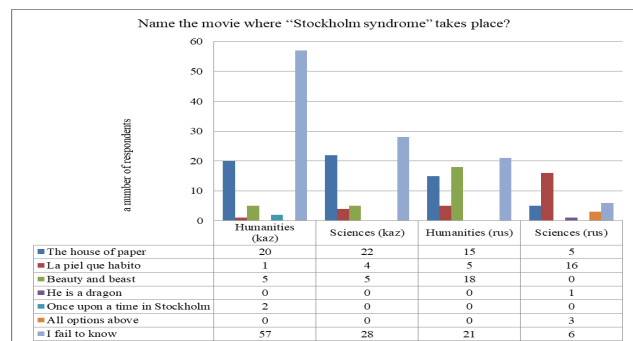
To gauge the popularity and perception of precedent phenomena among young people, we conducted a survey involving 234 students aged 18 to 21, fluent in Kazakh and Russian. The survey included questions such as: “Are you familiar with the term ‘Stockholm Syndrome’?”, “Do you know about the 1973 bank robbery in Stockholm, Sweden?”, and “What do you know about ‘Stockholm Syndrome’?” The results showed a significant disparity in responses between students in the humanities and those in technical fields, influenced by their language of instruction. This discrepancy is illustrated in the diagram below (Figure 5a,b,c).



(a)



(b)



(c)

Figure 5. Student answers.

The statistical analysis reveals that the universal precedent phenomenon "Stockholm Syndrome" is largely unfamiliar to the Kazakh-speaking audience. Many individuals are unaware of its origins and are not familiar with films that depict this syndrome. In contrast, Russian-speaking students demonstrate a strong understanding of the phenomenon and its historical background. They

also reference films such as "Paper House" and "Beauty and the Beast," which portray the "Stockholm Syndrome." This disparity may be attributed to the prevalence of diagnoses such as "Cinderella Syndrome" and "Rapunzel Syndrome" in Russian psychology, which are extensively discussed in the media.

3.2. The Universal Precedent Phenomenon of "Achilles' Heel" in the Context of Journalistic Writing

One expert provides the following perspective on precedent names: "Without altering the content, certain idioms give rise to similar historical situations, which can be measured and assessed based on prior knowledge and cultural stereotypes. These idioms can play a significant role during specific historical periods. Famous quotes from fictional characters often form the basis for phraseological units. In linguoculturology, names that encapsulate cultural information within a community are referred to as 'precedent names'" [26].

We have discovered that some precedent names contribute to the creation of phraseological units and idioms. The term "Achilles' heel" exemplifies these characteristics.

A precedent situation is a cognitive, nonverbal phenomenon that is fixed in memory as an invariant of perception. Such situations become relevant through verbalization or the use of precedent names associated with them [27]. According to researchers, a precedent situation is based on a precedent name. In the case of "Achilles' heel," Achilles is a historical name and precedent name in phraseology. This idiom is analyzed as a precedent phenomenon.

The term "Achilles' heel" originates from Greek mythology. Achilles, the son of the sea goddess Thetis and the king Peleus, was dipped into the River Styx by his mother, making him invulnerable except for his heel, where he was held. During the Trojan War, Paris, the Trojan hero, shot Achilles in the heel, exploiting this vulnerable spot. This myth gave rise to the phrase "Achilles' heel," which denotes a vulnerable point or weakness.

In the newspaper "Egemen Kazakhstan," an article titled "The Heel of Achilles" addresses the global issue

of water scarcity. The author highlights that Kazakhstan's vulnerability lies in its limited water sources and the precarious state of its reservoirs. The article warns that these water reservoirs could become the "Achilles' heel" of Kazakhstan, with the Committee on Water Resources bearing responsibility for this risk [28].

Another example is from the article "Kazakhstan Pharmaceuticals: New Development Opportunities," which discusses the state and development of the pharmaceutical industry in Kazakhstan. The journalist uses the idiom "Achilles' heel" to express the industry's vulnerabilities, stating, "What is the Achilles' heel of domestic pharmacy? How do foreign manufacturers profit?" [29]. The use of this idiom adds complexity to the semantics and stylistics of the text.

On Russian-language websites, the idiom "Achilles' heel" is frequently used across various journalistic genres. For instance, the article "The Achilles' Heel of Chinese Reforms" by Professor Luzyanin critically examines China's reforms. Similarly, an article titled "Putin: Inflation is Russia's Achilles' Heel" discusses the challenging economic situation in Russia.

In English-language texts, "Achilles' heel" is also employed in political discourse. The article "Corruption is Our Achilles' Heel" addresses the issue of corruption in business. Experts Erica Lonergan and Jacquelyn Schneider discuss how, despite the tremendous benefits of digital technology, it also carries significant risks. They note that while digital technology boosts economic growth and increases productivity, it leaves societies vulnerable to attacks. This vulnerability is metaphorically described as an "Achilles' heel" [30].

"For all its tremendous benefits, digital technology carries innumerable downsides. Cellphones enable location tracking that erodes privacy. Data can be manipulated and destroyed. Mechanical systems can be hijacked by a malicious actor who finds chinks in their digital armor. However, these technologies have become essential components of day-to-day life and continue to boost economic growth, increase productivity, and allow access to information at an unprecedented scale. Societies must wrestle with the devilish bargain they have struck; they rely on digital capabilities that leave them extremely vulnerable to

attacks. Nowhere are these risks more apparent and more dangerous than in war”^[30].

Although the phrase “Achilles’ heel” is not explicitly used throughout the article, its concept is effectively employed to frame the discussion. The article, titled “America’s Digital Achilles’ Heel,” explores the dual aspects of digitalization – both its benefits and its potential harms.

Similarly, texts found on various internet pages, such as “NATO’s Achilles’ Heel: the Baltic States” and “This State is Donald Trump’s Achilles’ Heel,” use the idiom to discuss political issues in America.

The description of this precedent phenomenon is also illustrated in the Python program (**Figure 6**).

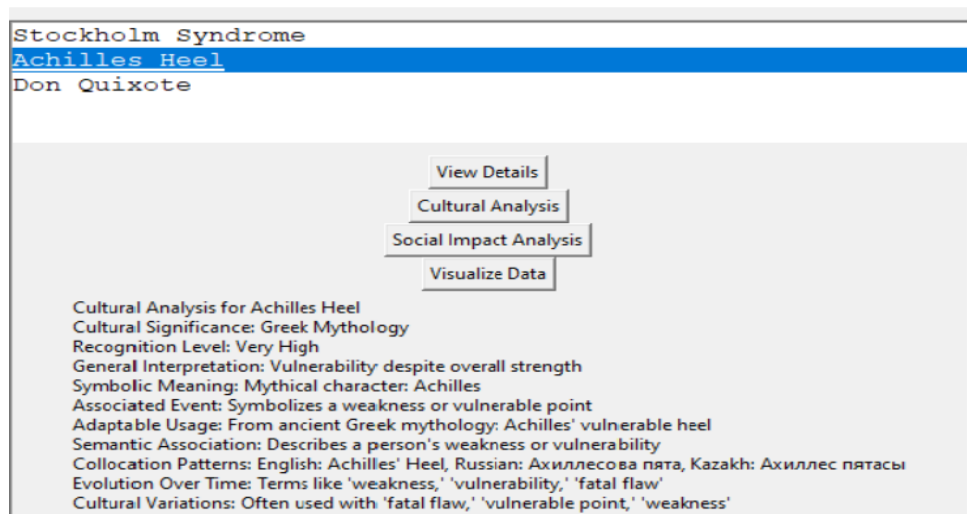


Figure 6. Description of the precedent phenomenon “Achilles’ heel”.

Another survey was conducted among young people to gauge their familiarity with the precedent phenomenon “Achilles’ heel” (see **Figure 7**). The survey results indicate that the term “Achilles’ heel” is well-known among Russian-speaking students, particularly those in the Humanities. This high level of recognition suggests that the phrase is frequently used in Russian.

In contrast, the term is less familiar in Kazakh linguistics. Kazakh idiomatic expressions often convey similar meanings, such as a person’s weak point or vulnerable spot, but they do so with original idioms that do not include “Achilles’ heel.” As a result, the use and recognition of this precedent phenomenon are relatively low among Kazakh-speaking audiences. This discrepancy highlights that the concept of “Achilles’ heel” is not as prevalent or well-understood within the Kazakh linguistic and cultural context.

Precedent texts allow journalists to cover a broad range of journalistic genres and gain widespread recognition. They enable journalists to convey information both

directly and indirectly. In many cases, journalists use precedent phenomena to address issues with particular emphasis, critique, or assessment. To present topics clearly, concisely, and persuasively, journalists frequently resort to precedent phenomena, making them an essential stylistic tool that enhances the coherence and expressiveness of their articles. This technique is evident in the texts we have reviewed.

Regarding what qualifies as a precedent situation, Krasnykh provides the following definition:

“According to our definition, a precedent situation is one that is well known to speakers of a specific mental-linguistic complex and is relevant in cognitive terms. It includes an invariant of perception that encompasses certain minimized and nationally determined knowledge and ideas about the situation, including associated connotations. Additionally, such situations are frequently referenced (usually or potentially) in the communication of representatives of a given national-linguo-cultural community”^[2].

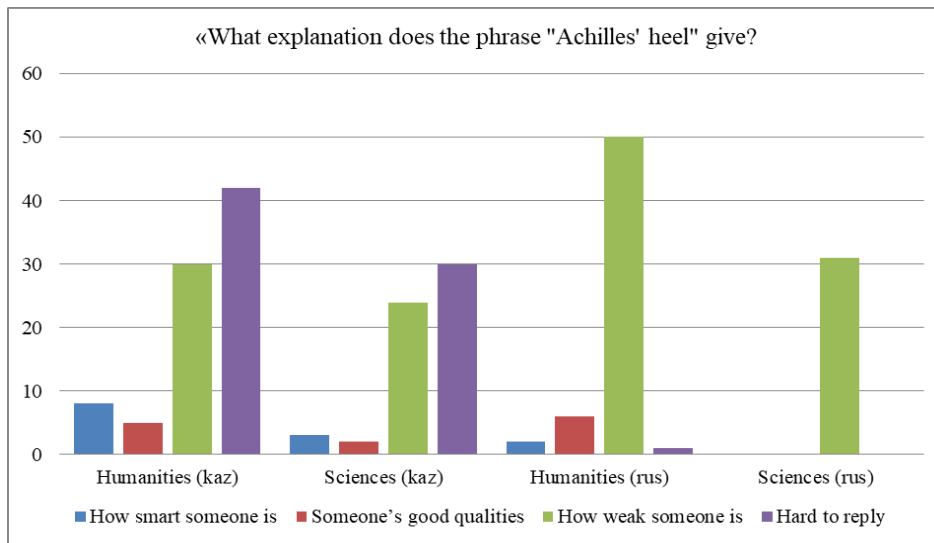


Figure 7. Student answers.

4. Conclusions

After reviewing the research and scholars' perspectives, the following conclusions can be drawn:

The theory of precedent is a significant and intriguing issue in linguistics. Precedent phenomena are central elements of the cognitive base, serving as symbols of events or situations and functioning as metaphors. The classification proposed by researcher Krasnikh is widely used in linguistics and includes: precedent name, precedent situation, precedent pronunciation, and precedent text. A precedent name is familiar to members of the National Linguistic and Cultural Society under consideration, while a precedent situation can be seen as a cultural imprint on language.

A precedent phenomenon represents a historical process preserved in human memory and reflects current social life, habits, customs, and traditions that revive over time. These phenomena include fiction, folklore, myths, historical events, phraseological units, quotes, proverbs, sacred texts, song lyrics, movies, and advertising.

The goal of modern mass media is to inform and influence the audience. Therefore, journalists frequently utilize precedent phenomena to enhance persuasiveness and demonstrate stylistic uniqueness. This use of precedent phenomena allows journalists to convey information with emotional nuance, resulting in a more effective readership

impact.

Journalists often modify or retain the original form of precedent phenomena to create new topics for articles, enhancing information delivery. While the content of articles may sometimes align with the semantics of precedent phenomena, at other times, interpretations may diverge^[31]. Our research examined universal precedent phenomena, such as Stockholm Syndrome and Achilles' Heel, across Kazakh, Russian, and English-language media. These phenomena serve multiple functions: providing rich content for journalism, evoking readers' feelings and emotions through references to popular fiction, and linking different texts by recalling literary works and mythical histories despite differences in time and space.

Through a questionnaire, we explored how precedent phenomena manifest in the cognition of young people. The popularity of fiction, its characters, and historical events significantly influences their role as precedent phenomena, marking one of their primary characteristics.

In this project, a comprehensive MySQL database has been developed, containing a rich collection of precedent phenomena – unique expressions and culturally significant themes. These phenomena are cataloged in both English, Russian and Kazakh, providing a diverse linguistic foundation for analyzing texts across these languages. This database serves as the core of a natural language processing (NLP) program, designed to identify and analyze

precedent phenomena in various text sources, including articles, PDFs, and other documents.

Our research utilized methods of description, analysis, generalization, and comparison. By comparing precedent texts with journalistic articles, we conducted our own analysis and drew conclusions.

Author Contributions

Conceptualization, A.S.K.; methodology, A.S.K.; software, A.A.B.; validation, A.S.A., A.S.K. and A.A.B.; formal analysis, A.S.K., A.S.A., S.S.; writing—original draft preparation, A.S.K.; supervision, A.S.A., S.S.; writing—review and editing, A.S.K. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest

The authors declare no conflict of interest

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