



بحوث قسم اللغة الإنجليزية



A Corpus-Based Transitivity Analysis of Covid-19 Editorials in Egyptian and Chinese Media

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Abstract:

In this study, the authors analyze Transitivity relations in covid-19 editorials selected from Egyptian and Chinese newspapers. The research relies on the use of computational Systemic Functional Linguistics for the analysis as the UAM CorpusTool is used for the analysis of the data. The Data consists of twelve editorials covering Covid-19 related topics. These editorials were drawn from two Egyptian newspapers: *Al-Ahram Weekly* and *The Egyptian Gazette*, and two Chinese newspapers: *China Daily* and *Global Times*. These four newspapers represent two different types of newspapers, namely Broadsheet and Tabloid, respectively, and they are state-owned newspapers published in English. The analysis tackles types of processes, participants, and circumstantial used in these editorials.

Key Words:

Editorials, Newspapers, News texts, Transitivity, Covid-19, Coronavirus, and Systemic Functional Linguistics.

تحليل التعديّة في المقالات الافتتاحية عن فيروس كورونا في وسائل الإعلام المصرية والصينية

الملخص:

يقوم الباحث في هذه الدراسة بتحليل التعدي في اثني عشرة مقالة افتتاحية عن فيروس كورونا في وسائل الإعلام المصرية والصينية. والنظرية المستخدمة في التحليل هي نظام التعدي الذي قدمه هاليداي، وتتكون العينة المستخدمة في التحليل من اثني عشرة مقالة افتتاحية حول موضوعات ذات صلة بـ Covid-19. وهذه المقالات الافتتاحية مأخوذة من صحيفتين مصريتين: *The Egyptian Gazette* و *Al-Ahram Weekly*، بالإضافة إلى صحيفتين صينيتين: *Global Times* و *China Daily*. تمثل الأربع صحف نوعين مختلفين من الصحف: صحف برود شييت و صحف التابلويد، وهم جميعاً صحف منشورة باللغة الإنجليزية. يتناول التحليل أنواع الأفعال المستخدمة، والمشاركين في الأفعال، والظروف المستخدمة في هذه المقالات الافتتاحية.

الكلمات المفتاحية:

التعدي، الدلالة، مقالات افتتاحية، فيروس كورونا، علم اللغة الوظيفي، علم تحليل النص.

1. Introduction:

Editorials are the manifestation of a newspaper's ideology. Although a single editor usually writes them, the opinions represented in them are institutional. Editorials discuss opinions and concerns with their readers, who use these editorials to make up their mind about world events. Unlike other news texts, editorials offer a piece of news in the form of a discussion, which may or may not appeal to the reader's views on the matter.

Despite their influence on public opinion, editorials have not been adequately studied by linguists. Van Dijk (1996) argued that most work on editorials is written by former journalists (Fischer & Fischer, 1990; Rystrom, 1994), who were trying to cover the press's opinion on a single historical event (Bagdikian, 1968), or foreign policies (Chang, 1989; Myers, 1982a, 1982b). Most of the work on editorials is focused on American and British newspapers. However, in this study, English-language editorials published by Chinese and Egyptian newspapers are the main scope.

The twelve editorials selected for this study are drawn from four established newspapers. The Egyptian newspapers include *Al-Ahram Weekly* and *The Egyptian Gazette*, whereas the Chinese newspapers include *China Daily* and *Global Times*. The editorials focus on Covid-19 related issues, and they offer their respective newspapers' ideology about that matter. The analysis of these editorials uses Halliday's (1994) Transitivity system as part of the Systemic Functional Linguistics theory. The analysis is carried out using the annotation tool UAM CorpusTool v.3.3, which allows statistical data production. This

statistical data are compared to find the different linguistic strategies used in newspapers from Egypt and China.

2. Theoretical Framework and Literature Review

2.1. Theoretical framework:

Transitivity refers to the system describing the whole clause, rather than just the verb and its object as focused on by transitivity in traditional grammar (Thompson, 1996). Eggins (2004) describes Transitivity as the combination of "processes, participants and circumstances carried out by the content words of clauses" (213). These processes, participants, and circumstances are classified into different types that are significantly important for constructing the meaning, and scheme of a text as a whole .

Halliday classified processes into six different process types: material, mental, verbal, relational, existential, and relational. Each of these processes expresses a different meaning relation. Halliday's classification can be summarized in the following table:

Table 1: Process types, their meaning, and key participants (Halliday, 1994, p: 143)

Process type	Category meaning	Participants
Material: Action, event	Doing, Happening: e.g. kick, run, paint, repair, send, burn	Actor, Goal
Behavioural	Behaving: e.g. cry, smile, glare	Behaver
Mental: Perception, Affection, Cognition	Sensing, Seeing, Feeling, Thinking: e.g. see, hear, know	Senser, Phenomenon
Verbal	Saying: e.g. say, tell, warn, argue, ask	Sayer, target
Relational: Attribution, Identification	Being, Attributing, Identifying: e.g. be, have, become	Carrier, Attribute, Identified, Identifier, Token, Value
Existential	Existing: e.g. be	Existence

As shown in Table 1, participants' roles differ according to the different process type used. The process type determines the relationship between participants and their role in the whole action.

Different types of circumstances add information about time (when), place (where), manner (how), and reason/cause (why, for what/who), among others. These circumstances can be probed with questions that could be answered by that circumstance.

Table 2: Types of circumstance in English
(Matthiessen, 2011, p: 4)

Circumstance type	Typical probe	Example realization	Circumstance sub-category	Subcategory probe
Extent	How ___? At what intervals?	For three hours Every three hours	temporal	For how long?
		Every second step For six miles	spatial	How far?
Location	At what point?	In September; before tea; recently; during the lesson	temporal	When?
		In the yard; from Paris	spatial	Where?
Manner	How?	With a hammer; by trickery	means	By what means?
		Quickly	quality	How?
		As fast as possible; like a top	comparison	What like?
Cause	Why?	Because of you; thanks to him; for lack of \$5	reason	Why?
		For better results; in the hope of a good deal	purpose	For what purpose?
		On behalf of all of us	behalf	On whose behalf?
Contingency	In what circumstances?	In the event of rain; without more help (we can't do it)	condition	Under what conditions?
		In spite of the rain	concession	Despite what?
		In the absence of proof	default	Lacking what?
Accompaniment	Together with?	With(out) his friends	comitative	Who/what with?
		As well as them; Instead of them	additive	And who/what else?
Role		As a concerned parent	guise	What as?
		(smashed) into pieces	product	What into?
Matter	What about?	About this; with reference to that		
Angle	Says who?	According to the shorter Oxford		

After having discussed the constituents of a clause according to the transitivity system, let us discuss the data collection and the analysis procedure of this research.

2.2. Literature review:

Systemic Functional Linguistics has been used for Discourse Analysis since its emergence in the 1950s. The researcher has used Halliday's proposed systems for the analysis of different contexts. Transitivity is one of the systems that were extensively researched over the last couple of decades. Researchers from different countries used Transitivity to explore the representation of their countries' images in foreign media (Viscido, 2014; Tang, 2018; Leung and Huang, 2007; Wu, 2006), and effects of the linguistic choices on influencing how the people think about international affairs (Manheim and Albritton, 1984; Wanta et al., 2004; Zhang and Meadows, 2012). Several studies relied on the transitivity system for the analysis of news texts. Jóhannsdóttir (2018) stated in his research on Iceland press that online traditional newspapers are shaped by their institutional norms. Noor (2017) studied online newspapers in Malaysia, integrating Critical Discourse Analysis and Systematic Functional Linguistics.

Since the emergence of Computational SFL, studies have made use of computational tools for the analysis of research corpora. These tools have facilitated the analysis process, and made it easier to analyze large corpora in less time. These tools were used for the analysis of various fields, ranging from education (Aika, 2017; Machado, Armas, 2017; Munalim, 2017) to healthcare (Crosthwaite, Cheung, and Jiang, 2017).

3. Data collection and Methodology:

3.1. Data collection:

As for the choice of the newspapers, one of the aims of the research is to investigate the different linguistic choices between newspapers in Egypt and China. The editorials that are selected for this study discuss Covid-19 related topics. This topic has dominated newspapers since the beginning of 2020 until the time of writing this research report. Egyptian and Chinese newspapers have been reflecting their institutional ideologies about the matter, and the analysis of the selected data is expected to uncover the similarities and differences between the covering of the Covid-19 related topics in the newspapers of the two countries.

As for the choice of the newspapers, *Al-Ahram weekly* is one of the leading English newspapers in Egypt and is published by Al-Ahram publishing house as a Broadsheet newspaper. On the other hand, *The Egyptian Gazette* is the oldest English-language newspaper in the Middle East, and is published as a Tabloid by another established household in the field media organization; El Tahrir Printing and Publishing House. *The Egyptian Gazette* has both a daily and a weekly edition; the daily edition is called *The Egyptian Gazette* whereas the weekly edition is called *The Egyptian Mail*. These two newspapers were chosen due to their historical importance, the number of readers, and influence on public opinion.

Global Times is an English-language Tabloid that follows the *People's Daily* newspaper, and it has a circulation of over 200,000 copies. *China Daily* is an English-language Broadsheet owned by the publicity department of the Chinese Communist Party. It has the widest print circulation of any English-language newspaper in China (Hartig, 2017). These four newspapers represent

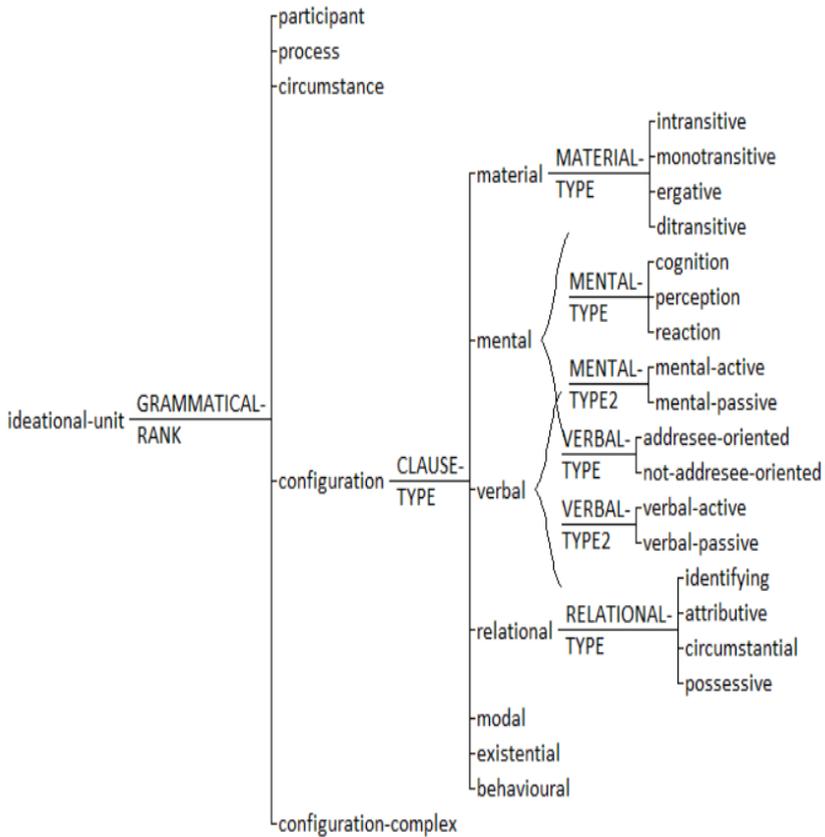
the top Broadsheet and Tabloid newspapers in their countries and greatly influence their readers.

3.2. Methodology:

The current research relies on UAM CorpusTool version 3.3 for the analysis of text corpora. This Corpus tool has an integrated Transitivity Scheme that is used as a layer for the analysis. UAM is used because it is able to conduct automatic annotation of English grammatical structures and the parts of speech contained in the text. The Transitivity scheme identifies five ranks of grammatical units:

- 1- Participants
- 2- Processes
- 3- Circumstance
- 4- Configuration
- 5- Configuration-complex

Figure 1: SFL-Transitivity Scheme in UAM CorpusTool

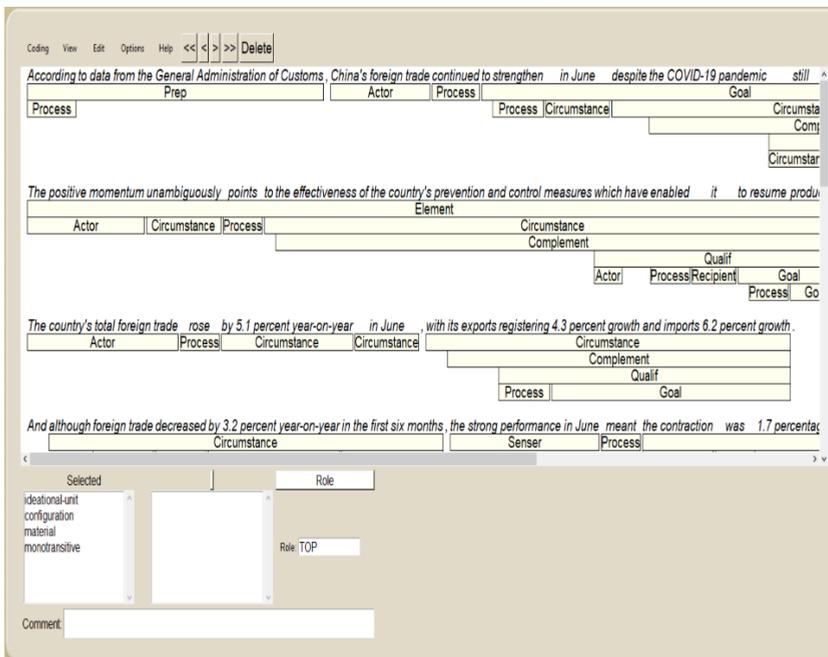


Participants are the entities that take part in the action; either as the doers of the actions, or the ones affected by these actions. Processes refer to the segments that carry the action itself. Circumstance adds information about time, place, manner, and reason/cause. The remaining two grammatical ranks refer to the classification of processes. Whereas Configuration refers to the classification of processes into a specific process types, configuration-complex refers to those processes which can be associated with more than one processes type and which require the researcher to determine the process type according to the context.

After setting the scheme, UAM could offer an annotation of the research corpora based on the scheme chosen. It recognizes segments according to their corresponding grammatical rank: participant, process, or circumstance. The CorpusTool also configures the clause type into the six different process types, and it offers configuration-complex, if present.

In this study, the researcher investigates the balance between different grammatical units. It also offers a classification of these units into their subcategories, which, in turn, offers more detailed results about the linguistic choices made in these editorials.

Figure 2: Example of SFL-Transitivity analysis in UAM CorpusTool:



The results are presented in two groups: analysis results of the Egyptian editorials and analysis results of the

Chinese editorials. The results are then compared to find the different norms that these editorials applied in dealing with this topic. The UAM CorpusTool also allows the researcher to compare the two sets of results.

4. Data analysis and findings:

The twelve editorials are added to a single project in the UAM CorpusTool but are divided into two groups to provide separate results for newspapers from each country. The results are represented collectively, with no intent to compare the results of each editorial separately. Newspapers from the same country will not be compared as well, as the main aim of this research is to investigate the different linguistic choices used in each country rather than the different linguistics choices in editorials from the same country.

The analysis starts by using the SFL-transitivity Scheme to assign each segment to its corresponding rank of grammatical units, with a discussion of the significance of these results. Afterwards, the processes in the editorials are classified into the six different process types to find the frequency of each of these process types. The final part of the analysis configures the participants used in these editorials to find the most frequently used participant types.

An initial look at the results provided in the tables below shows that these results give an insight into the linguistic choices that the editors believed were suitable for the topic at hand. The first step in presenting the results of data analysis is investigating the frequency of each of the five ranks of grammatical units.

Table 3: Grammatical rank in the editorials

GRAMMATICAL-RANK	Chinese editorials		Egyptian editorials		Significance	Effect Size
	N	%	N	%		
- participant	430	28.3	431	28.3		0.000
- process	423	27.8	419	27.5		0.007
- circumstance	306	20.1	325	21.4		0.030
- configuration	360	23.7	347	22.8		0.021
- configuration-complex	0	0.0	0	0.0		
TOTAL:	1519	100.0%	1522	100.0%		

It can be seen in Table 3 that the number of participants is more than the number of processes with a small margin due to the extensive use of monotransitive and intransitive material processes. This margin should have been bigger but the UAM CorpusTool included some nominalized verbs in the results, which led to the high percentage of intransitive verbs as well. This reflects the authors' focus on participants that carry out the actions and the goals of these actions rather than on the actions themselves. Moreover, the frequent use of circumstances also reflects the authors' attempt to maintain a simple approach, without using processes that would shift the readers' focus from the main action/event.

The results in table 3 show that participants are the most occurring grammatical rank in both sets, followed by processes. Circumstances are also used frequently in the editorials. Editorials from Egypt and China showed very close percentages in all of the five different grammatical ranks, which reflects that they both follow the same norms in this area of analysis. According to Van Dijk (1995), an editorial should have the following schematic categories:

- 1- Summary of past events
- 2- Evaluation of events
- 3- Pragmatic Conclusion (Recommendation, advice, warning).

Material processes form the main part of the first and third schematic categories, while the second schematic category makes use of the relational and mental processes. As for the processes used in the editorials, they are classified in table 4:

Table 4: Clause types in the editorials

CLAUSE-TYPE	Chinese editorials		Egyptian editorials		Significance	Effect Size
	N	%	N	%		
- material	225	67.0	249	75.7	+++	0.193
- mental	31	9.2	19	5.8	+	0.132
- verbal	19	5.7	27	8.2		0.101
- relational	44	13.1	25	7.6	++	0.182
- modal	0	0.0	0	0.0		
- existential	17	5.1	9	2.7		0.121
TOTAL:	336	100.0 %	329	100.0 %		

+++ = The statistical significance is of high level

++ = The statistical significance is of medium level

+ = The statistical significance is of low level

Table 4 shows that both sets of editorials are dominated by material processes; however, the Egyptian editorials show a significantly higher percentage of use

than the Chinese editorials. While the CorpusTool shows that more than 75% of the whole count of processes in the Egyptian editorials are material, it shows that 67% of the processes in the Chinese editorials are classified as material processes. The results for the second most frequently used process type in these editorials show some variation. In the Egyptian editorials, the second most frequent process type is the verbal process, which shows the Egyptian newspapers' reliance on quoting other entities rather than offering their comments on the events and situation. On the other hand, the Chinese editorials prefer the relational process as they are used to offer comments on the situation, which shows that they relied on a different approach than the Egyptian editorials.

Mental processes are used more often in the Chinese editorials, showing that they offer opinions and thoughts more frequently than the Egyptian editorials. The mental process analysis shows similar results in the two sets of editorials. After having analyzed the process types, the research offers a classification of the participant types found in these editorials.

Table 5: Participant roles in the editorials

Process	Participant	Chinese editorials		Egyptian editorials	
		N	%	N	%
- material	Actor	100	23.26%	88	22.39%
	Recipient	9	2.1%	10	2.54%
	Goal	150	34.88%	163	41.48%
- mental	Senser	11	2.56%	11	2.8%
	Phenomenon	9	2.1%	7	1.78%
- verbal	Sayer	10	2.32%	19	4.84%
	Verbiage	8	1.86%	10	2.54%

- relational	Carrier	51	11.86%	38	9.67%
	Attribute	54	12.56%	38	9.67%
	Possessor	10	2.32%	5	1.27%
	DObj	10	2.32%	2	0.51%
- existential	Existent	8	1.86%	2	0.51%
TOTAL:		430	100.0%	393	100.0%

The results of the participant roles' analysis show similar frequencies/percentages in both sets of editorials, except for some differences that are following the different percentage for process types in each country's editorials. Having found that the material processes are the most frequently used process type in both sets of editorials, it is accordingly found that the participant roles of the material process are the highest to occur. Among the participants of the material process, Goal show the highest percentage of users, and the percentages could have been higher if not for the high usage of intransitive and monotransitive material processes, as shown in table 6:

Table 6: Types of material processes in the editorials

MATERIAL-TYPE	Chinese editorials		Egyptian editorials		Significance	Effect Size
	N	%	N	%		
- intransitive	52	23.1	49	19.7		0.084
- monotransitive	137	60.9	186	74.7	+++	0.297
- ergative	33	14.7	12	4.8	+++	0.343
- ditransitive	3	1.3	2	0.8		0.052
TOTAL:	225	100.0%	249	100.0%		

However, Goal shows a higher percentage in the Egyptian editorials than in the Chinese editorials, which might be due to the high usage of ergative material processes in the Chinese editorials. The results for the participants in the mental process show insignificant

differences. Furthermore, since verbal processes are more common in the Egyptian editorials, participants of the verbal process are also in line with these results, with higher percentages of Sayer and Verbiage in the Egyptian editorials. On the other hand, participants of the relational process are more frequently used in the Chinese editorials. The direct object (DObj), which is a participant type of the relational process that can be found in both possessive and attributive processes, was used only twice in the Egyptian editorials compared with ten times in the Chinese editorials.

5. Discussion:

The study finds out that the distribution of words across the grammatical ranks is similar in China and Egypt. However, the two countries' editorials show some differences in the choice of clauses. Although the most frequently used clause in editorials from both countries type is the material process, the verbal process is the second most used process type in the Egyptian editorials whereas the relational process is the second most used process in the Chinese editorials. As for the type of material clauses used, Chinese editorials use more ergative processes while Egyptian editorials used more monotransitive processes. The participant analysis shows similar results as the percentages of different types of participants in the editorials reflect the results of the process analysis.

6. Conclusion

The findings of this research show that the newspapers from the two countries showed similarities and differences in terms of the linguistics choices made. Some of these difference were of high significance and impacted the rest of the choices throughout the texts. Such differences might be

influenced by the mother tongues in these two countries or by the cultural norms in these countries. These differences require further research to determine whether these choices follow the norms of writing editorials in these two countries' native languages.

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