

Yuliia HLAVATSKA,
orcid.org/0000-0002-1162-0251
Candidate of Philological Sciences,
Associate Professor at the Department of Hotel and Restaurant
and Tourist Business and Foreign Languages
Kherson State Agrarian and Economic University
(Kherson, Ukraine) yuliia_glavatskaya17@ukr.net

FAKE NEWS: SCIENTIFIC APPROACHES OF ITS INVESTIGATION

The article describes the systematic nature of scientific approaches to the study of fake news. This problem has been largely studied and many viable solutions have been found. Using the thesaurus method of analysis it has been found that the term “fake news” is considered both in English dictionaries and in the scientific works of domestic and foreign scientists. Moreover, it has been clarified that the theoretical understanding of fake news should be studied within the so-called post-truth era, i.e. a state of modern digital society in which facts are less valuable than the emotions and reactions of people and society.

The aim of our paper is to outline the various scientific vectors of fake news investigation in modern linguistics, among which we focus on linguistic and journalistic research methods. It has been found that foreign and domestic scholars compare real news texts and satirical and humorous texts of fake news in order to determine the verbal properties of the latter (comparative analysis). Representatives of this approach have come to the conclusion that fact-checking is a really important task, because the variety of lexical characteristics gives us the opportunity to understand the differences between more reliable and less reliable sources of digital news.

It has been noted that the differences between fake and real news can be found in their headlines. Satirical news articles are created for entertainment, to highlight certain negative characteristics of famous people or events, and so on. For this purpose, the content of fake and real news, their headlines, as well as tools of persuasion are studied.

The main advantage of computer science methods or network approaches to the study of fake news is that scientists have been able to analyze the spread of fake news, highlighting such criteria as: reliability of news texts, readers' views, their likes in Facebook posts, checking the features of social interaction.

Moreover, scholars are currently using automatic means to detect fake news on the Internet. Scientists study the linguistic, cognitive, communicative and pragmatic parameters of fake news, focusing on their classifications and the phenomenon of comic verbalization.

Key words: *fake news, scientific approaches, post-truth era, linguistic and journalistic methods, detection of fake news, computer science methods.*

Юлія ГЛАВАЦЬКА,
orcid.org/0000-0002-1162-0251
кандидат філологічних наук,
доцент кафедри готельно-ресторанного та туристичного бізнесу й іноземних мов
Херсонського державного аграрно-економічного університету
(Херсон, Україна) yuliia_glavatskaya17@ukr.net

ФЕЙКОВІ НОВИНИ: НАУКОВІ ПІДХОДИ ДО ЇХНЬОГО ДОСЛІДЖЕННЯ

У статті описано системність наукових підходів до вивчення фейкових новин. Ця проблема значною мірою вивчена й знайдено багато обґрунтованих рішень. Застосовуючи тезаурусний метод аналізу, було з'ясовано, що термін «фейкові новини» розглядається і в англійськомовних словниках, і в наукових доробках вітчизняних і закордонних вчених. Більше того, було уточнено, що теоретичне осмислення фейкових новин потрібно відслідковувати у руслі так званої політики постправди, тобто такого стану сучасного цифрового суспільства, в якому факти мають меншу цінність, ніж викликані ними емоції та реакції людей й суспільства.

Мета нашої статті полягає в тому, щоб окреслити різноманітні наукові вектори вивчення фейкових новин у сучасній лінгвістиці, серед яких ми акцентуємо увагу на лінгвістичних і журналістських методах дослідження. Було встановлено, що зарубіжні та вітчизняні науковці порівнюють реальні новинарні тексти та сатиричні й гумористичні тексти фейкових новин з метою визначення вербальних властивостей останніх (компаративний аналіз). Представники цього підходу дійшли висновку, що перевірка фактів постає справді актуальною задачею, адже різноманітність лексичних характеристик надає нам можливість усвідомити відмінності між більш надійними та менш надійними джерелами цифрових новин.

Було зазначено, що відмінності фейкових новин від реальних можна знайти в заголовках новин. Сатиричні новинарні тексти створюються задля розваги, щоб висвітлити певні негативні риси відомих людей, подій тощо.

З цією метою вивчається зміст фейкових і реальних новин, їхні заголовки, а також інструменти переконання.

Головна перевага методів інформатики або мережесевих підходів щодо вивчення фейкових новин полягає в тому, що вчені змогли проаналізувати поширення фейкових новин, висунувши на перший план такі критерії, як-то: надійність новинарних текстів, точки зору читачів, їхні лайки в дописах у «Фейсбук», перевірка особливостей соціальної взаємодії.

Більше того, наразі вчені користуються автоматичними засобами виявлення фейкових новин в усережжі. Вчені вивчають лінгвістичні, когнітивні, комунікативні та прагматичні параметри фейкових новин, зосереджують свою увагу на питаннях їхньої класифікації й феномену комічної вербалізації.

Ключові слова: фейкові новини, наукові підходи, політика постправди, лінгвістичні та журналістські методи, виявлення фейкових новин, методи інформатики.

Defining the problem and argumentation of the topicality of its consideration. Due to the demand for searching instant news within the World Wide Web fake news is becoming more and more common. It's completely or partly fictitious information about certain persons, social events, phenomena. Fake news is presented in the media as real authoritative journalistic materials. Such information is often of humorous or satirical nature and created either for entertainment purposes, or in order to draw attention to important social problems or to ridicule some shameful phenomena, common in certain community, or, in the end, to misinform and provoke the public.

According to G. Pocheptsov, "fake news is an event that does not precede the news as the norm, but is deliberately created for specific news. In other terms it is a different structure of the transition from physical to information space" (Pocheptsov, 2019: 63). Social media has provided an information environment for fakes, giving rise to multiple sources of information. And basically it is the presence of a separate source that claims to be the emergence of its own truth (Pocheptsov, 2019: 105).

Research analysis. The phenomenon of fake news requires its theoretical understanding in the post-truth era, as our modernity is called. The post-truth, named the Word of the Year 2016, is defined as "relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief" (Word of the Year, 2016). Post-truth is a state of modern digital society in which facts have less value than the emotions and reactions of people and society caused by them.

L. McIntyre states that a post-truth world started not in 2016 (the year of US presidential elections); the background of its highlighting is "the denial of scientific facts about smoking, evolution, vaccines, and climate change; the decline of traditional media and the rise of social media, and the emergence of fake news as a political tool" (McIntyre, 2018).

R. Boston made such a conclusion: "Post-truth America is an America where lies are spouted by politicians and their followers brazenly and openly with little or no consequence" (Boston, 2015). If

looking beyond the 2016 election one can come across fresh misinformation threats such as untrue statements about COVID-19 (Pennycook et al., 2020) and deceit in the 2020 US Presidential Election (Pennycook, Rand, 2021).

Nowadays we can trace various definitions of fake news in media space, for instance: "Fake news is news content published on the internet that aesthetically resembles actual legitimate mainstream news content, but that is fabricated or extremely inaccurate. Also referred to as false, junk, or fabricated news" (Pennycook, Rand, 2021).

Yu. Omelchuk states that fake news is a kind of media text, a dynamic, complex unit of higher level, through which speech communication is carried out in the field of mass communication; it is a creolized, polycoded, integrative text with verbal, visual, and audiovisual components (Omelchuk, 2018).

Cambridge dictionary contains such a definition of fake news: "false stories that appear to be news spread on the internet or using other media, usually created to influence political views or as a joke" (Fake news, 2022). In Collins English Dictionary we find: "false, often sensational, information disseminated under the guise of news reporting" (Fake news, 2022). Oxford English Dictionary has such an entry: "False information that is broadcast or published as news for fraudulent or politically motivated purposes" (Fake news, 2022).

The aim of our paper is to shed light on various scientific vectors as for fake news studying in modern linguistics.

Presenting main material. Having analyzed the theoretical and practical academic writings of the scholars we can state that there are some scientific approaches as for the fake news. One approach to solve this problem involves the use of *linguistic and journalistic methods* (Zhou et al., 2019; Chen et al., 2015; Bourgonje et al., 2017; Granik, Mesyura, 2017; Horne, Adali, 2017; Rashkin et al., 2017). In general, all scientific writings done within this approach are oriented towards fake news detection, but each of them has a specific view to the problem mentioned.

H. Rashkin (Rashkin et al., 2017), for example, drew our attention to the *comparative analysis* of real news texts and those of satirical and humorous tricks to determine verbal features of fake news. It had been proved that in fake news articles such linguistic phenomena as first- and second-person pronouns, modal adverbs, superlatives, subjectives as well as hedging lexemes were more often used. All data was statistically checked with Welsch t-test after Bonferroni correction (Rashkin et al., 2017: 2932).

The representatives of this approach reached the conclusion that fact-checking was indeed an urging task, but the variety of lexical features could help us realize the differences between more reliable and less reliable digital news sources (Rashkin et al., 2017: 2935).

B. Horne and S. Adali analyzed *the difference of fake and real news in title features*, complexity and style of content. Satire news was created for entertainment to foreground some negative features of famous figures, events etc. For this study, it was of interest to investigate the content of fake and real news articles, the titles of the news mentioned as well as the tools of persuading the recipient (arguments – for real stories, whereas heuristics – for fake news). Moreover, Elaboration Likelihood Model was considered as a theory to explain the spread and persuasion of fake news (Horne, Adali, 2017).

M. Granik and V. Mesyura (Granik, Mesyura, 2017) showed a simple approach for fake news detection using naive Bayes classifier and achieved decent result considering the relative simplicity of their model. In comparison with other techniques, this method had the advantage of fake news classification.

P. Bourgonje et al. (Bourgonje et al., 2017) presented a system for distinguishing the position of fake news headlines as for their corresponding article contents. The results of the investigation could be relative not only to fake news, but also clickbait detection schemes. One of the primary benefits of the first Fake News Challenge (FNC1) used as a dataset in this work was the opportunity to classify “related” and “unrelated” headlines.

Y. Chen et al. explored dominant methods for the *automatic detection of fake news* on the internet. Being interested in clickbaiting, the scholars considered the methods for admitting textual clickbaiting cues (lexical, semantic, syntactic, and pragmatic levels of analysis) as well as non-textual ones (image and user behaviour analysis) (Chen et al., 2015). Syntactic and pragmatic levels of the analysis proposed the study of fake news headlines as they semantically reflected the content of the fake news stories and served to attract the reader’s attention. There is in fact sufficient

information presented in this academic writing: it has been found that clickbait often combines the use of images as they are considered to be the tools of holding the recipients’ attention via misinformation.

A solution to the problem of *fake news detection* was proposed by Zhou et al. The scholars therefore analyzed linguistic aspects of an article without any fact checking and investigated the models which were supposed to be prospective to determine the difference between fictitious news and under-written real news. Fake news detection methods described and effectively proved in this paper are grounded on natural language processing. The data were obtained using Adversarial Machine Learning (Zhou et al., 2019).

It is important to highlight fake news within *linguistic, cognitive, communicative and pragmatic parameters* (Omelchuk, 2018). Fake news was defined as a new media reality including untruthful, doubtful or even retorted facts of a famous figure as well as the events of any society. It was viewed through the concept LIE verbalized by means of words denoting deceit. The linguistic characteristics of fake news realization lead to four dominant communicative strategies – “argumentative, appealing, valorative, and strategy of perlocutionary effect optimization” (Omelchuk, 2018: 30).

S. Rybachok, focusing on extralingual factors of discursive practices of fake news, speculated that they might be interpreted as certain types and forms of social practice. They organized public life with the help of unreliable, dishonest, false means; moreover, they determined communicative-speech forms of individuals’ behaviour in typical situations in order to mislead and choose communicative strategies and methods of influence associated with the exercise of social power (Rybachok, 2020: 91). On this basis, the scholar concluded that among extralingual factors of discursive practices of fake news there were technological, geopolitical, political, communicative, informational, populist, cultural, anthropocentric, and discourse-centric factors (Rybachok, 2020: 92).

The main advantage of *computer science methods* or network approaches, in other terms, used for fake news studying is that scholars were able to analyze the spread of fake news foregrounding the reliability of news articles via getting readers’ contrary points of view (Jin et al., 2016), their likings in Facebook posts (Tacchini et al., 2017), checking social interaction peculiarities (Volkova et al., 2017).

The main emphasis of the experiments within *synergetic approach* (Hlavatska, 2019) was to state that fake news could be self-organized and self-referred as such news stories were efficient

to exchange information as well as react to outer changes instantly (Hlavatska, 2019: 276). Using the methodological basis of synergy there was an attempt to prove that “the attractors of “fake” news are its functions as a result of cooperation of the author and the information deliberately imagined. Its factuality is represented in original text of news within mass media space. The repellers, which personify the order of parameter of the “distorted” sense, are different criteria as the basis of three topical classifications of fake news” (Hlavatska, 2019: 276).

Various approaches had been put forward to solve the question of the *taxonomy of fake news*. Contrasting serious reports to deceptive news, the scholars grouped the latter into: a) fabrication, b) hoaxing and c) satire detection (Rubin et al., 2016). A well-known Russian journalist and philologist, G. Pocheptsov, in his book “Disinformation” noted three positions on the classification of fake news according to: the intention of the author of fakes (the news contains deliberately false information), the typology of fake news (deception, propaganda and trolling), the characteristics of fake news, which are used either by moderators-people, or machine systems for recognizing fakes (Pocheptsov, 2019: 48). A. Rajan, the media editor, stated three classes of fake news such as 1) deliberately running false information to achieve political goals or make money from online traffic; 2) false information disseminated by journalists who do not understand that they are telling a lie; 3) news that, for example, made Trump uncomfortable is not fake, people don't want to admit it, so they want to silence it (Rajan, 2017). More details are given in our

previous paper (Hlavatska, 2019). In addition, the phenomenon of the comic verbalization in the texts of fake news had been also briefly observed in our article (Hlavatska, 2019).

Conclusions. Summing up, we can say that a whole range of different approaches to the problem discussed are available. Fake news investigation is held within different scientific vectors among which we have outlined various linguistic and journalistic methods. The foreign and domestic scholars pay attention to the comparison of real news texts and those of satirical and humorous tricks to determine verbal features of fake news, the difference of fake and real news which may be found in title features, automatic detection of fake news on the internet, linguistic, cognitive, communicative and pragmatic parameters as well as network approaches of fake news. For this study, it is of interest to outline the matter of fake news classifications and, moreover, the phenomenon of the comic verbalization in the texts of fake news.

Future studies could fruitfully explore the ways of decontextualization of English satirical fake news via the satirical code (the term by L. Pichtovnikova) (Pichtovnikova et al., 2016) referring to both the author's and the reader's axiological evaluation of the objects described. To our mind, a challenging problem which arises in this domain is to show how satire is actualized in fake comic stories. To illuminate this uncharted area, we are going to compare the texts of real news sited on credible news sources in media space and those displayed on originating sources, the Onion, for example.

СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ

1. Главацька Ю.Л. Класифікація «фейкових» новин у сучасному медіапросторі: синергетичний аспект. *Науковий вісник Херсонського державного університету*. Херсон : ХДУ, 2019. Вип. 1. С. 275–280. Серія «Германістика та міжкультурна комунікація».
2. Омельчук Ю. Псевдоновини як жанр сучасного англомовного медіадискурсу: лінгвокогнітивний, комунікативно-прагматичний параметри : дис. ... канд. філол. наук : 10.02.04 / Запорізький національний університет. Запоріжжя, 2018. 213 с.
3. Пихтовникова Л. С., Мастерова Е. П., Кабусь Е. П. Немецкоязычные публицистические тексты социально-критического направления: прагматилистический и когнитивный аспекты : монография. Х. : ХНУ имени В. Н. Каразина, 2016. 164 с.
4. Почепцов Г. Г. Дезинформация. К. : ПАЛИВОДА А.В., 2019. 248 с.
5. Рибачок С. М. Екстралінгвальні чинники дискурсивної практики псевдоновин. *Наукові записки Національного університету «Острозька академія»: серія «Філологія»*. Острог : Вид-во НаУОА, 2020. Вип. 10(78). DOI: 10.25264/2519-2558-2020-10(78)-90-92.
6. Boston R. Humanists and the Rise of “Post-Truth America” URL: <https://thehumanist.com/magazine/january-february-2016/church-state/humanists-rise-post-truth-america>.
7. Bourgonje P., Schneider J. M., Rehm G. From clickbait to fake news detection: an approach based on detecting the stance of headlines to articles. *Proceedings of the 2017 EMNLP*. URL: <https://aclanthology.org/W17-4215/>.
8. Chen Y., Conroy N. J., Rubin V. L. Misleading online content: recognizing clickbait as “false news”. *Proceedings of the 2015 ACM on Workshop on Multimodal Deception Detection*. URL: https://www.researchgate.net/profile/Victoria-Rubin/publication/283721117_Misleading_Online_Content_Recognizing_Clickbait_as_False_News/links/5644c4b108ae54697fb813d1/Misleading-Online-Content-Recognizing-Clickbait-as-False-News.pdf.
9. Fake news. *Cambridge Dictionary*. URL: <https://dictionary.cambridge.org/ru/словарь/английский/fake-news>.
10. Fake news. *Collins Dictionary*. URL: <https://www.collinsdictionary.com/dictionary/english/fake-news>.

11. Fake news. *UK Dictionary*. URL: https://www.lexico.com/definition/fake_news.
12. Granik M., Mesyura V. Fake news detection using naive Bayes classifier. *IEEE First Ukraine Conference on Electrical and Computer Engineering (UKRCON)*. DOI: doi.org/10.1109/UKRCON.2017.8100379.
13. Hlavatska Yu. "Fake" news via the comic: distortion of information. *Modern development trends in philology and social communication*. Lviv-Toruń : Liha-Pres, 2019. P. 18–33.
14. Horne B. D., Adali S. This just in: Fake news packs a lot in title, uses simpler, repetitive content in text body, more similar to satire than real news. *2nd International Workshop on News and Public Opinion at ICWSM*. URL: <https://arxiv.org/abs/1703.09398>.
15. Jin Z. et al. News Verification by Exploiting Conflicting Social Viewpoints in Microblogs. *Proceedings of the AAAI Conference on Artificial Intelligence*. URL: <https://ojs.aaai.org/index.php/AAAI/article/view/10382>.
16. McIntyre L. Post-Truth. URL: <https://mitpress.mit.edu/books/post-truth>.
17. Pennycook G. et al. Fighting COVID-19 misinformation on social media: experimental evidence for a scalable accuracy nudge intervention *Psychological Sciences*. 2020. № 31. P. 770–780.
18. Pennycook G., Rand D. G. Examining false beliefs about voter fraud in the wake of the 2020 Presidential Election. *The Harvard Kennedy School Misinformation Review* 2. 2021. № 1. P. 1–19. DOI: doi.org/10.37016/mr-2020-51.
19. Pennycook G., Rand D.G. The Psychology of Fake News. *Trends in Cognitive Sciences*. 2021. № 25(5). P. 388–402. DOI: doi.org/10.1016/j.tics.2021.02.007.
20. Rajan A. Fake news: too important to ignore. URL: <https://www.bbc.com/news/entertainment-arts-38636042>.
21. Rashkin H. et al. Truth of varying shades: Analyzing language in fake news and political fact-checking. *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing*. DOI: doi.org/10.18653/v1/D17-1317.
22. Rubin V. L. et al. Deception detection for news: three types of fakes. *Proceedings of the Association for Information Science and Technology* DOI: doi.org/10.1002/pr2.2015.145052010083.
23. Tacchini E. et al. Some like it hoax: Automated fake news detection in social networks. *Proceedings of the Second Workshop on Data Science for Social Good*. URL: <https://arxiv.org/abs/1704.07506>.
24. Volkova S. et al. Separating facts from fiction: Linguistic models to classify suspicious and trusted news posts on twitter. *Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics*. URL: doi.org/10.18653/v1/P17-2102.
25. Word of the Year 2016. URL: <https://languages.oup.com/word-of-the-year/2016/>.
26. Zhou Z. et al. Fake News Detection via NLP is Vulnerable to Adversarial Attacks. *Proceedings of the 11th International Conference on Agents and Artificial Intelligence*. DOI: doi.org/10.5220/0007566307940800.

REFERENCES

1. Hlavatska Yu. Klyasifikatsiia «feikovykh» novyn u suchasnomu mediaprostori: synerhetychnyi aspekt [Classification of "fake" news in modern media space: a synergetic aspect]. *Scientific Bulletin of Kherson State University*, 2019, № 1, pp. 275–280 [in Ukrainian].
2. Omelchuk Yu. Pseudonovyny yak zhanr suchasnoho anhlomovnoho mediadyskursu: linhvokohnityvnyi, komunikatyvno-prahmatychnyi parametry [Pseudo news as a genre of modern English media discourse: linguistic, cognitive, communicative and pragmatic parameters]. Kherson, Zaporizhzhia : Kherson State University, Zaporizhzhia National University. Ph.D. thesis, 2018, 213 p. [in Ukrainian].
3. Pihotnikova L. et al. Nemetskoyazyichnyie publitsisticheskie teksty sotsialno-kriticheskogo napravleniya: pragmatylicheskyy i kognityvnyy aspekty [German Publicistic Texts of the Socio-Critical Direction: Pragmatic and Cognitive Aspects]. Kharkiv : V. N. Karazin Kharkiv National University, 2016, 164 p. [in Russian].
4. Pocheptsov G. Dezinformatsiya [Disinformation]. K. : PALIVODA A.V., 2019, 248 p. [in Russian].
5. Rybachok S. Ekstralinhvalni chynnyky dyskursyvnoi praktyky pseidonovyn [Extralingual factors of discursive practices of fake news]. *Scientific Proceedings of Ostroh Academy National University. Philology Series*, 2020, Nr 10(78), pp. 90–92 [in Ukrainian].
6. Boston R. Humanists and the Rise of "Post-Truth America". Available from: <https://thehumanist.com/magazine/january-february-2016/church-state/humanists-rise-post-truth-america>.
7. Bourgonje P., Schneider J. M., Rehm G. From clickbait to fake news detection: an approach based on detecting the stance of headlines to articles. *Proceedings of the 2017 EMNLP*. Available from: <https://aclanthology.org/W17-4215/>.
8. Chen Y., Conroy N. J., Rubin V. L. Misleading online content: recognizing clickbait as "false news". *Proceedings of the 2015 ACM on Workshop on Multimodal Deception Detection*. URL: https://www.researchgate.net/profile/Victoria-Rubin/publication/283721117_Misleading_Online_Content_Recognizing_Clickbait_as_False_News/links/5644c4b108ae54697fb813d1/Misleading-Online-Content-Recognizing-Clickbait-as-False-News.pdf.
9. Fake news. *Cambridge Dictionary*. URL: <https://dictionary.cambridge.org/ru/словарь/английский/fake-news>.
10. Fake news. *Collins Dictionary*. URL: <https://www.collinsdictionary.com/dictionary/english/fake-news>.
11. Fake news. *UK Dictionary*. URL: https://www.lexico.com/definition/fake_news.
12. Granik M., Mesyura V. Fake news detection using naive Bayes classifier. *IEEE First Ukraine Conference on Electrical and Computer Engineering (UKRCON)*. DOI: doi.org/10.1109/UKRCON.2017.8100379.
13. Hlavatska Yu. "Fake" news via the comic: distortion of information. *Modern development trends in philology and social communication*. Lviv-Toruń : Liha-Pres, 2019. P. 18–33.
14. Horne B. D., Adali S. This just in: Fake news packs a lot in title, uses simpler, repetitive content in text body, more similar to satire than real news. *2nd International Workshop on News and Public Opinion at ICWSM*. URL: <https://arxiv.org/abs/1703.09398>.

15. Jin Z. et al. News Verification by Exploiting Conflicting Social Viewpoints in Microblogs. *Proceedings of the AAAI Conference on Artificial Intelligence*. Available from: <https://ojs.aaai.org/index.php/AAAI/article/view/10382>.
16. McIntyre L. Post-Truth. Available from: <https://mitpress.mit.edu/books/post-truth>.
17. Pennycook G. et al. Fighting COVID-19 misinformation on social media: experimental evidence for a scalable accuracy nudge intervention *Psychological Sciences*. 2020. № 31. P. 770–780.
18. Pennycook G., Rand D. G. Examining false beliefs about voter fraud in the wake of the 2020 Presidential Election. *The Harvard Kennedy School Misinformation Review* 2. 2021. № 1. P. 1–19. DOI: doi.org/10.37016/mr-2020-51.
19. Pennycook G., Rand D.G. The Psychology of Fake News. *Trends in Cognitive Sciences*. 2021. № 25(5). P. 388–402. DOI: doi.org/10.1016/j.tics.2021.02.007.
20. Rajan A. Fake news: too important to ignore. URL: <https://www.bbc.com/news/entertainment-arts-38636042>.
21. Rashkin H. et al. Truth of varying shades: Analyzing language in fake news and political fact-checking. *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing*. DOI: doi.org/10.18653/v1/D17-1317.
22. Rubin V. L. et al. Deception detection for news: three types of fakes. *Proceedings of the Association for Information Science and Technology* DOI: doi.org/10.1002/ptra2.2015.145052010083.
23. Tacchini E. et al. Some like it hoax: Automated fake news detection in social networks. *Proceedings of the Second Workshop on Data Science for Social Good*. Available from: <https://arxiv.org/abs/1704.07506>.
24. Volkova S. et al. Separating facts from fiction: Linguistic models to classify suspicious and trusted news posts on twitter. *Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics*. Available from: doi.org/10.18653/v1/P17-2102.
25. Word of the Year 2016. URL: <https://languages.oup.com/word-of-the-year/2016/>.
26. Zhou Z. et al. Fake News Detection via NLP is Vulnerable to Adversarial Attacks. *Proceedings of the 11th International Conference on Agents and Artificial Intelligence*. DOI: doi.org/10.5220/0007566307940800.