

THE SILENT SEMIOTICS OF EMOJIS: A MULTIMODAL FORENSIC ANALYSIS OF DIGITAL DISCOURSE IN CRIMINAL COMMUNICATION

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Abstract

This paper examines the unfelt, yet potent role of emojis in digital criminal discourse on a multimodal forensic linguistic scope. The use of emojis as a means of communication on the Internet is developing more and more widely, and the manifestations of its use in crimes related to threats, blackmail, and cyberbullying should be studied systematically. This study integrates semiotics, pragmatics, and forensic linguistics because they show how emojis are used as an undercover feature to convey threats, conceal intention, and avoid linguistic control by monitoring systems. The analysis of authentic samples of criminal messages on digital platforms, such as WhatsApp, Telegram, and X, uses the concept of multimodal discourse analysis, which enables the researcher to trace semiotic patterns and communicate functions of emojis in illegitimate situations. Finally, the study will seek to establish a forensic framework that can contribute towards the interpretation of evidence based on emojis to improve the ability of law enforcement and digital forensic analysts in addressing the issues of cybercrime.

Keywords: *Semiotics; Emojis; Multimodal Forensic Analysis; Digital Discourse; Criminal Communication.*

Introduction

Communication has changed its form in the digital era, where it is no longer considered linked with the world of symbols; rather, it is connected with visual elements, as well as being interactive. Emojis, being one of the main peculiarities of digital communication, can be treated as visual non-verbal symbols that complement the text-based discussion with situational and emotional information. Intended as a tool that would help people express their emotions and soften the blurry ambiguity of online communication (Danesi, 2016), emojis have moved past their rather playful, fun innuendos and found their ways into the realm of more serious communication, such as criminal intent.

However, the semiotic, the sociolinguistic elements of emoji use have been studied by the academicians in recent developments (Evans, 2017; Bai, Danescu-Niculescu-Mizil, & Lee, 2019), but leave to discuss the criminal application of their use. This control is especially troubling when it applies to forensics where evidence is examined in digital messages. This represents a real challenge to law enforcement and the forensic analyst because today cybercriminals are becoming sophisticated, employing coding language

that includes threats and intimidation and even illegal meaning to the visual language represented by emojis. Emojis can be seen not only as decorations, but as semantic alternatives or reinforces changing the meaning of the text in which the emoji is contained (Zhou, Hentschel, & Kumar, 2017). Smartly utilized, these symbols allow intention to be hidden, evade keyword detection algorithms, and establish plausible deniability.

Most of the current linguistic detection systems are based heavily on text and do not pay much attention to the multimodality of digital messages (Ge & Herring, 2018). This creates space that can be exploited, particularly in platforms like WhatsApp, Telegram or X (the former twitter), where the emojis have their context and are highly utilized. An example may be an innocent message topped with a 🔫 (pistol) or 💣 (bomb) emoji that could have its threatening subtext when accompanied by other message content types or used in certain circumstances. Because there is no benchmark analytical framework which can specify the semiotic and pragmatic aspects of emoji, it becomes difficult to detect and convict cybercrimes involving them.

The paper seeks to fill that gap using multimodal discourse analysis framework incorporating the tools of semiotics, pragmatics, and forensic linguistics. Basing the theoretical rationale, which refers to multimodal communication of Kress and van Leeuwen (2001) and the forensic analysis of Coulthard and Johnson (2010), this study will investigate the concept of emojis as a hidden form of signifiers to criminal acts. The study aims to identify those patterns by analyzing the maleficent digital messages and threats that can take place in the real world and come in courtesy of social media, as well as other encrypted intersections like Discord, among others.

The study helps advance the study of digital forensic linguistics as it presents a new framework with which criminal discourse employing the use of emoji is to be interpreted. Through it, we are better equipped to express the construction and manipulation of meaning in present-day office communications via the Internet, and to provide effective mechanisms in the hands of law enforcement agencies and linguistic professionals in cases involving cybercrime.

Multidisciplinary theoretical background, including multimodal analysis of discourse, semiotics, linguistics of speech acts, and forensic linguistics is obligatory in study of digital criminal discourse, especially approached with the prism of emojis. Multimodal discourse analysis (MDA) offers an appropriate basis to explore the interaction of communicative means (linguistic, visual and spatial) to view the meaning construction. Kress and van Leeuwen (2001) claim that communication does not exist any longer as the verbal language only but is devised by other semiotic resources that co-occur and co-construct meaning. When dealing with digital avenues, emojis can be considered a visual style of communication which can lead to a great deal of the context of a message as a whole, where connotation and direction coming across is otherwise challenging on media that is purely text-based.

Theoretical Foundations of Multimodal and Forensic Linguistics

Another crucial theoretical perspective that one should use to decode the communicative purpose of emojis is semiotics, a science of signs and symbols. Peirce (1931-1958) classified signs as icons, indexes, and symbols, which can be directly used in the analysis of emoji. Emojis can usually be considered icons since they look like the thing or feeling

they are supposed to describe, but they can also turn into symbols, becoming complicated in meaning due to repetitive use in context. According to Barthes (1967), the operation of signs is in two planes including denotation (meaning literally) and connotation (meanings related to cultural or emotional connotations). Due to being highly connotative, emojis may be used in their communication with high degrees of connotation, particularly in repetitive usage applied to culturally specific use cases, which are viewed as threats or aggression.

The speech act theory also helps to augment the workings of pragmatic use of emojis in the context of digital messages. Austin (1962) and Searle (1969) both refuse to accept that language is a means of communication that can indeed convey information, but it does perform actions, e.g. threatening, warning, or commanding. Emojis have the capacity to engage in such speech acts by themselves or along with text in digital discourse. An example is a message of I would watch out closely followed by a skull emoji (💀) which will increase the illocutionary force of a threat turning a warning into a familiar piece of intimidation. This demonstrates that emojis, much like words, can perform perlocutionary effects and thus deserve serious analytical attention in forensic contexts.

Forensic linguistics gives the last and most important dimension of this theoretical framework. It considers the application of the language, as an applied linguistic art, in legal contexts, especially when it comes to examining communications that might pose some threat, the anonymous messages, and claims of authorship that are controversial (Coulthard & Johnson, 2010). Conventionally, forensic linguistics has focused largely on written forms of words, thus not capturing other forms of visual or symbolic communication, including the use of emojis. This omission indicates a major gap in view of the multimodalities of the current digital communication. Since emojis have become a popular method through which criminals evade detection by keyword-based methods in order to leak criminal connotation, forensic investigators require a broader methodological arsenal that includes both semiotic and multimodal analysis.

This synthesis of the four theoretical frameworks including multimodal discourse analysis, semiotics, speech act theory, and forensic linguistics would allow to understand the functionality of emojis in criminal communication in the digital space. The most important contribution offered by each of these frameworks is as follows: MDA provides context to the interaction of modes; semiotics deconstructs multiple levels of symbolic meaning; speech act theory assumes the communicative intention; and, finally, forensics linguistics interposes these understandings on the legal and investigation arena. They are both complementary and an integrated lens to check how seemingly harmless visual elements such as emojis can be utilized as a potent tool of interpersonal communication in secrecy and illicit correspondence.

Emojis in Digital Communication: From Expression to Deception

Emojis are a common trait of online communication filling the emotional and non-expressive communication wagon that text communications leave. As a means of expressing emotions, gestures and reactions through simple visual accompaniments, emojis were originally invented, but now can be represented as a linguistic resource in their own right one that can replace or complement words, explain the tone of the message, or even manipulate the meaning of the intended message (Danesi, 2016). They

are so popular because they allow representing complicated information about emotions or situations in just a few symbols, which is how the reception of information in digital settings is made more efficient. Yet, like most of the tools of language, they have undergone shifts in application since initially their use was benign, but gradually they have found use in the deceptive, coded or legally criminal uses of language.

The power and the problem of emojis is their interpretative flexibility. In contrast to a typified language system, emojis have no standard fixed meaning. They are insanely sensitive to context: depending on culture, platform-specific rendering, and context, they can mean one thing or something totally different (Miller et al., 2016). To give one example, an emoji can look different on iOS and Android phones, possibly causing confusion--or, worse, exploitable ambiguity. This flexibility of interpretation can be exploited by criminal communicators who are able to use it to send secret messages that can only be read by those they are aimed towards. Emojis in this scenario are treated not only as emotionalizers but they are also used as obfuscators and coded speech devices, which remain unexplored in forensic and linguistic circles.

Besides the differences in platforms, emojis have developed a culturally contextualized meaning, which does not reflect their literal image. Studies have indicated that emojis are frequently not used in the literal meaning described in the dictionaries, but rather in accordance with the social rules or new tendencies in the use thereof (Wiseman & Gould, 2018). As examples, the terms involved in the emojis of the eggplant 🍆 and peach 🍑 sexual innuendo are now likely to be taken more as a sexual innuendo than in their actual sense. In criminal settings, the intended meaning of such metaphors may go even further to lend meanings that meant threats, unlawful dealings, or connections. Such stratified semantics make the task of legal investigations of the contents of digital messages difficult to interpret and offer a significant threat to the naive detection systems that are based on keywords recognition only.

In addition, emojis frequently perform a practical role in virtual speech acts. They may either strengthen, or cancel, or utterly alter, the elements of language, and hence they also determine the communicative power of an utterance. An example is that, when a message is sent in the form of statement with a consequence attached to it like, I am watching you 👁️, this can be considered as a veiled threat when placed in the context of a threat, especially, when directed to a target who is already under duress. Online hate speech, cyberbullying, and gang-related communication include more and more emojis such as 🔫 (pistol), 💣 (bomb), or 🔪 (knife) (Gauthier, 2021). They are not used there by chance, but rather in a calculated fashion to threaten, intimidate, or give commands without uttering said words thus not bearing the direct responsibility and being safeguarded by automated moderation systems.

In numerous situations, emojis can be used to create a deniable or ambiguous message that grants the forensic linguists the (ahem) plausible deniability in question (Olsson, 2009). One party may claim that a threatening message was said in jest, or that the emoticon was ironic or sarcastic one-an element that may be hard to displease without additional context-orientated examination. Such lack of congruity becomes especially appealing to people who commit crimes or abuse in an online environment. They enable criminals to encrypt their communications in a form, which is comprehensible only to

those who have to understand, but illegible to parties that make no attempt to understand, such as law enforcement agencies and online censors. The given practices can be compared to such linguistic phenomena as argot or cant with the development of specialized vocabulary used to conceal and indicate group identity.

Since digital communication will further develop, it is probable that the semiotic variety and practical uses of emojis will increase. It makes them remain relevant to this day, in every-day communication, as well as in less open, more insidious applications. It is important to appreciate the emojis as being more than the just have fun images as a way of comprehending the complete meaning making part of the digital interaction, especially with regard to a criminal purpose. Therefore, current trends of emojis misuse founded on deception, intimidation, and evasion instill a critical need to create a forensic and linguistic framework that would be able to study their role not only as a means of expressing emotion but as an advanced instrument of digital manipulation.

Methodology: A Multimodal Forensic Approach

The methodological solution of the current research combines both qualitative content analysis and multimodal discourse analysis (MDA) to discuss the use of emojis in the digital communications of criminals. The mixed-method design can be applied to discovering the multiple layers of meanings that may be involved in the use of emojis, especially in cases when the emojis are used in sharing threats or evading textual detection systems. With an emphasis on actual cases of communication involving cybercrimes through WhatsApp, Telegram, and X (ex-Twitter) platforms, the paper provides first-hand linguistic and semiotic moves that members make so as to disguise intentions and control meaning. The platforms are selected because they are popular across the board with features of encryption and predominance in the language of cybercriminals, especially when they are working with harassment, blackmail, and multi-faceted threats online (Hussain, Tahir, & Imran, 2022).

The method of data collection will be the purposive sampling, which seeks information on publicly exposed (or legally acquired) examples of digital messages containing emojis and that have been associated with threats or criminal actions. All attempts are made to anonymize every message as a way of upholding ethical integrity and preserving identities. Regarding ethics, the research is guided by institutional ethics of digital studies meaning that it follows the protocol of informed consent where necessary and asking approval of authorities or owner of the sensitive material involved. Since the focus of the present study is in forensics, particular consideration is provided to the evidentiary value of the messages and its preservation, metadata, timestamps, as well as the rendering of emojis platform independently, as it may vary across platforms and have implications on the interpretation (Miller et al., 2016).

After gathering data, it is coded through the qualitative analysis software e.g. NVivo and ELAN. The tools reinforce multimodal annotation in the sense that they enable the embodiment of a text-based modality, and image-based modality, emoji, and contextual metadata into one analytical infrastructure (Adolphs & Knight, 2010). The analysis entails sound coding (thematic) and semiotic. Thematic coding detects the presence of certain communicative intents, e.g., threat, coercion, or even mockery, whereas the semiotic coding focuses on the role of certain emojis in relation to the person. This will involve examining how emojis are placed, whether associated with certain phrases or

words and tendencies of repetition suggesting some ritualized or coded intent in some networks or communities.

The main characteristic of the methodological approach is its classification of emoji use by functional categories: as expressive, referential, obfuscating, and threatening. Expressive emojis are those that are used to reflect emotion or tone whereas the referential ones replace or refer to an entity or an action. Obscuring emojis can be used to be confusing or misleading regarding the idea that the person really means and threatening emojis either in direct context or plainly state the destruction. This functional typology informs itself with previous research into multimodal pragmatics and emoji linguistics (Zhou et al., 2017; Evans, 2017), and permits the close viewing of the different ways emojis work beyond mere surface embellishment.

The context of each message is related to a larger picture of its forensic interpretations. In other words, instead of studying emojis alone, they are seen in context with the other text, the familiarity between participants, time, and platform norms. This contextual explanation refers to the concepts of the forensic linguistics, according to which the meaning is not only obtained based on the usage of the language but also due to its situation usage (Coulthard & Johnson, 2010). The possibility of analysis involving various levels allows one to distinguish significant regularities and symbolic actions that would otherwise not be found in regular text linguistic research. With textual, visual, pragmatic, and contextual levels incorporated, the methodology allows the researcher to find meaningful patterns and symbolic actions that might otherwise go unnoticed in the process of regular linguistic research.

The approach to methodology is oriented both to academic understanding and to practical application with regard to forensics. This study provides a model that can be reproduced in law enforcement agencies and by forensic linguists when handling digital evidence due to an established systematic process of code/interpretation design. The methods that appear to be important in creating effective, legal-acceptable, and context-dependent interpretations of the language of the digital age are like the one provided in this paper as cybercrime continues to graft multimodal and symbolic communication tactics.

Semiotic Patterns and Criminal Intent: Case Analysis

An examination of real-life digital messages will produce distinct semiotic trends in emoji usage that can be characterized to encode, amplify or conceal criminal intent. The study elucidates how emojis are used in a uniform method to transmit dangers, plan illegal activity, and converse defiantly through the analysis of messages on password-protected and open-access online sites, namely, Telegram, Whatsapp, and X (Twitter). Emojis in a lot of these situations work as a covert symbolic representation acting to boost the plausible deniability and the ease of communication when surrounded by various textual surveillance factors. They influence intent in context-specific ways but semiotically congruent across the messaging categories of threat, cyberbullying, and blackmail performed online.

Some of these examined cases even use emojis 🔫 (pistol), 🔪 (knife), 💣 (bomb), and even 💀 (skull and crossbones) not randomly but in certain sequence, which they do so as to reflect classical narrative forms or iconography of violence and intimidation. Such sequences may accompany little or opaque text and depend very much on prior

information of recipient or cultural references to make sense of the implied threat. As an illustration, the phrase, You know what comes next ☠️🌿⌚ is an indication of a veiled death threat, however; it uses symbolic imagery to go around keyword detecting systems. Such application is consistent with the statement made by Danesi (2016) according to which emojis have now established themselves as a kind of ideographic language that can convey complicated non-textual messages.

Another common trend is the replacement of the key words with emojis to cheat on the automated moderation or detection programmes. As an example, references to drugs can replace the names of categories with icons like 🌿 (cannabis), 💊 (pills), or 🔥 (the symbol of potency or urgency). Equally, there are the instances of the sexual harassment or blackmail as those emojis as 📷 (camera) or 🔒 (lock) might occur in the suggestive contexts, in particular when it comes to the non-consenting sharing of the pictures or extortion of the passwords. According to Zhou, Hentschel, and Kumar (2017), this type of substitution has now become widespread among the users that want to keep using their covert communication in moderated platforms.

The motive with the use of emojis is particularly evident when the use of such is triangulated against elements of linguistics, the time of the message, sender personality and the past of interactions between the parties. In one of the examined cases, blackmail presupposed sending a message with a series of camera, lock, and silence face emojis (📷🔒😬) that were accompanied by a vague warning threat--You know what will happen to you in case of chatter. This time line and situational follow-up gives a lot of weight to an interpretation of threatening, despite the fact that no overt illegal action is referred to. These instances confirm the Austin performative speech acts and Searle views concerning indirect speech acts in which meaning is found not just in the content but also in illocutionary strength of the symbolic clues (Austin, 1962; Searle, 1969).

The study, in addition to personal communications, transcends collective semiotics in online groups, especially moderated extremist groups and cyber-bullies. Emoji sequences in those digital ecosystems acquire the meaning peculiar to the community that is not always easy to be understood by those outside it. As another example, there are probably some hate groups that use emojis to intimidate and troll others: e.g. use of emoji 🐸 as a reference to Pepe the Frog, or 🛡️ in ironic to imply protection. In a paper on online radicalization, Marwick and Lewis (2017) also report similar events, demonstrating that groups of people would repurpose and use emojis to preserve group secrecy and display ideological consistency. Such trend is especially pernicious in the forensic eyes since it impedes the task of law enforcers in identifying and decoding intention without means of inside information or 900-level decoding equipment.

The fact that emojis have been re-appropriated as the language of criminality as well, also begs the question on how grammar is changing to incorporate a new lexicon of digital conversations. A certain type of digital idiolect is created when emojis are employed regularly instead of certain verbal menace, it can be assigned to an individual or a group. Forensic linguists may apply such patterned behavior to help in authorship attribution, in threat profiling or behavioural outcomes. Styles, even those of multimodal nature, can be used as linguistic evidence in court, as Olsson (2009) adds. As such, the strategic employment of emojis does not merely convey a message but provides methodologies of

exploration that can be exploited by forensic investigators that are trying to determine the motive, identity or culpability. It also highlights the necessity for forensic methodologies that move beyond text to incorporate the full spectrum of communicative resources now available in digital environments.

Toward a Forensic Framework for Emoji Interpretation

The growing popularity of emojis in digital communication among criminals requires the emergence of a methodological forensic model that could decode such visual aids as valid evidence. The traditional methods of forensic linguistics have also been mainly based on the verbal language not considering the visual-semiotic means which are a new part of online discourse. Symbolic, context-specific, and culturally shifting, the use of emojis needs particularistic tools of metrological analysis that fuse linguistic theory with semiotic hermeneutics and computer-aided interventions. A consistent system of emoji interpretation in the forensic setting will have to take a range of factors into account: emoji usage, order, location, context-fit, device display and individual patterns. This section will describe the theses and elements that would ideally guide such a structure, according to findings of the current research and justified with scholarly and forensic writings.

The initial constructive element of this framework is functioning categorization. Emojis perform four particular functions expressed, referential, symbolic, obfuscating, and threatening, and it is necessary to know the specific roles to interpret them properly. Saying, an example is a heart emoji (heart) that would be depicting affection but when it follows a combination of a bomb (bomb) and a skull (skull), it might mean threat or sarcasm depending on context. Zhou et al. (2017) stress that the meaning of emojis can be frequently acquired not on their own but based on their reference to the surrounding symbols and texts. Forensic interpretation should thus transcend the dictionary explanations that are limited to the use of words in dictionaries but take into account the practical and cultural use patterns. This matters particularly to cases of crime, where by use of emojis, users take advantage of such ambiguity to avoid detection.

Contextual correlation is also another core aspect. Emojis are strongly contextualized as meaning largely depends on the situational communicative context, such as identity and relationship of the sender and recipient, their history and the discursive context. According to Coulthard and Johnson (2010), forensic linguistics should put into consideration situational meaning of language, which is also very much applicable to emojis. As can be seen in the example of 🗡️👤📷 what appears inoffensive to the outsider might be extremely sinister in the case of a recipient who is a part of blackmail situation. Contextual analysis is also conducted on the period and regularity of emoji use, how an emoji relates to an event, and whether there was any textual support that would give an understanding of tone and intent.

It is also necessary to involve the technological aspect of the suggested framework. Emojis will render different across platforms, and their meaning can vary based on operating system or otherwise the app you use. Miller et al. (2016) illustrate how the variations in the display of emojis may cause severe miscommunication and can trigger varied attachment to an identical symbol by users in accordance with its appearance in visual terms. An effective forensics framework should thus have the capability to record the precise platform and device context under which a message was sending and

receiving and both the message traffic should be analyzed under respective to the view it took both of the recipient and sender.

Another necessary element is pattern recognition. Emoji usage can be observed in the same way that authors and intentions are asserted in forensic linguistics, where patterns of use help determine patterns and authorship. It is common to find that the users create their own dialects of emoji, repeating certain sequences to convey similar thoughts, warnings, or alerts. According to Olsson (2009), such idiolectal configurations can be helpful forensic pointers as they can be used in attribution or will help in behavioral profiling. As another example, an instance of repetitive use of specific strings of emojis in different messages sent by the same user could lead not only to identification of their authorship but also to a premeditated communicative pattern in order to transmit criminal intentions.

This framework can be integrated with digital forensic tools to make the framework more practically useful. Multimodal coding can be performed using programs like NVivo and ELAN which can be modified to perform tasks whereby emoji usage across big piles of data can be tagged and compared by the analysts. The insertion of semiotic analysis would also aid in the mapping of meaning in a specific social, cultural, and criminal group of the emoji members. According to Gauthier (2021), it is difficult to make legally sound interpretations unless such a tactic is used with combined linguistic and technical analysis.

The forensic model of the emoji interpretation will need to be cross-disciplinary, context-specific, technology-competent, and methodological. It ought not only to interpret the symbolic role of emojis but to take consideration of relational, temporal and cultural variables that affect the meaning of the symbols. With the evolution of digital communication, the effect of visual semiotics in crimes in virtual space will continue to expand and it is necessary to introduce systematic methods of researchers and law enforcement agencies to analyze this new type of data. By creating and using such a framework, not only can cybercrime be investigated in more effective ways but also advance the field of forensic multimodality, in which text and symbol increasingly come into contact in more convoluted manner.

Conclusion

This paper has examined the understudied but growing important aspect of use of emojis in digital criminal discourse with an in-depth discussion of their semiotic, pragmatic, and forensic aspects. They live in a world where communication is increasingly becoming multimodal and emojis have taken up the mantle of meaning conveyors who not only have the ability to aid in a clearer communication but may also hide criminal intents, or use it to create threats and avoid detection systems. By incorporating multimodal discourse analysis, semiotic theory, theory of speech acts, and forensic linguistics, the study proves that emoji goes far beyond the surface markings; they are inseparable parts of the configuration of meaning-making in digital spaces especially where the mischief of deception, coercion and harm are involved.

Studies reviewed of the case on emojis usage in this study display some systematic pattern of behavior to use emojis that denote and anticipate conscious and strategic communication behavior. Such trimming features the exchange of threatening words with

symbols, deployment of sequences of emojis as disguised accounts of secret histories, as well as exploitation of ambiguity to promote plausible deniability. This is not the only such use but follows a trend in the digital criminal endeavours towards the adoption of non-textual aspects to execute criminal activity that does not provoke traditional forms of monitoring. This points to a severe deficiency in existing forensic practices that mostly do not consider how symbolic and multimodal communication works and is ill-suited to even detect the communicative units thereof.

To fill this gap, the paper offers the establishment of a forensic model of interpretation of emojis. This framework encompasses functional classification, situation-based correlation, platform-specific rendering evaluation and user-pattern identification, along with digital forensic tools and ability to annotate in a multimodal fashion. The suggested method is intended to be rather malleable in relation to both research and actual implementation of the methodology by police officers and forensic specialists. The usefully enables us to interpret online threats using emojis as valid linguistic data and helps build the wider field of forensic multimodality.

Significance of this research is theoretical and empirical. Theoretically, it broadens the field of forensic linguistics because visual semiotics is included into the toolkit. In practice, it can provide the law enforcement department and digital security systems with new possibilities to interpret, identify and react to the dangers that are behind the visual symbols curtain. The need to incorporate such frameworks will only increase as the digital communication continues to develop and criminals continue to devise more efficient ways of using affordances of multimodal platforms.

To sum up, silent semiotics of emojis are not as silent as they might be. They tell a vociferous tale--sometimes at the low-cut--in the criminal discourse of the digital world, and it is long past time that forensic inquiry hears it better, understands it better, reacts more constructively to a new linguistic landscape.

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