Putting the 'we' in WAGMI: Establishing community on crypto Twitter

Stanford Linguistics130A Final Project

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1   Introduction

Andrew Wang, a Twitter influencer with over 140K followers, recently tweeted "just watched texas chainsaw massacre and that was not very wagmi." Assuming an English-speaking audience who has basic knowledge of American media, many could probably understand this tweet — until the last word: "wagmi*." However, understanding the meaning of "wagmi" is crucial to understanding the overall meaning of this tweet. But why might a Twitter influencer use a term that not all of his audience understands? Here, I explore how specialized terminology in digital spaces plays a role in establishing and reinforcing community.

Fundamentally, sharing a common language facilitates interaction between members of the same community. The Rational Speech Acts (RSA) model posits that recursive probabilistic interference underlies interactions that involve a pragmatic listener and an informative speaker [2]. In the context of a particular topic or goal, a cooperative speaker is expected to maximize informativity for their listener, while minimizing utterance costs [3]. While this framework successfully captures the quantitative details of speaker-listener interactions, open questions remain about the broader relationship between language use and social goals. In this paper, I examine linguistic decisions speakers make in the presence of a particular social goal: establishing and maintaining community.

The central hypothesis of this paper is that in digital spaces with broad audiences, specialized terminology is used to establish and perpetuate community. In accordance with Gricean utilities, speakers use presuppositions about their audience to engage with a distinct community, which implies balancing cooperation and competition. Namely, to an audience member *not* part of the community, linguistic decisions may imply competition, while cooperation may be implied for an audience member who *is* part of the community. In order to address this hypothesis, I will extend RSA and Gricean utilities to the crypto Twitter microcosm, a community that has distinguished itself by its use of distinct crypto terminology. To a member outside of the crypto community, this terminology may appear foreign (i.e. 'wagmi'). Since these crypto terms are far enough removed from colloquial language, the people who use them have an implicit sense of community. The purpose of pursuing this topic is two-fold: (1) To extend the RSA model and Gricean utilities to a social goal that has not yet been explored (i.e. community-oriented goals) and (2) to ground this extension in a widely-used digital platform, where speaker-listener interactions are more complex. While there have been multiple analyses on how the RSA model translates to real-world interactions, there has been no work that addresses its applicability in the digital era.

2   Twitter as a Communicative Platform

Communication on Twitter is structured as one-to-many and asynchronous [8], collapsing multiple audiences to a single context [4]. One of the prominent features of Twitter is its ability to broadcast tweets at scale, to a large user base. Not only can Twitter users follow accounts, users can also easily

search for other content outside of their immediately connected network. Because of this broad visibility, it is very difficult for "Twitter users to account for their potential audience, let alone actual readers" [4]. Marwick and Boyd hypothesize that users write for an "imagined audience", in which the speaker (the tweet author) constructs utterances (tweets) with contextual assumptions in mind. In other words, tweeters must make some judgments about the knowledge of their audience when deciding what terminology to include in their tweets so that their intended meaning is understood.

Because a user's tweets can be seen by all of the user's followers (as well as from searches), a speaker must hold some presuppositions about their audience. In the context of the crypto community on Twitter, I hypothesize that users generally make presuppositions that their audience is largely composed of other users interested in crypto. Further, Marwick and Boyd further suggest that users tweet to target different people (e.g. audiences), which implies that users may address multiple audiences from a single account [4]. I extend this claim to crypto Twitter, in which users are aware that all of their audience may not understand crypto terminology used in a tweet. Thus, using crypto terminology may have an underlying goal of targeting a subset of a user's diverse audience, such that the user isolates and addresses a distinct community that *does* understand their tweet.

It is worth noting that there are also other signals that Twitter users may refer to when assessing another's membership to the crypto community beyond purely terminology in tweets. While I am primarily examining the interaction between speakers and their audience on crypto Twitter in this paper, I would also like to briefly address other signals that may allow users to identify other members of the crypto community online. One of which is the choice of username: a common username in the crypto Twitter community is structured as '0xNAME' (note user '0xngmi' 2a). Because the leading '0x' is quite distinct from other Twitter handles, it allows any arbitrary Twitter user involved in the crypto community to instantly know if they have come across another crypto-involved user, just by the username. The Twitter user may not even have any authored tweets that contain crypto terminology, but honorific features like username (i.e. name with a trailing '.eth', others include NFT profile pictures, liked tweets, etc.) still publically signal that they are within the community.
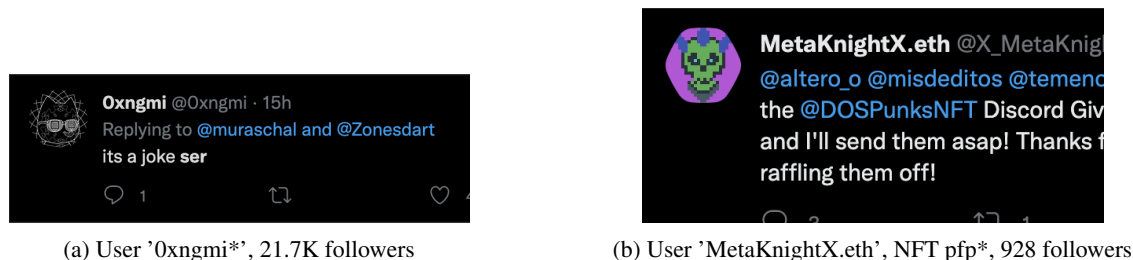

(a) User '0xngmi*', 21.7K followers   (b) User 'MetaKnightX.eth', NFT pfp*, 928 followers

Figure 1: Examples of other signals that a user is in the crypto community

3   Distinguishing Types Crypto Twitter Terminology: Technical vs. Slang

Because Twitter has broad audiences and is primarily text-based, language use is an essential way for communities to distinguish themselves among the vast Twitter user base. The term "jargon" refers to any in-group or specialized language used by members of the same community or associated with a particular field [6]. Whether or not the use of jargon *pragmatically intends* to exclude out-group members is not widely agreed upon across literature. However, whether it is intended or not, this kind of terminology inherently stems from a need, or want, to differentiate members of a community. Here, I will be generalizing crypto terminology into two broad categories: technical jargon and slang.

In the context of crypto Twitter, I define technical jargon as encompassing terms that are used to describe technologies that usually require technical background knowledge, such as the terms 'zero-knowledge proof' and 'smart contracts' (refer to section 4.1, 4). The pragmatic intention in using technical jargon is to maximize the efficiency of communication between two members of

the same specific community with a particular goal in mind — oftentimes requiring some domain knowledge. In nature, technical jargon excludes people from a community because oftentimes, specialized terminology requires a particular background to understand.

On the other hand, crypto slang encompasses sayings that do not reference a specific technology or tangible object. Crypto slang serves to include people in a community because one does not need specialized expertise in order to understand and can be used in a variety of contexts. For example, crypto slang terms include 'to the moon', 'degen', 'ser', 'wagmi', 'gm', and 'fren.' These terms can be easily looked up by a user, and afterward, that user may feel an instant connection with the crypto community.

(a) 458 Followers   (b) 552.6K Followers   (c) 1520 Followers

Figure 2: Examples of crypto slang used on Twitter, including 'ser', 'moon' and 'degen'.

4 Applying RSA: Speaker-Listener Interactions on Crypto Twitter

The Rational Speech Acts (RSA) model posits that recursive probabilistic interference underlies interactions that involve a pragmatic listener and an informative speaker. In order to extend the RSA model to crypto Twitter, we must account for the fact that Twitter utilizes one-to-many communication. This means that we are not considering a one-to-one speaker-listener interaction, but rather, a one-to-many speaker-audience interaction. In the following section, I analyze pragmatic motivations from both (1) the speaker standpoint (e.g. the Twitter user crafting and posting a tweet) and (2) the audience standpoint (e.g. the user population that sees a tweet).

Additionally, the distinction of crypto slang from technical jargon is significant from both the speaker and the audience perspective. Crypto slang aligns with previous findings that many tweets are phatic in nature [5] and serve as a social function of reinforcing and maintaining social connections [1]. Just as friendly swears can be used to reinforce community belonging [7], crypto slang acts as the primary linguistic behavior to reinforce social ties between community members on Twitter. Slang is more inclusive in nature because audience members can feel part of the community upon knowing its meaning (which can easily be searched) and contextual use (which can be observed through exposure), whereas technical jargon oftentimes requires specialized background knowledge. Therefore, whether speakers are conscious of it or not, the use of crypto slang implicitly has more pragmatic intention of broader community inclusion than technical jargon, which targets more specialized in-groups.

4.1 Pragmatic Intentions: Speaker Perspective

Broadly, speakers involved in the crypto community will use crypto terminology in order to target those in their broader audience who are also in the crypto community. Assuming that speakers (who are crypto Twitter users) are cooperative, and thus want to be informative to their audience, they will pragmatically intend to use terminology that their target audience understands. As stated previously, crypto slang is more inclusive in nature because it is more accessible to the audience, whether one is deeply or peripherally involved in the crypto community. Speakers establish and perpetuate the

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cohesion of the crypto community by using presuppositions and distinct terminology to narrow their broad audience base, and thus actively engage with group members.

A speaker must make linguistic trade-offs depending on their social goal, which may be non-intentionally, or intentionally, cooperative or competitive. A speaker's decision to use crypto slang is more cooperative in nature. If the speaker has a social goal of broadly addressing and reinforcing ties within the crypto community, then they may use crypto slang terminology. From established Venture Capital partners at a16z to Stanford students, users include crypto slang in tweets to signal that they themselves are part of the crypto community *and* connect with others in the community. A speaker's usage of crypto slang has a pragmatic intention of inclusion at scale, with potential to reach very broad audiences due to its accessibility. Thus, a speaker may often use crypto slang with cooperative intentions and to broadly address their crypto audience. However, crypto slang still serves to distinguish the crypto community from the non-crypto community, and thus establishes and perpetuates the crypto community.

Below are some examples of crypto slang used in both replies and general tweets on Twitter:

(a) Partner @a16z, 131.8k followers   (b) Sia's crypto alter-ego. 24k followers

Figure 3: Examples of crypto slang used on Twitter to distinguish and reinforce community.

Here, we see that both speakers are making some presuppositions about their audience. Namely, that in using crypto slang, they can address and differentiate members of the crypto community.

On the other hand, the usage of technical jargon in the crypto Twitter microcosm may have more practical intention to exclude members within the broad crypto community in order to target more specialized in-groups. On a public platform like Twitter, a speaker may have both the cooperative intention to maximize efficient communication with a particular subset of the crypto community *and* have competitive intention to only target those who understand the terminology. Consider the RSA equation that depicts the speaker's probability to utter u from a choice of alternative utterances $P_s(u|w) \propto exp(\alpha U(u; w))$, in which the alpha parameter captures the extent to which the speaker maximizes her utility [2]. If we treat RSA parameters as tweets that are filtered through more and more distinct in-groups, we encounter more attuned interlocutors. In other words, because users have stronger presuppositions about their audience's knowledge (or each other, if tweets are presented in a reply). Thus, pragmatics may be more frequent and meaningful, such that the alpha value is increased in the RSA equation above. In support of this claim, an interesting point to note is that even though Twitter crypto users may presuppose that their audience has varied knowledge, they still converse on a public platform.

Consider the following tweet, which is a reply to other Twitter users (presumably also part of the crypto community):

This tweet has multiple examples of technical jargon, such as 'mocking away', 'smart contract calls', and 'return values'. The Twitter user, Georgios, could have directly messaged the users he was replying to in a private setting, possibly leading to a more focused discussion. However, he decided to include this technical jargon within a public reply tweet, even though he is probably aware that not all users who come across this tweet will understand this language. This is a result of more attuned interlocutors and evidence of an increased alpha value: Georgios addresses a smaller subset of the crypto in-group (namely the users he replies to), as well as allows for open discussion among other members of the crypto community. An implicit social goal that may be driving

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Figure 4: An instance of using technical jargon on crypto Twitter. Georgios is a research partner at a well-known crypto VC firm with 52K followers.

Georgios linguistic decision is engaging others in the crypto community in technical conversations to stimulate innovation and discussion of ideas. In this sense, crypto Twitter acts as an open-source, educational experience for those who want to learn more about crypto and observe (or participate) in conversations and the speaker actively contributes to this community. Ultimately, from the speaker's perspective, they are crafting cooperative utterances using terminology that serves to establish and reinforce the crypto community, as well as educate others by conversing on a public platform.

4.2 Pragmatic Judgement: Audience Perspective

While the speaker himself may have cooperative intentions, the speaker may not be *perceived* as such depending on the audience member we talk to. These linguistic decisions may be seen as competition to listeners who are not in the crypto community and do not immediately understand the terminology used. In other words, the usage of this technical jargon may feel rather exclusive since understanding the tweet requires a certain technical background that the audience member does not have. Thus, listeners may deem the speaker as competitive with a social goal of exclusion and elitism. Conversely, if the speaker is already in the crypto community and has a technical background, then the use of this crypto terminology serves to perpetuate the crypto community. In this case, technical jargon facilitates productive conversations and reinforces both social and informational ties, leading to a highly cooperative interaction with specialized in-group members (e.g. those with the appropriate technical background). To a listener who is in the crypto community and does not have a technical background, their stance on whether the speaker is cooperative or competitive is somewhat unpredictable. On one hand, the listeners could appreciate that these discussions are broadcasted on a public platform, such that they feel peripherally included in conversations and are appreciative that very in-group members are facilitating the opportunity to learn more if desired (or they can just ignore the tweet). On the other hand, because the terminology is, and becomes, more specialized, they may feel excluded from smaller subsets of the wider crypto community and therefore deem the speaker as competitive.

4.3 Twitter Speaker-Audience Interaction Theory

As a result of the above analysis, I present the following theory: In speaker-audience interactions, particularly on Twitter, the probability that any given listener in the audience deems the speaker as having cooperative or competitive pragmatic intentions primarily relies on the listener's: (1) background knowledge (e.g. understanding of terminology, contextual information about a particular topic, etc.) and (2) role in the community (e.g. in-group membership, relation to the speaker, comfortability with their membership, etc.).

Further, we can broadly measure the social goals of cooperation and competition as weak or strong. For example, strong cooperation implies maximizing efficient communication and the feeling of in-groupness. Generally, crypto slang has an effect of implying weak cooperation or weak competition due to its accessibility and intention of broad social inclusion across the crypto community. Technical jargon has an effect of either strong cooperation or strong competition due to its specialized nature

and intention to engage with particular in-groups of the crypto community. I also suggest that generally, the usage of crypto slang is more motivated by social goals whereas the usage of technical jargon is motivated by informative goals (e.g. exchange of ideas). Ultimately, whether it is technical jargon or slang, there are underlying themes of both cooperation and competition: pragmatic intentions of inclusion and exclusion.

5 Gricean Maxims on Crypto Twitter

In the context of a particular topic or goal, a cooperative speaker is expected to maximize informativity and minimize utterance costs [3]. Here, we also extend the Gricean maxims of conversation to a speaker-audience interaction, rather than a focused conversation. Because Twitter facilitates one-to-many communication, speakers don't necessarily *choose* to opt out of Gricean demands, but rather, it is out of *necessity*. Crypto speakers (the users crafting a tweet) probably have the *intention* of satisfying all Gricean maxims — namely the cooperative principle, quality, quantity, relevance, and manner. In practice, though, it would be challenging to satisfy all the Gricean maxims for each listener in the audience base since the speaker would have to fully account for the variation of listener expectations and knowledge. For example, a listener may not consider a tweet as satisfying the manner or relevance Gricean maxim if he does not understand the included crypto terminology.

This is a natural consequence of one-to-many communication and is thus, unavoidable: it is near impossible to guarantee that Gricean maxims will always be met from *both* a speaker and audience perspective. When crafting a tweet, a speaker must make trade-offs between different goals, such as maximizing quality for certain crypto community members, maximizing relevance for the audience, etc. Consider the scenario where using technical jargon will maximize quality for a particular subset of the broader crypto community (e.g. developers), but thus, relevance is sacrificed for the rest of the audience base who is not part of that particular subset. With each tweet, a speaker may want to pursue a different goal, and thus, in accordance with Grice's theory, maxims may be sacrificed at different times because there is a clash between two or more maxims [3].

6 Conclusion

In this paper, I explored how users part of crypto Twitter establish and perpetuate community among other Twitter users. I first defined some background information about crypto Twitter terminology and then applied RSA to online Twitter interactions, in which we analyzed the effects of one-to-many communication. I examined how pragmatic intentions vary across different kinds of terminology (i.e. technical jargon vs. slang) and thus impact audience judgment of speaker intentions (i.e. cooperation vs. competition). This exploratory analysis of crypto Twitter serves as a starting point for future work analyzing RSA's role in more complex communities, as well as how sociolinguistic goals (i.e. establishing and reinforcing community) relate to pragmatics. Future directions could include analyzing linguistic terminology of different Twitter communities, systematically studying speaker-audience interactions through quantitative measures, and further application of RSA or Gricean utilities to other digital spaces.

*Vocabulary

WAGMI: 'we are all gonna make it.' Often used in the context of having the 'wagmi mindset', meaning that we will all succeed in our pursuits.

ngmi: 'not gonna make it'

pfp: profile picture

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