ABSTRACT
In online social networks most information flows in the form of natural language text. In spite of a large body of research focusing on the structure and evolution of information networks, there is relatively little understanding regarding the actual channels through which textual information flows between users: What characterizes these channels? How are they determined by the relation between the users they connect? And how do they evolve over time?

In order to address these questions we make the crucial distinction between the information that flows in online social networks and the characteristics of the textual channels through which this information is transmitted. We focus on the stylistic components of these channels and show that – in parallel to an information flow – there exists a stylistic flow: users adopt the linguistic style of others, broadcast their own style and constantly “negotiate” the style of their interactions.

LINGUISTIC STYLE COORDINATION
Our approach is rooted in the psycholinguistic theory of linguistic style coordination [2; 6; 7, inter alia], which accounts for the general observation that participants in conversations tend to immediately and unconsciously adapt to each other’s language styles – to the extent that a speaker will even adjust the number of articles and other function words in their next utterance in response to the number in their partner’s immediately preceding utterance. This is as an unconscious, socially-motivated process through which linguistic style is transmitted between the participants in a conversation.

In the last forty years of existence, linguistic style coordination was observed and studied mostly in small-scale or controlled laboratory studies. A priori, it is not at all clear whether the phenomenon is robust enough to occur under the constraints imposed by online social networks, where most conversations are not face-to-face, do not happened in real-time and are subject to various stylistic constraints. In our work [3], we developed a probabilistic framework that can model coordination and measure its effects in an large scale, real-life environment. We applied this framework to a large Twitter conversational dataset specifically developed for this task, and showed for the first time that linguistic style coordination is robust enough to be prevalent in a medium like Twitter – and therefore relevant for modeling the transfer of linguistic style in online social networks.

COORDINATION AND SOCIAL FACTORS
But what factors mediate this imbalance? How is linguistic coordination affected by the characteristics of the users and
of their relation? In recent work [4], we investigate the relation between power and the level of stylistic coordination. We show that in the context of the Wikipedia community of editors — where status differences are salient: admins have higher status than non-admins — users coordinate significantly more to users having higher status (admins) than to those having lower status (non-admins) as illustrated in Figure 2(a). Furthermore, we show that this type of dependence also holds in the very different (off-line) setting of the U.S. Supreme Court oral arguments: lawyers coordinate more towards justices than the other way around (Figure 2(b)).

We also consider the relation between gender and coordination [4], using the fact that gender information is available for participants in the U.S. Supreme Court oral arguments. As Figure 3(a) reveals, overall female lawyers coordinate more than male lawyers when talking to Justices. Correspondingly, justices coordinate more towards male lawyers than towards female lawyers (Figure 3(b)). While this might be explained by culturally-embedded status differences based on gender (as studied by [1, 8]), an alternative explanation could be based on gender-based communication differences independent of status [5].

Such results indicate that not only is linguistic style coordination suited to model stylistic flow in online social networks, but it can also be employed to detect key social factors.

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REFERENCES
Figure 3. Gender differences: (a) Female lawyers coordinate more than male lawyers to justices; (b) Justices coordinate more towards male lawyers than toward female lawyers.
