

Information systems – exhibit A

Telephone call mid-afternoon New Year's Day, 1967:

Somewhat uncertain female voice: "I have two questions. The first is sort of an etiquette one. I went to a New Year's Eve party and unexpectedly stayed over. I don't really know the hosts. Ought I to send a thank-you note? Second, when you meet a fellow and you know he's worth twenty-seven million dollars because that's what they told me, twenty-seven million, and you know his nationality, how do you find out his name?"

cs 1/2/67

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Information systems – exhibit B



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Non-conscious coordination

When conversing, people non-consciously adapt to one another's communicative behaviors. [Giles et al., 1991; Chartrand and Bargh, 1999]

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How things are said as opposed to **what** is said

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[Levelt & Kelter, 1982]

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[Levelt & Kelter, 1982]

Linguistic style coordination

Linguistic coordination occurs:
instantaneously
non-consciously

Linguistic style coordination

Linguistic style:

for us: function word class usage

Coordination is not just exact matching:

Client: “**At** what time does your shop close?”

Shopkeeper: “**In** two hours.”

Shopkeeper: “Five o’clock”

Measuring coordination



Measuring coordination



VINCENT: Antwan probably didn't expect Marsellus to react like he did, but he had to expect a reaction.

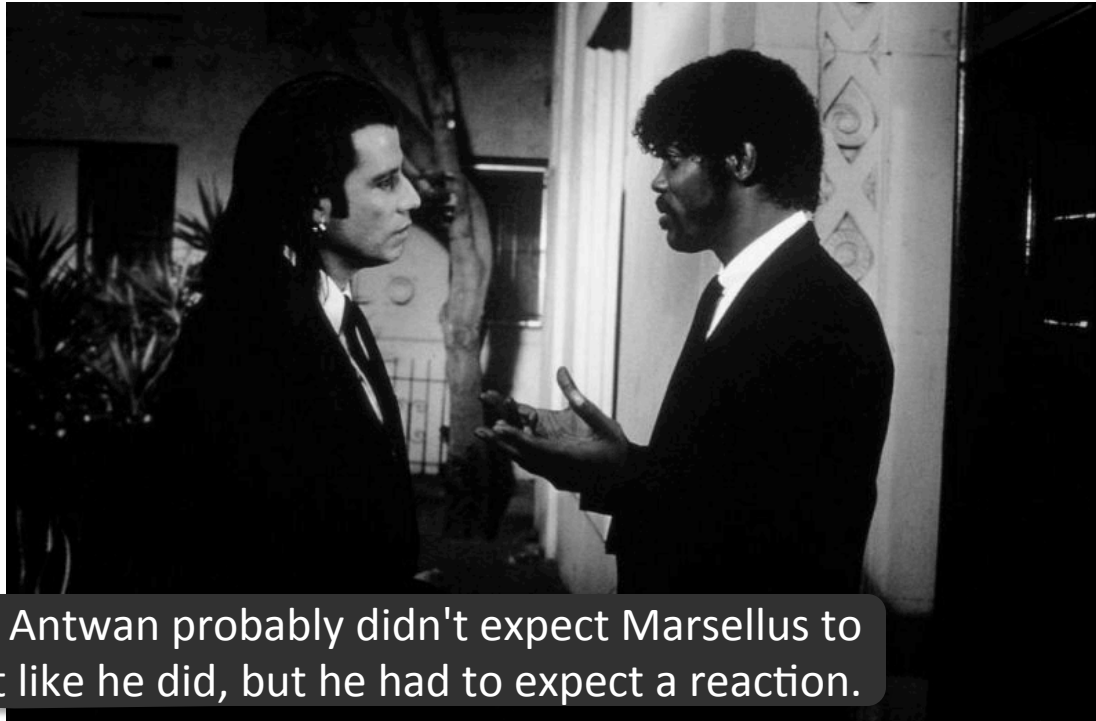
Measuring coordination



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→ JULES: He just massaged her feet, massaging someone's feet is nothing, I massage my mother's feet.

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Matching on article presence.

**But matching \neq coordination !
(e.g., chance or bad guys like articles)**

Measuring coordination

What we want: how much *Vincent's* inclusion of an article (say) **immediately triggers** the usage of articles in *Jules'* reply?

NOT: how similar Vincent's style is to Jules' style in general ...
or even in this particular conversation

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Compare rate of article usage in Vincent's and Jules' utterances?

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not capturing **immediate** triggering

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Correlation of article usage?

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Symmetric, so not measuring a **directed triggering** effect

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does not control for style similarity

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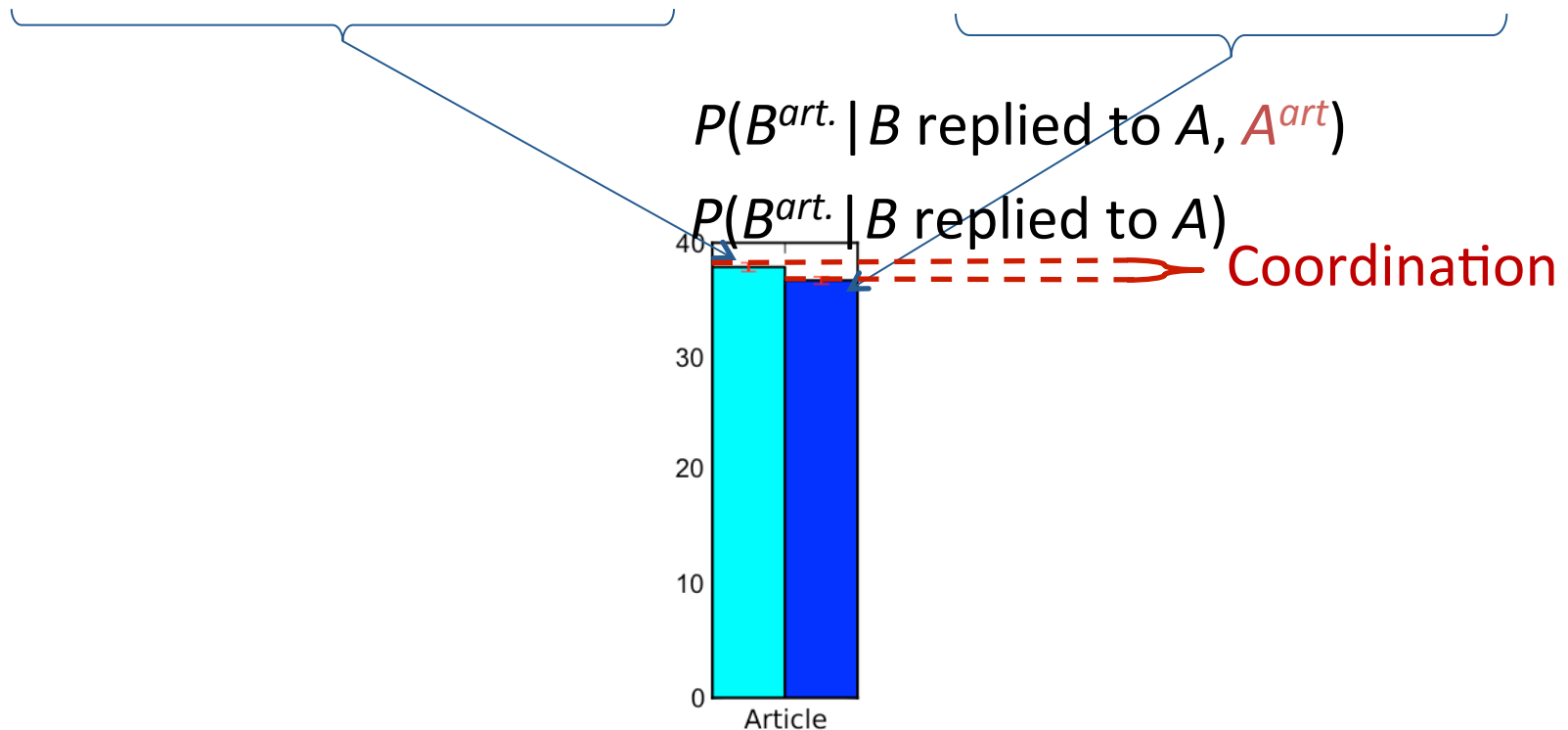
In words: “How much does the probability of Jules using an article increase as a direct consequence of Vincent using an article”

Measuring coordination

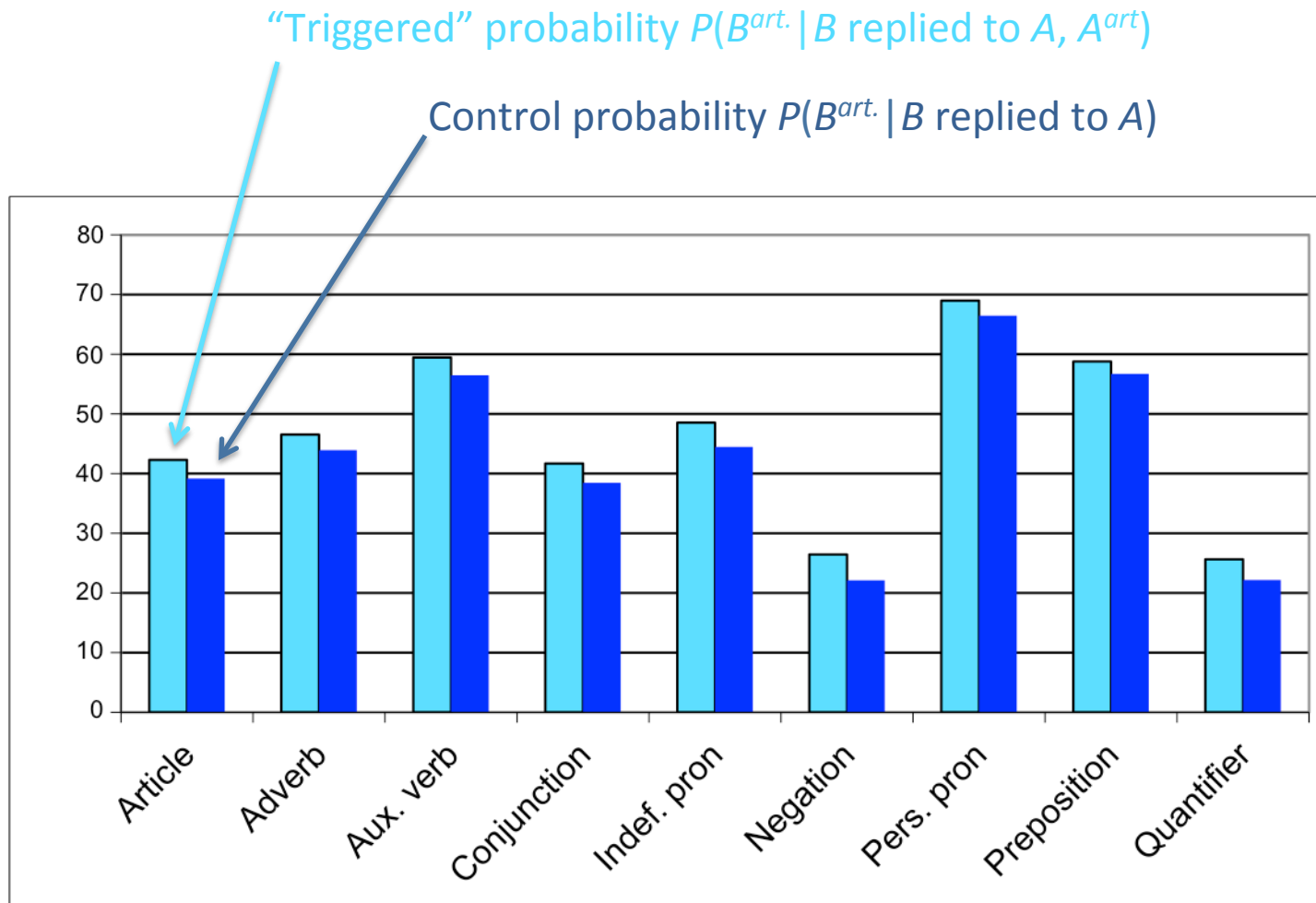
Overall coordination: average over all pairs of users (B,A)

“Triggered” probability

Control probability



Coordination effect in social networks!



p-value<0.0001

Who's got the upper hand?





Coordination and power differences

Hypothesis: power differences are revealed by coordination behavior

Higher power → others coordinate more towards you

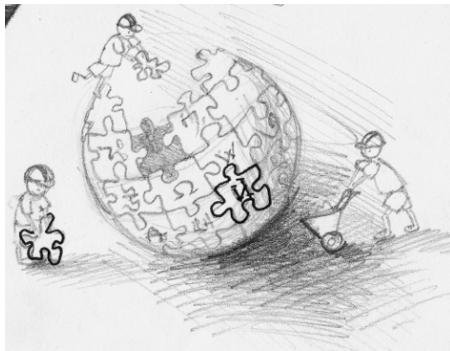
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→ you coordinate less toward others

Coordination and power differences

Two very different empirical settings:

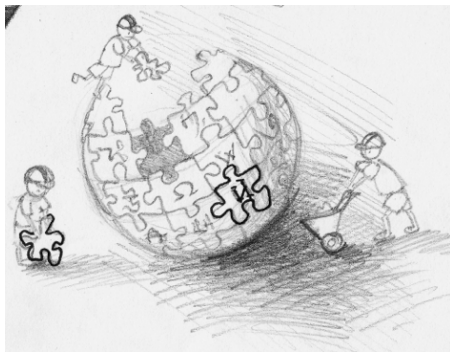


Wikipedia community of editors:

- 240,000 conversational exchanges on “talk pages”
- users become **admins** through elections

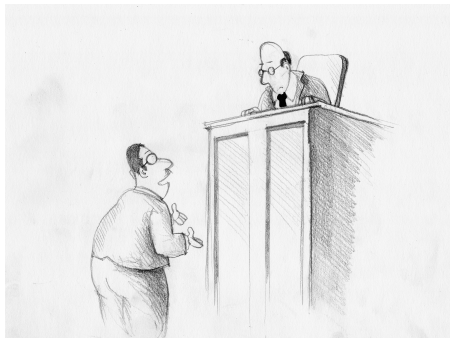
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U.S. Supreme Court oral arguments:

- 50,000 verbal exchanges
- between **Justices** and **lawyers**

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Sources of power differences (from social exchange theory):

Status: X has higher status than Y \rightarrow X has power over Y

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Status: X has higher status than $Y \rightarrow X$ has power over Y

Dependence: Y needs something from $X \rightarrow X$ has power over Y
(at least temporarily)

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admins > **non-admins** (Wikipedia)

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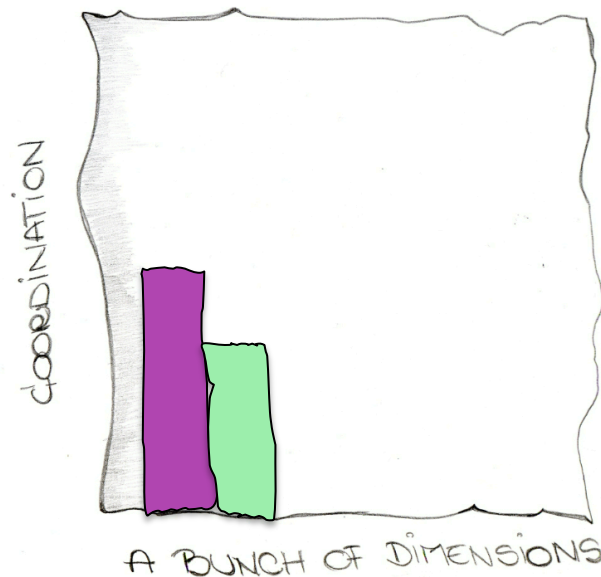
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Coordination towards
high-power people
(purple)

Coordination towards
low-power people
(green)



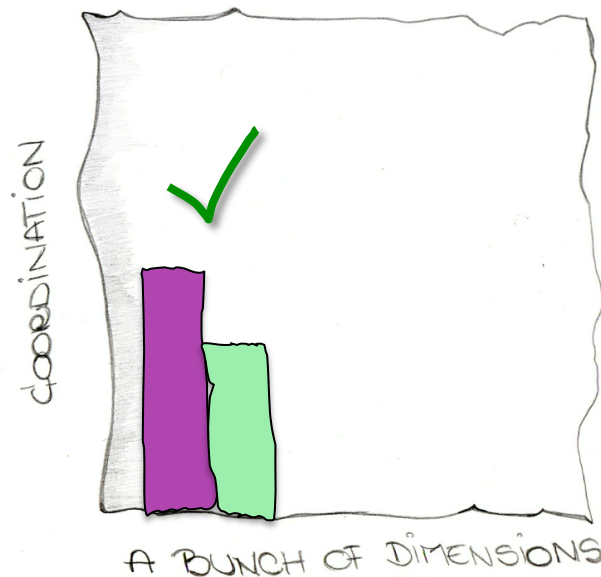
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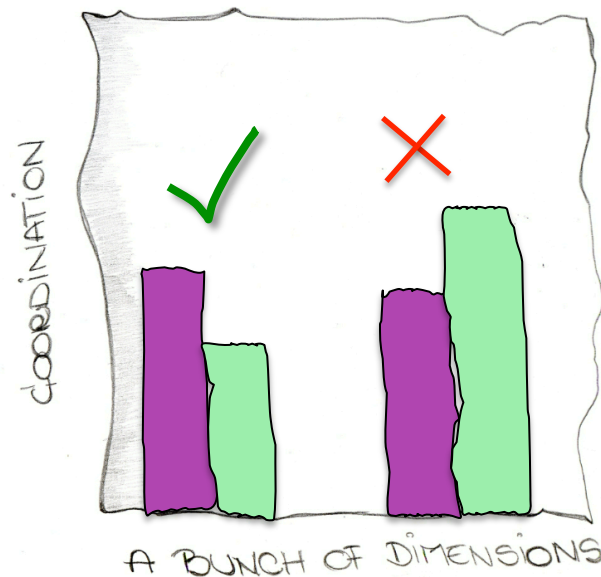
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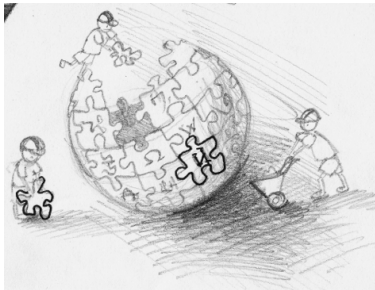


Coordination and power differences

Higher power (by **status**) → others coordinate more towards you

Wikipedia:

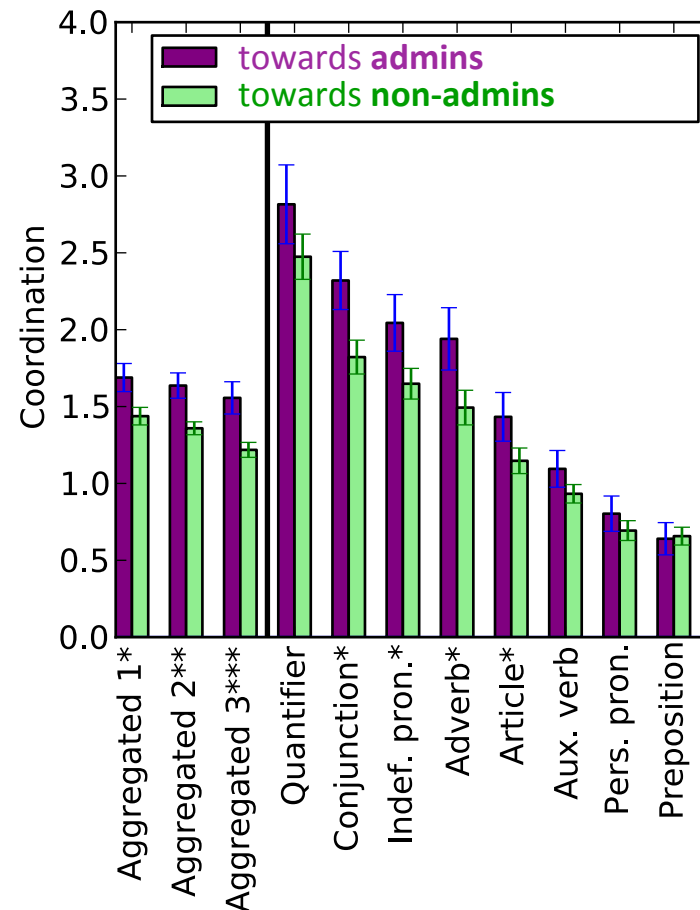
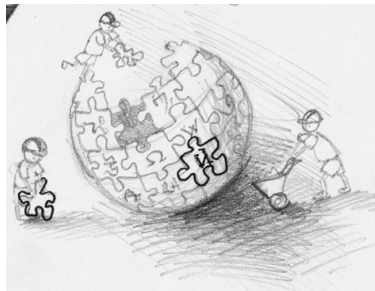
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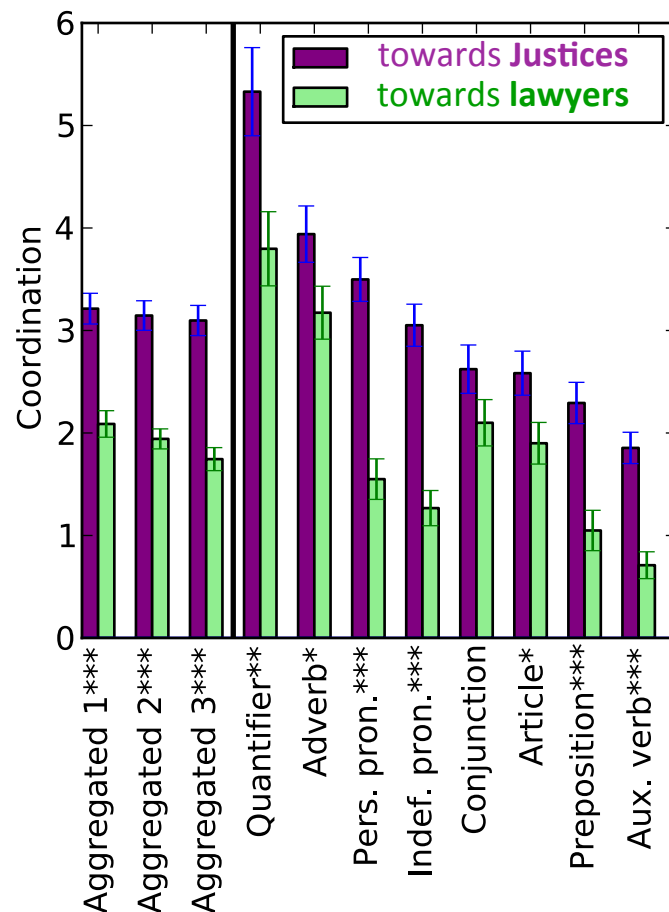
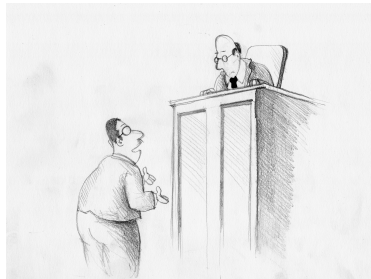


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Coordination and power differences

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Supreme Court:



purple > green ?

Coordination and power differences

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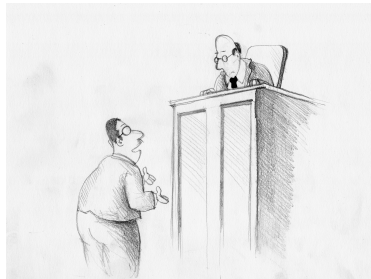
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unfavorable Justice > **favorable Justice** (Supreme Court)

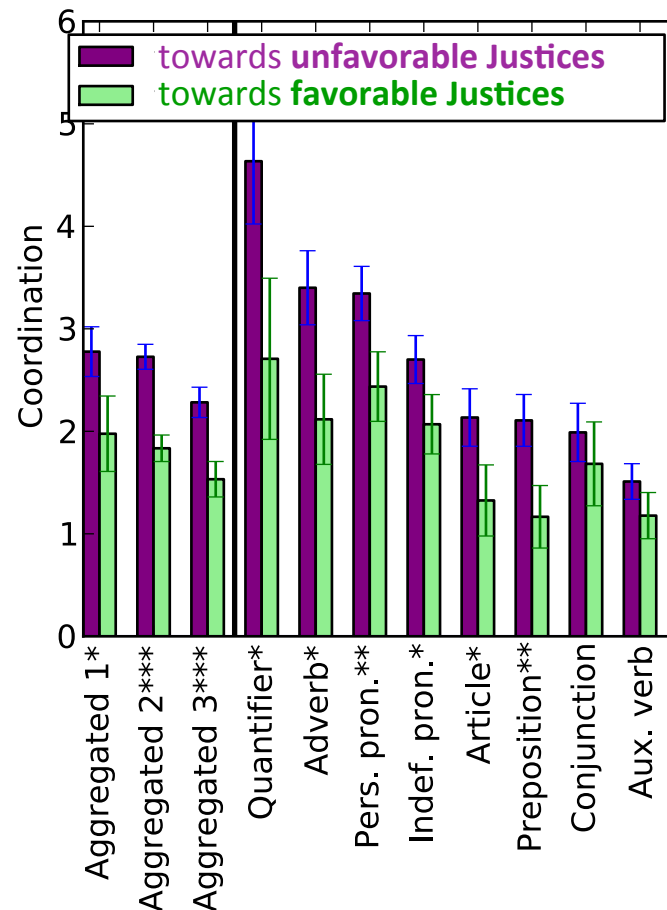
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(same in Wikipedia)



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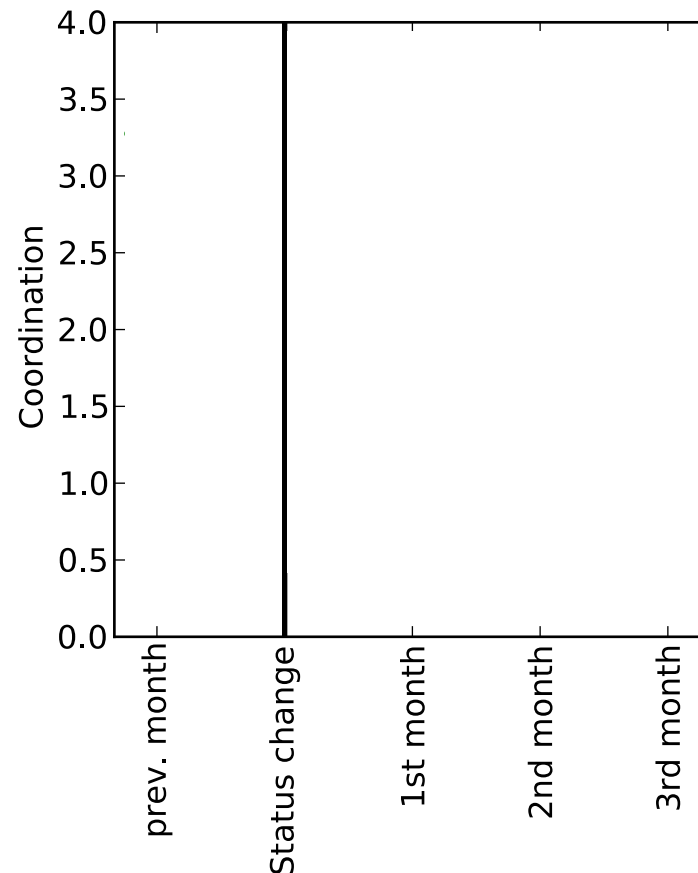
Coordination and power differences

Isolating the effect of power differences

Status change: **non-admins** are promoted to **admins** through elections

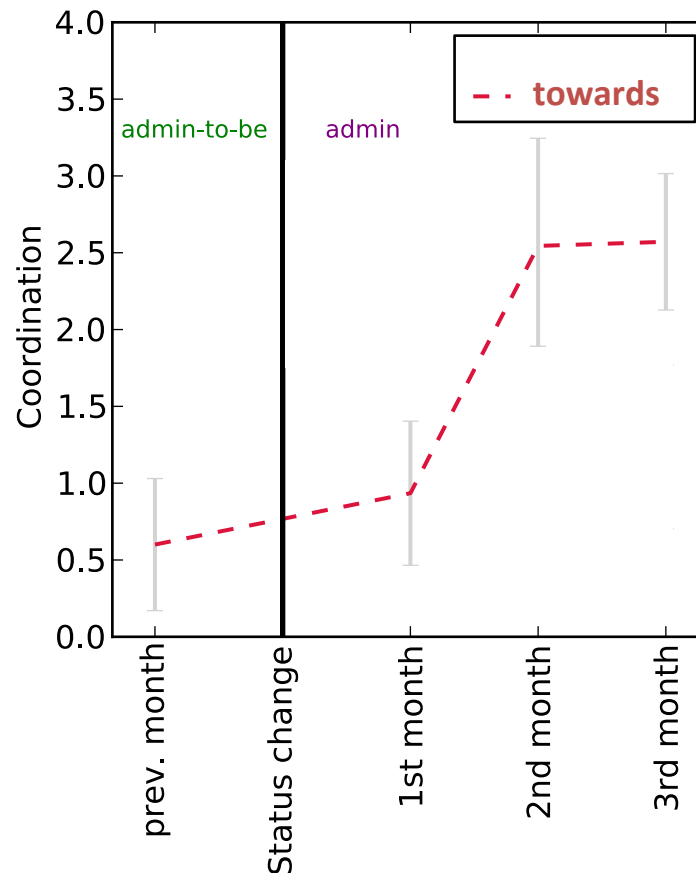
Coordination and status change

Track a fixed group of users as they undergo **status change**



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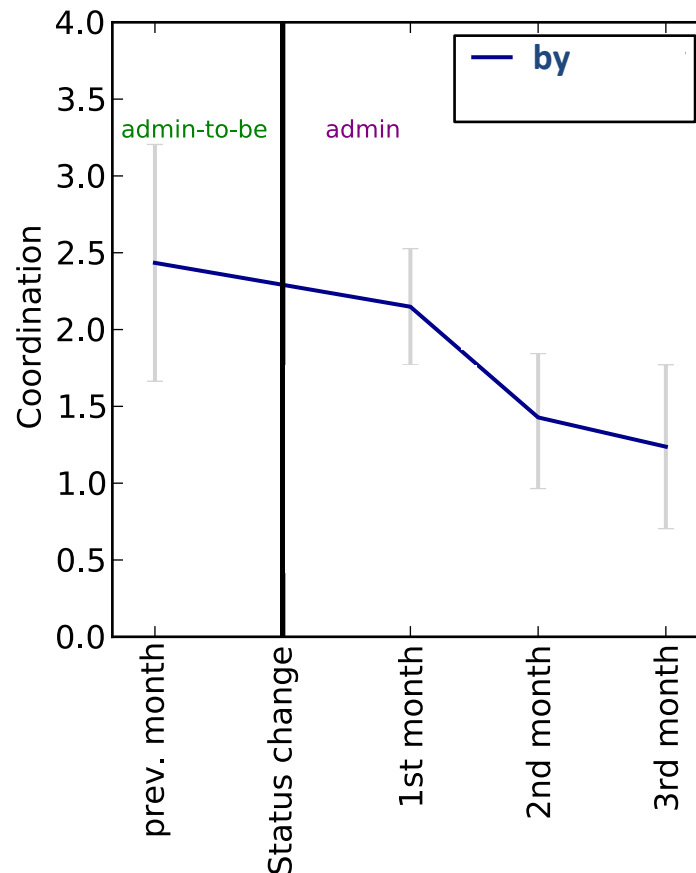
Coordination **towards** users increases after these gain higher status

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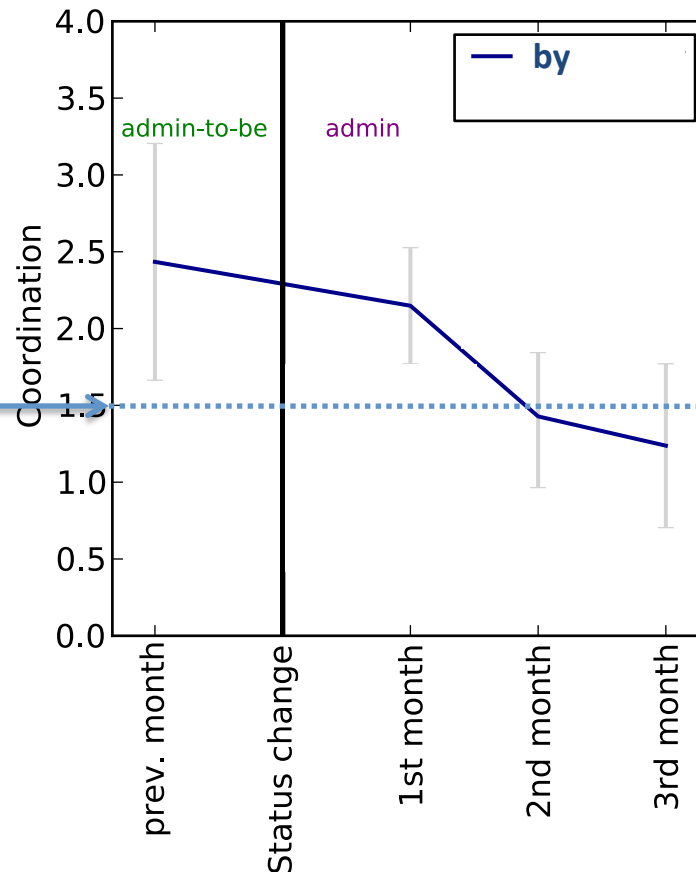


Coordination **by** users decreases after these gain higher status

Coordination and status change

Track a fixed group of users as they undergo **status change**

... even though initially
“admins-to-be” were
coordinating more
than the **average user**,



Coordination **by** users
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