Media-driven polarization. Evidence from the US

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Abstract

Using US data of media's coverage of politics and individual survey data, the authors document that in the states with a greater coverage of politics, citizens especially exposed to newspapers have more polarized preferences, partly coming from better political knowledge, and resulting in a higher political involvement measured as contributions to political parties and candidates.

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1 Introduction

Most democracies have never been more politically polarized than today.[1] Holding extremely opposed political opinions bears important consequences, however, since political decisions are likely to deeply divide the population and to bring along important economic costs. One emblematic such consequence has been the recent 35 days government shutdown in the U.S. (December 22, 2018 to January 25, 2019), the longest in the country's history, whose root cause lied in a disagreement over the funding of the U.S-Mexico border wall. While socio-economic factors affect political polarization (e.g. Grechyna 2016), a growing literature in political economy has focused on the specific role of media, and yet no consensus seems to emerge. Campante and Hojman (2013) followed by Melki and Pickering (2014), for example, provide evidence showing that, historically, the increasing media penetration over time reduced polarization in US counties and OECD countries, respectively. However, according to Prior (2013), the emergence of more partisan media may have contributed to political polarization leading Americans to support more partisan policies or candidates.

Part of the lack of convergence in the findings can be attributed to the differential effects of different media sources on political attitudes and polarization. The Nixon-Kennedy 1960 presidential debate constitutes a famous example of the strikingly different impact on voters' perception of TV and radio, respectively, with polls revealing Kennedy to have convinced relatively more TV viewers as compared to radio listeners (e.g. Druckman 2003). With the evolution of media technology, the attention of the scholarship therefore turned to these new sources of information. The introduction of TV modified the playground in politics by attracting away some attention from the more informative traditional means of information, i.e. newspapers and radio, by producing a sharp decline in turnout in the 1950s (Gentzkow 2006), and also by contributing to the recent rise in political polarization in the U.S. (Martin and Yurukoglu 2017). With the quick rise of internet penetration and the

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[1]See for instance the Sustainable Governance Indicators report for 41 countries of the OECD and European Union (Stiftung 2018).

development of social media, researchers explored whether trends in political polarization could be attributed to this new type of media. State of the art research, however, fails to establish a definite effect of internet and social media on political polarization (e.g. Halberstam and Knight 2016, Boxell et al. 2017, Lelkes et al. 2017).

It has been recognized, however, that newspapers occupy a central role in informing citizens, and yet their impact on political polarization remains unexplored. Kennedy and Prat (2017) show in a study on 36 countries that 40% of the surveyed subjects get informed by reading newspapers. Combining this finding with the strong political content of newspapers (Campante and Do 2014), one realizes the importance of exploring the potential causal effect of newspapers on political polarization.

In this paper we analyze the role of newspapers on citizens' polarization by taking the varying media coverage of politics into account. Indeed, not all information or media should lead citizens to endorse (or oppose) more extreme political stances but only those of a political nature. Moreover, we study the mechanisms through which media-driven polarization takes place as well as potential implications. Our measure of media exposition is provided by Campante and Do (2014) who propose a measure of state media coverage of politics based on nearly four thousand newspapers all over the United States. We explore the effect of newspaper coverage combined with individual survey data from the 2008 wave of the American National Election Studies (ANES) on whether surveyed individuals have an interest in politics and read news. Our results support that in the states with a greater media's coverage of politics, an increase in the citizens' exposure to newspapers is associated with a higher polarization of their political preferences. In support of a causal effect running from the media to political polarization, we propose a placebo test by replicating the estimation with 2000 data, but by using the 2008 measure of state media coverage. Reassuringly, the placebo estimation yields statistically non-significant estimates. In addition, we show that one mechanism of the media-driven polarization could be

improved political knowledge as a result of a higher political coverage.[2] We equally demonstrate that an important positive implication of the media-driven polarization is a stronger involvement in politics, as measured as campaign contributions.

2   Data and Empirical Strategy

Our measure of media coverage of politics comes from Campante and Do (2004). They looked at newspapers whose print edition content is available online and searchable at the website NewsLibrary.com covering nearly four thousand outlets all over the United States in 2008. They searched for the names of each state's then-current governors-as well as, alternatively, for terms such as 'state government,' 'state budget,' or 'state elections,' where 'state' refers to the name of each state. They computed the state-level measure of political coverage by taking the first principal component of the four search terms for each newspaper (adjusted by size), and performed a weighted sum of this measure over all newspapers.[3]

They provide this index for 47 states as of 2008.[4] The mean value of the variable weighted by the geographical concentration of the newspapers is -0.21 and its standard deviation is 0.96. As shown in Figure 1, the lowest political coverage is found in Delaware (-2.85) and the highest in Virginia (1.99).

Insert Figure 1

Our aim is to analyze the effect of the media coverage on citizens' political preferences and how they adopt more extreme or more ideological positions, potentially leading to more polarization of the electorate. We use the 2008 wave of the ANES to construct a set of individual variables, available for up to 2079 respondents. Our

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[2]This result complements Snyder and Strömberg (2010) finding that voters living in areas where the press covers their U.S. House representative more are more likely to recall their representative's name and more able to rate him or her.

[3]They used two alternative sets of weights: the circulation of each newspaper in the state and that circulation weighted by its geographical concentration. The latter, our preferred measure, put more weight on circulation closer to the capital.

[4]Rhode Island is excluded from the sample since, as underlined by Campante and Do, it is a outlier - about 5 standard deviations greater than the state with the next largest measure. Campante and Do explains that "this is because there is one newspaper, the Providence Journal, that far outstrips the circulation of all other RI-based newspapers in the sample, This newspaper had a very large measure of coverage of state politics, and is idiosyncratically driving the state-level measure".

main variable of interest, *Polarization*, is a dummy coded 1 for respondent declaring to be extremely liberal, liberal, conservative or extremely conservative, based on the "summary self-placement 7 points liberal-conservative scale" from the 2008 ANES. Accordingly, and with a slight abuse of terminology, we measure the percentage of "polarized individuals" the percentage of respondents self-declaring to be "strongly conservative", "conservative", "liberal" and "strongly liberal".[5] In our sample, 42.2% of the total respondents can be considered as polarized. Regarding the variation across states, as shown in Figure 1, the least polarized state is Illinois with less that 20% of citizens with polarized preferences and the most polarized one is Tennessee with more than 60%.

Among the other outcomes of interest, *Campaign* is a dummy coded 1 if the respondent states that she "contributed money to specific candidate campaign"; *Party* a dummy for wether the respondent states that she "contributed money to political party" and *Political Organization* a dummy for wether the respondent states that she "gave money to social or political organizations." We also use variables of political knowledge, which are dummies for whether the respondent knows the party with most members in House before election (*House*), in Senate (*Senate*) and whether she knows the name of the Speaker of the House (*Speaker*).

Given that respondents are not homogeneously exposed to the press, we construct two variables of exposure. The first one, *Interest* is a measure of the respondent's exposure to political information in general, ranging from 1 to 5 with higher values meaning higher "interest in following campaigns". The second one is a more specific measure of exposure to newspapers, *Read Newspapers*, coded 1 if the respondent reports that she has "read about campaign in newspaper", still as of 2008. Finally, our analysis also controls for a set of individual characteristics, which are age, income, education level, gender, household size, residence in urban area, and time between interview and election, as of 2008.

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[5]A more accurate measure of polarization has been proposed by Reynal-Querol (2002) in the spirit of the more general measure initially proposed by Esteban and Ray (1994). This index reads as $RQ = 4 \sum_{i=1}^{N} \pi_i^2 (1-\pi)$, and therefore captures not only the probability of two randomly picked individuals are of different political ideology (conservative *vs* liberal), but also the relative size of the two groups individuals.

To analyze the effect of individual characteristics (exposure to media) conditional on a variable aggregated at a higher level (state media), we follow Facchini and Mayda (2009) and estimate the following probit model:

$$Prob(Y_i = 1 \mid X_i) = \Phi(\beta_1 Interest_i + \beta_2 Interest_i \times Media_s + \beta_K Z_i + \psi_s) \quad (1)$$

where $\Phi(.)$ represents the cumulative distribution function of a standard normal, Y_i captures the individual's political polarization, monetary contribution or political knowledge, $Interest_i$ the individual's interest in following campaign or media exposure, $Media_s$ the state media coverage of politics in the individual's state of residence, X_i is a vector of individual controls, ψ_s state fixed effects to control for additive state-specific unobserved effects, and standard errors adjusted for clustering on state.

3 Evidence

First of all, Figure 1 depicts the scatter plot of the state-average polarization versus the state media coverage of politics. Taken at face value, ideological polarization is higher in the states with a higher media's coverage of politics, which is against prior arguments that higher media penetration decreases polarization (e.g. Campante and Hojman (2013); Melki and Pickering (2014)).

To provide quantitative support of such a possibility, we then turn to the individual data analysis and first estimate equation (1) with polarization as a dependent variable in Table 1. Column (1) shows that the positive impact of the respondents' interest in the campaign on their probability to adopt more extreme (liberal or conservative) positions is magnified in states where the media coverage of politics is stronger. Figure 2 plots the marginal effect of individuals' interest level on polarization, for given media exposure. The observed effect is economically significant. Exposure to media in the states with the lowest media political coverage is not associated with more extreme political opinions, while media exposure increases the probability of adopting more extreme positions by more that 40% in the states with

the largest coverage, such as as Virginia and California. Column (2) shows that this relationship holds when using a more specific measure of exposure to newspapers, which is whether the respondent has "read about campaign in newspaper."

Insert Table 1 and Figure 2

Interestingly, we provide evidence that the polarization effect of media is mostly driven by liberal respondents. Indeed, column (3) replicates the specification of column (1) by restricting the sample to respondents positioning themselves as extremely liberal, liberal, slightly liberal or moderate, while column (4) restricts the sample to those respondents positioning themselves as extremely conservative, conservative, slightly conservative or moderate. Upon inspection of Table 1, we observe that the interest level is associated with more extreme preferences in both cases, thence signifying that irrespective of the degree of expositure to the media, interest in politics constitutes a determinant of polarization. On the other hand, we observe that the effect of interest conditional on media exposition is present only for the liberal sample. This finding indirectly suggests that liberals's political attitudes are more elastic to media exposure, contrasting therefore previous findings on the elasticity of conservatives to slanted TV news (Martin and Yurukoglu 2017).

Our benchmark analysis establishes a robust correlation between interest in the presence of newspaper coverage and political polarization. Yet, at this stage we cannot exclude a causal effect running from the polarization to media, or even perhaps the non-inclusion of some omitted variable. To convince the reader that the link is indeed causal, we propose in column (5) a placebo estimation by replicating column (1) with all the variables as of 2000 (from the 2000 wave of ANES) instead of 2008 except for the media variable still measured in 2008. We observe that the interacted variable is not statistically significant any more, suggesting that the media coverage in 2008 does not account for the past polarization of 2000.[6]

The analysis further shows that an important implication of the media-driven

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[6]We replicated this placebo test with the other dependent variables of the analysis, which consistently supports the absence of statistical association between the media as of 2008 and past political outcomes as of 2000.

polarization is to reinforce citizens involvement in politics. Indeed, using the different measures of monetary contributions in politics from the ANES as dependent variables in Table 2, we find that the positive impact of the respondent's interest on the probability to contribute to a specific candidate (column 1) or a political party (column 2) is magnified in the states with a higher media coverage of politics. This result complements earlier work on the U.S. showing that the government invests disproportionally more on groups having more access to the media, since we show that citizens also participate more to politics when exposed to media.

Insert Table 2

Our analysis finally suggests that a mechanism through which the media reinforce citizens' political involvement and preferences is through improved political knowledge. Indeed, the estimations of Table 3 show that exposure to media is associated with a higher probability of recognition of the political colour of the majority in the House (column 1), in the Senate (column 2) and of the name of the Speaker of the House (column 3), in the states with a better coverage of politics.

Insert Table 3

4 Conclusion

Analysts of politics lament that political polarization has been increasing in the US, and in many other countries around the world. This article provides evidence in support of the responsibility of the media in explaining this phenomenon. Moreover, we also show that the media-driven polarization is accompanied by other potentially beneficial evolutions for democracies, which are the improved political knowledge and participation of citizens.

References

Boxell, L., Gentzkow, M., and Shapiro, J. M. (2017). Greater internet use is not associated with faster growth in political polarization among us demographic groups. *Proceedings of the National Academy of Science*, 114(40):10612–10617.

Campante, F. R. and Do, Q.-A. (2014). Isolated capital cities, accountability, and corruption: Evidence from us states. *American Economic Review*, 104(8):2456–2481.

Campante, F. R. and Hojman, D. A. (2013). Media and polarization: Evidence from the introduction of broadcast tv in the united states. *Journal of Public Economics*, 100:79–92.

Druckman, J. N. (2003). The power of television images: The first kennedy nixon debate revisited. *Journal of Politics*, 65(2):559–571.

Esteban, J.-M. and Ray, D. (1999). On the measurement of polarization. *Econometrica*, 62(4):819–851.

Facchini, G. and Mayda, A. M. (2009). Does the welfare state affect individual attitudes toward immigrants? evidence across countries. *Review of Economics and Statistics*, 91(2):295–314.

Gentzkow, M. (2006). Television and voter turnout. *Quarterly Journal of Economics*, 121(3):931–972.

Grechyna, D. (2016). On the determinants of political polarization. *Economics Letters*, 144:10–14.

Halberstam, Y. and Knight, B. (2016). Homophily, group size, and the diffusion of political information in social networks: Evidence from twitter. *Journal of Public Economics*, 143:73–88.

Kennedy, P. and Prat, A. (2017). Where do people get their news? *SSRN Working Paper 17-65*.

Lelkes, Y., Sood, G., and Iyengar, S. (2017). The hostile audience: The effect of access to broadband internet on partisan affect. *American Journal of Political Science*, 61(1):5–20.

Martin, G. J. and Yurukoglu, A. (2017). Bias in cable news: Persuasion and polarization. *American Economic Review*, 107(9):2565–99.

Melki, M. and Pickering, A. (2014). Ideological polarization and the media. *Economics Letters*, 125(1):36–39.

Prior, M. (2013). Media and political polarization. *Annual Review of Political Science*, 16:101–127.

Reynal-Querol, M. (2002). Ethnicity, political systems, and civil wars. *Journal of Conflict Resolution*, 46(1):29–54.

Snyder, J. M. and Stroömberg, D. (2010). Press coverage and political accountability. *Journal of Political Economy*, 118(02):355–408.

Stiftung, B. (2018). Sustainable governance indicators 2011. *Gütersloh: Bertelsmann.*

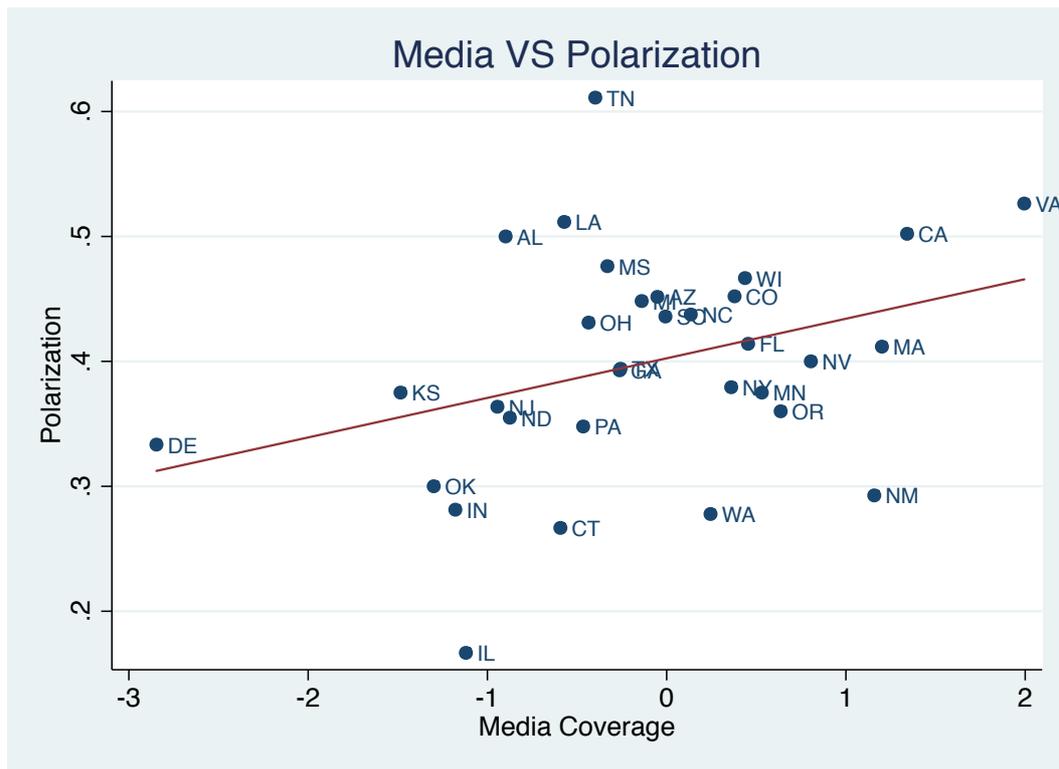Stroömberg, D. (2004). Radio's impact on public spending. *Quarterly Journal of Economics*, 119(1):189–221.

Figure 1. Scatter Plot of State-average of Ideological Polarization VS State Media Coverage, 2008-2009

Notes: *Polarization* = State proportion of respondents declaring to be strong liberal, liberal, conservative or strong conservative, based on "Summary self placement 7 points lib-con scale" from the 2008 ANES database. *Media coverage* = Media coverage of state politics as of 2008-2009, from Campante and Do (2014).
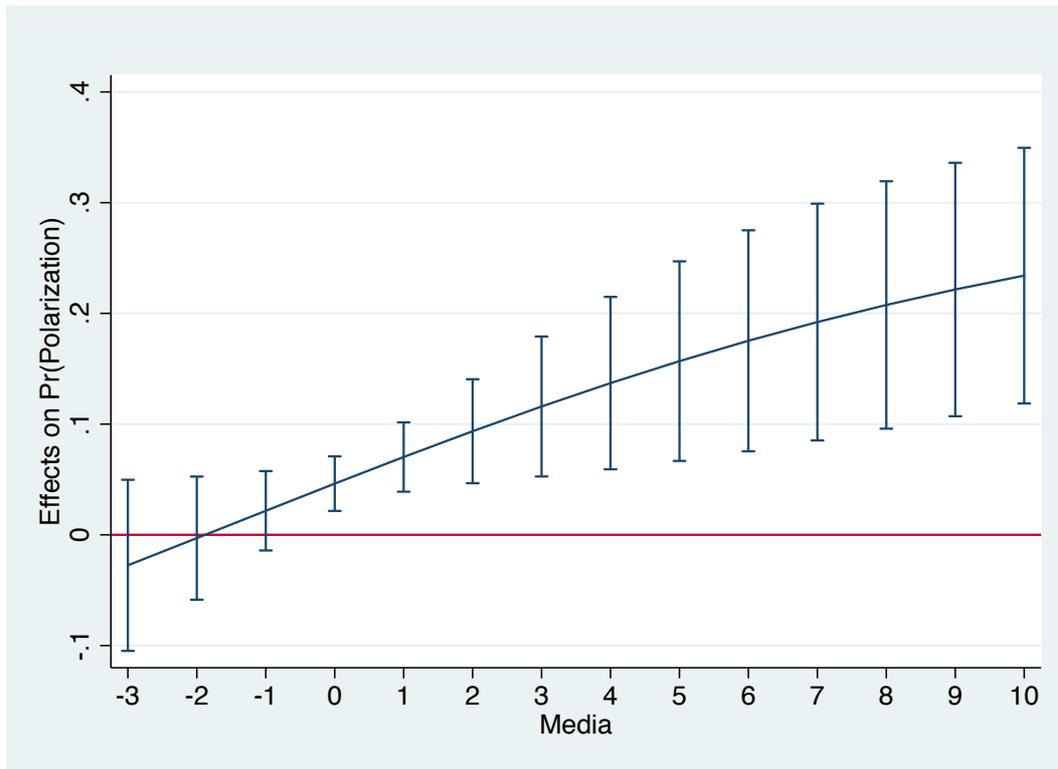
Figure 2. Marginal effect of Campaign Interest on Polarization according to State Media

Notes: This figure depicts the marginal effect of the respondent's interest in following campaigns on its preferences' polarization according to the state media coverage of state politics, obtained by estimating the following regression:

$$Polarization_i = \alpha_0 + \alpha_1 Interest_i + \alpha_2\, Media_s + \alpha_3 Interest_i \text{ x } Media_s + \alpha_K\, X_i + \varepsilon_i$$

with *Polarization the* respondent's polarization; *Interest the* respondent interest in following campaigns, *Media* the state media coverage of state politics; X_i the set of individual controls. The upper and lower bounds represent the 95% confidence intervals.

	Polarization				Polarization in 2000
	(1)	(2)	(3)	(4)	(5)
Interest	0.111***		0.110**	0.128***	0.410***
	(0.0344)		(0.0474)	(0.0424)	(0.0746)
Media x Interest	0.0930**		0.127**	0.0587	0.0972
	(0.0374)		(0.0503)	(0.0480)	(0.0845)
Read paper		-0.0584			
		(0.0794)			
Media x Read paper		0.244**			
		(0.0948)			
Individual controls	X	X	X	X	X
State dummies	X	X	X	X	X
Sample	full	full	liberals	conserv.	full
N	1,612	1,334	994	1,113	1,387

Table 1. Polarization and Media Coverage

Notes: Probit estimations. Dependent variable: *Polarization* = Dummy coded 1 for respondent declaring to be strong liberal, liberal, conservative or strong conservative, based on the summary self-placement 7 points liberal-conservative scale from the 2008 ANES database. *Polarization 2000 = Polarization* constructed with the 2000 ANES instead of 2008 in column (5). Independent variables measured in 2008 except for column (5) in 2000: *Interest* = Interest level in following campaigns; *Read Newspapers* = read about campaign in newspaper; *Media* = Media coverage of state politics as of 2008, from Campante and Do (2014). The regressions include a set of unreported individual controls (age, income, education, gender, household size, urban area, time between interview and election) measured in 2008 except for column (5) in 2000; as well as state dummies. Sample restricted to respondents declaring to be extremely liberal, liberal, slightly liberal or moderate-middle of the road in column (3). Sample restricted to respondents declaring to be extremely conservative, conservative, slightly conservative, moderate-middle of the road in column (4). Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10.

Contribution to:	Campaign	Party	Political Org.
	(1)	(2)	(3)
Interest	0.427***	0.404***	0.297***
	(0.0521)	(0.0594)	(0.0324)
Media x Interest	0.157***	0.177**	-0.0307
	(0.0540)	(0.0728)	(0.0238)
Individual controls	X	X	X
State dummies	X	X	X
N	2,020	1,981	2,073

Table 2. Money Contribution and Media Coverage

Notes: As for Table 1 with the dependent variable from 2008 ANES: *Contribution to Campaign =* Dummy coded 1 if the respondent asserts that he/she "contribute money to specific candidate campaign"; *Contribution to Party =* Dummy coded 1 if the respondent asserts that he/she "contributes money to political party"; *Contribution to Political Org. =* Dummy coded 1 if the respondent asserts that he/she "gave money to social or political organizations." Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10.

Recognition:	House	Senate	Speaker
	(1)	(2)	(3)
Interest	0.235***	0.216***	0.265***
	(0.0305)	(0.0313)	(0.0313)
Media x Interest	0.0795**	0.0622**	0.0687**
	(0.0324)	(0.0312)	(0.0340)
Individual controls	X	X	X
State dummies	X	X	X
N	2,071	2,063	2,079

Table 3. Political Knowledge and Media Coverage

Notes: As for Table 1 with the dependent variable from 2008 ANES: *Recognition House =* Dummy coded 1 if the respondent knows the party with most members in House before election. *Recognition Senate =* Dummy coded 1 if the respondent knows the party with most members in Senate before election. *Recognition Speaker =* Dummy coded 1 if the respondent knows the name of the Speaker of the House. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10.

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