Project Datasets submission

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Project Title: The impact of retribution on perception of transgressor by others

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Abstract:

Emotions play a key role in within society, behaviour and human life with moral emotions such as guilt, regret and shame being able to influence individuals' judgments and actions. For example, a person who experiences guilt will want to fix their wrongdoing that has caused this. There are times where these efforts to repair ones transgression, can lead an individual to self-punish in order to repair bonds with others and reduce negative consequences of the situation. The present study experimentally investigated the effect of self-punishment intensity on perceptions of a transgressor. Participants were randomly assigned to one of three conditions of self-punishment intensity (low, correct and high). Vignettes were manipulated for each condition and presented for participants to read for them to answer questions on their judgments of the transgressor (perceptions of guilt, shame, regret, moral character, and trustworthiness, their willingness to forgive the transgressor, how likely they thought they would reoffend in the future) and rated this on a Likert scale of 0-5. Participants allocated to low self-punishment had more negative perceptions towards the transgressor overall when compared to correct self-punishment. However, this was not found beyond this as no differences were seen for those within the high self-punishment condition

Methods Section:

***Participants*.** Participants were recruited through the use of LU Sona system as well as opportunity sampling through use of social media and network platforms accessible. A total of 174 responses were collected via Qualtrics, of those 158 have been successfully completed through to the end whilst 16 have only been started and answered few questions at most. Therefore, the decision has been made to exclude any incomplete attempts. This resulted in a final sample of 158 of which 54 are in the high punishment condition, 52 in low punishment condition and 52 in correct punishment.

Design. This is a one-factor study with 3 levels (self-punishment: Low punishment, correct punishment, and high punishment) between-subjects design. Qualtrics randomly allocated participants to one of the three conditions.

Materials. A short hypothetical vignette was used to describe an event between two individuals; 'Simon' the transgressor and his friend, who he steals money from. With each of the punishment conditions, the vignette introduced the scenario with the same starting sentences to create the scene of someone performing a transgression against their friend with feelings of self-directed negative affect presented by the transgressor:

Simon is out with his friends when he noticed that a member of his group has left their wallet unattended. Simon helps himself to the £40 that was in the wallet. His friend eventually realises that the money has been stolen and seems distressed. The next day, Simon feels bad for his actions and confesses to his friend that he took the money.

The final sentence of the vignettes was manipulated for each of the three conditions. The sentence stated the amount of money returned to Simon's friend, which was either

less than originally taken (low punishment, £20), same amount (correct punishment, £40) or more than originally taken (high punishment, £60).

He gives his friend all the money he has in his wallet, which came to £20 (or £40, or £60).

Hypothetical vignettes have been a popular method to explore social actions within research allowing actions to be explored in context to specific situations, people's judgments, reactions and perceptions of the scenario being described and/or the individual people within the vignette. It allows this all to be clarified in the form of data collection and provides a less personal, and therefore less threatening way of exploring sensitive issues and topics in society (Barter & Renold, 1999; Hughs, 1998; Schoenberg & Ravdal, 2000). Vignettes are a valuable technique for exploring perceptions of situations and have been utilised previously in research on guilt and perceptions of a transgressor post-transgression (McLatchie, 2019; Manstead & Semin, 1981; Dijk, de Jong & Peters, 2009) and so have been utilised in this research of intensity of self-punishment post-transgression.

Empirical research has shown that emotions and perceptions of guilt specifically focuses attention on the behaviour and action that has occurred which has in turn elicited these feelings (Tangney & Dearing, 2002). This is why the vignette in the present study was written with a particular emphasis on presenting the transgressor to be feeling remorse/guilt after failing to adhere to a social standard, being explicitly stated through acceptance of responsibility. This was done through stating that Simon 'felt bad for his actions', intentionally presenting to participants that, regardless of the punishment, Simon did know his behaviour was wrong. It can also be seen in this study

through the motivations and efforts to recompensate the wrongdoing through his self-punishment and returning of a quantity of money. Absence of this could imply to participants a lack of emotional response, this could have impacted judgments on Simon regardless of the presence of punishment or not.

As stated previously, other emotions can be used synonymously within conversation when referring to guilt, such as self-conscious emotions like regret and shame; it was important to ensure that guilt was specifically being portrayed. McLatchie (2019) ensured this in his study investigating punishment types (no punishment, self-punishment, and other punishment). McLatchie used a vignette that described interpersonal violations as these are primarily associated with guilt than the other emotions. This is because it includes other individuals and not merely directed at the self where the common emotion that would most likely be triggered would be shame instead. Due to this, the present study also used a vignette that described an interpersonal violation of moral and social standards with the last sentence manipulated to present three self-punishment conditions based on varying intensities. These terms are popularly used interchangeably within conversation due to multiple similarities between them (Shen, 2018; Bhushan, Basu & Dutta; 2020; Stearns & Parrott, 2012),

Participants were then asked a series of questions which gathered information on the participants judgments of Simon. Participants were asked to rate the extent of the perceived guilt, shame, and regret of the transgressor as a third-party observer which keeps in line with current research which provides evidence for a strong internal consistency of these measures (McLatchie, 2019). It is also consistent with previous research where the same elements were combined to calculate an overall guilt score. This emphasised the importance of these emotional responses and behaviours that an

individual may present when judging overall guilt being experienced by the perpetrator. How much the participant thinks Simon (the transgressor) deserves to be forgiven was also measured. This was done with an adapted version of Zhu et al.'s (2017) way of measuring this and has proved to be effective in prior research related to guilt and self-punishment (McLatchie, 2019). The final questions were – how likely the participants thought Simon would reoffend, and to what extent they thought the punishment performed was sufficient for the transgression committed. All answers were presented and rated on a Likert scale with the question above.

Procedure. Participants were invited to partake in a study aiming to evaluate a 'social action'. Qualtrics was used to provide the survey to participants where they were asked to read through the vignette prior to moving through the questions and answers which measured their responses. As each question appeared, the vignette remaining at the top of the screen for reference throughout. Answers were presented on a 6-point Likert scale ranging from 0 ("*Not at all*") to 5 ("*Completely*") which they were required to choose their response through a rating.

Once participants completed this survey, a final section asked participants to provide demographic information with a full debrief. Demographic information included basic information such as the participants age and gender. Additional questions were included in order to gain an insight into the participants experience with situations such as the one described in the vignette and their personal experiences with guilt allowing any influences of the participants character to be seen when analysing results. These include being asked if they have ever had an experience as the protagonist (Simon in this case), someone who has been stolen from, and if they are prone to feelings of guilt.

Results Section:

(A correlation analysis was conducted on the variables to determine whether the variables were truly independent of each other or not. The correlation matrix revealed that variables were dependant on each other (see Table 1 for an overview) and therefore this was followed by separate linear regressions run to test relationships between the conditions (i.e., rate of punishment) and each dependent variable. If significant, this will mean self-punishment intensities have the ability to influence how a third party may judge a transgressor and the effect this has on perception of character traits. All tests were ran with a statistical significance of $p < .001$. Due to McLatchies (2019) previous study on this topic, the significance of $p < .001$ was used to check the statistical significance throughout the analysis.

Correlations of the variables

A correlation matrix was utilised to investigate dependence between numerous variables simultaneously. Table 1 presents all the correlation coefficients for the relation between variables and shows that all outcomes are at least moderately related to each other. Some variables differ from others with a stronger or weaker correlation. For example, guilt and regret, shame and regret, and shame and guilt all have a higher correlation than other pairs of variables.

Table 1. Correlation matrix table presenting the interrelationship of all independent variables measured in this study. Correlation coefficient values are shown below between pairs of variables with all

	Future	**Forgiveness**	**Punishment**	**Trust**	**Moral Character**	**Shame**	**Guilt**
Future							
Forgiveness	-0.30						
Punishment	-0.36	0.56					
Trust	-0.36	0.53	0.48				
Moral Character	-0.26	0.49	0.34	0.56			
Shame	-0.38	0.32	0.44	0.43	0.49		
Guilt	-0.42	0.37	0.37	0.40	0.52	0.70	
Regret	-0.38	0.44	0.43	0.44	0.53	0.63	0.75

Linear Regression

Simple linear regression was then used to indicate whether there were differences between conditions for each variable. Coding used for the analysis of these different variables remained identical throughout. For the linear regression, dummy coding was used, the default in R, when running the model: lm(outcome ~ condition), with the outcome being the different perceptions participants have rated. This means that R has taken a level of the condition factor (low, correct or high) as the baseline; this baseline was also used in the analysis to compare the remaining two levels . In this analysis, correct self-punishment was chosen as the baseline which means that is seen in the model results below, for each separate analysis, are the coefficients representing the change in outcome: correct versus low and correct versus high. The intercept then

gives the outcome at condition = correct. Results produced present multiple coefficients that are used to tell us if there are differences between conditions. The intercept estimate tells us the average outcome at the correct condition. Correct versus low estimate coefficient informs the difference between the outcome at correct and the outcome at low, on average. Finally, the correct versus high estimate tells us the average difference between the outcome at correct and the outcome at high. If beta is positive, this can change the interpretation of the result, for example for correct versus low, a positive beta result confirms the outcome is higher for the low condition than the correct condition. All results are reported below for each of the 8 variables following this simple linear regression analysis repeated across all.

Table 1. This summary table presents all mean values and standard deviations (SDs) of all dependent variables for each group that has been allocated conditions of low self-punishment, correct self-punishment and high self-punishment.

	Low Punishment	**Correct Punishment**	**High Punishment**
Guilt	Mean = 3.83 SD = 1.26	Mean = 4.71 SD = 1.21	Mean = 4.68 SD = 1.26
Shame	Mean = 3.75 SD = 1.17	Mean = 4.54 SD = 1.13	Mean = 4.69 SD = 1.21
Regret	Mean = 3.5 SD = 1.36	Mean = 4.37 SD = 1.28	Mean = 4.39 SD = 1.37
Future	Mean = 4.12 SD = 1.42	Mean = 3.64 SD = 1.33	Mean = 3.82 SD = 1.43
Punishment Sufficiency	Mean = 1.90 SD = 1.07	Mean = 2.65 SD = 1.63	Mean = 2.91 SD = 1.48
Willingness to forgive	Mean = 3.06 SD = 1.41	Mean = 2.5 SD = 1.55	Mean = 3.37 SD = 1.39
Moral Character	Mean = 3.15 SD = 1.16	Mean = 3.42 SD = 1.05	Mean = 3.33 SD = 1.2
Trustworthiness	Mean = 1.90 SD = 1.18	Mean = 2.37 SD = 1.22	Mean = 2.43 SD = 1.27

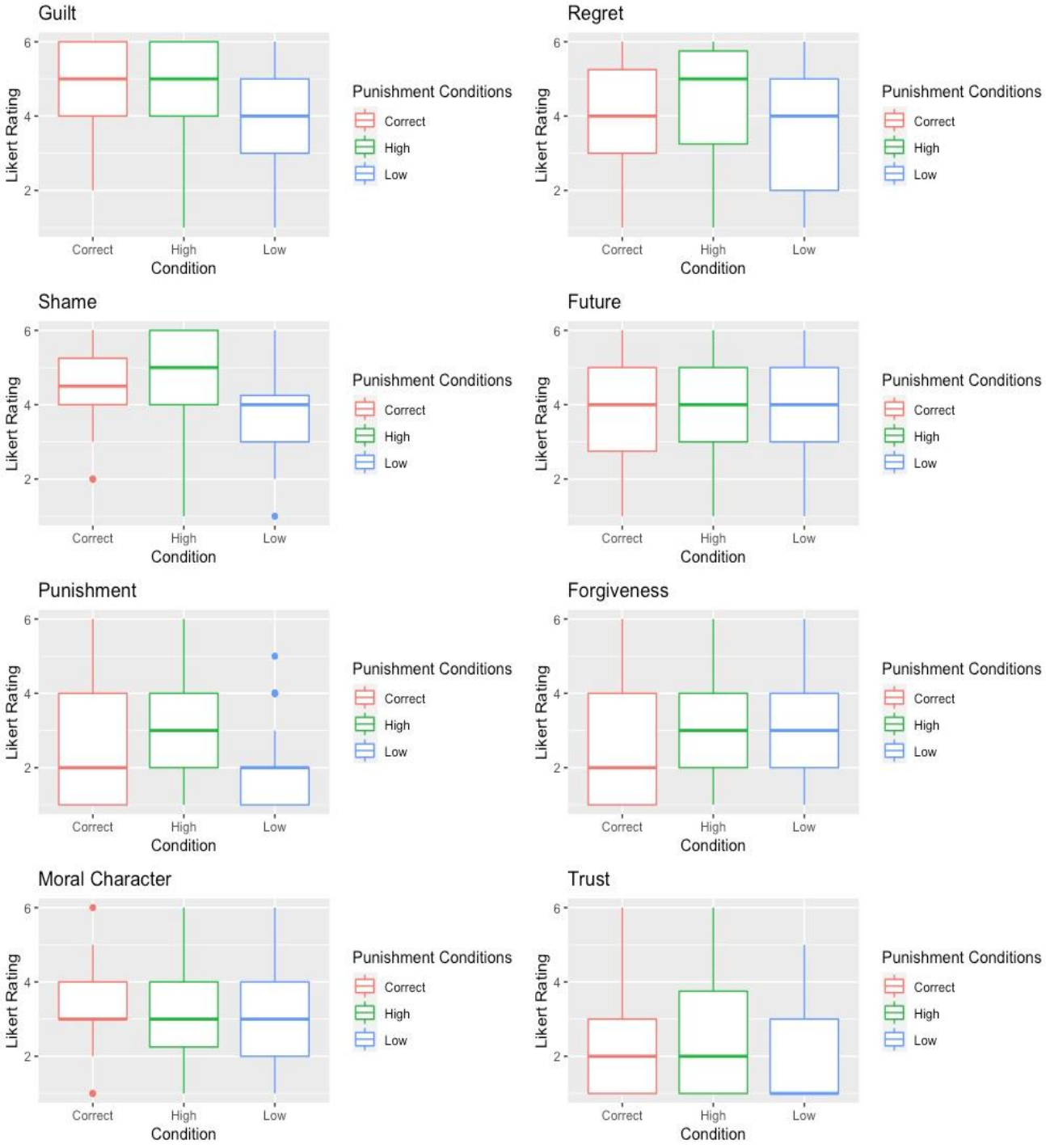

Figure 1. This grid plot shows the individual box plots and distributions of ratings of perceptions of the transgressor for each dependent variable. Each different colour plot represents one of the three conditions: red = correct self-punishment, green = high self-punishment and blue = low self-punishment. Within each box, lines within the white boxes represent median values, boxes extend from the 25th to the 75th percentile of each variables distribution of data values and dots denote outside observations.

Perceived Guilt

Table 2. Table of coefficient estimate outcomes from the result of linear regression analysis for perceived guilt.

	Beta (β)	**Standard Error (SE)**	**t-value**	**p-value**
Intercept Estimate	**4.712**	**0.173**	**27.3**	**<2e-16**
Correct vs High Estimate	**-0.045**	**0.242**	**-0.186**	**0.853**
Correct vs Low Estimate	**-0.885**	**0.244**	**-3.624**	**0.001**

A significant effect of self-punishment conditions on the perceived guilt of the transgressor, Simon, was found with the model being significant overall ($F(2,155) = 8.379; p < .001$). The model Adjusted R-squared = .09 telling us that approximately 9% of outcome variance is explained by the model predictors. This difference was only found between low self-punishment and correct self-punishment type ($\beta = -0.88, t = -3.62, p < .001$). This means participants allocated to low self-punishment perceived Simon's experience of guilt to be lower than in the correct self-punishment condition where he returned the correct amount of money. However, there was no significant difference found in perception of Simon's guilt between high and correct punishment ($\beta = -0.04, t = -0.19, p = .8$). This means participants did not rate Simon to be feeling any more or less guilty in either condition.

Perceived Shame

Table 3. Table of coefficient estimate outcomes from the result of linear regression analysis for perceived shame.

	Beta (β)	**Standard Error (SE)**	**t-value**	**p-value**
Intercept Estimate	**4.539**	**0.162**	**27.963**	**<2e-16**
Correct vs High Estimate	**0.147**	**0.227**	**0.645**	**0.52**
Correct vs Low Estimate	**-0.789**	**0.23**	**-3.435**	**0.001**

A significant effect of self-punishment conditions on perceived shame of Simon was found with the model being significant overall ($F(2,155) = 9.697; p = .0001$). The model Adjusted R-squared = .1 telling us that approximately 10% of outcome variance is explained by the model predictors. The only difference that found was between low self-punishment and correct self-punishment type ($\beta = -0.79, t = -3.44, p < .001$). This means who participants allocated low self-punishment perceived Simon's experience of shame to be lower than in the correct self-punishment condition. No significant effect for perception of Simon's shame between high and correct punishment was found ($\beta = 0.15, t = .65, p > .5$), which means participants did not rate Simon to be feeling any more or less shame when comparing high and correct punishment.

Perceived Regret

Table 4. Table of coefficient estimate outcomes from the result of linear regression analysis for perceived regret.

	Beta (β)	**Standard Error (SE)**	**t-value**	**p-value**
Intercept Estimate	**4.365**	**0.186**	**23.51**	**<2e-16**
Correct vs High Estimate	**0.024**	**0.260**	**0.090**	**0.928**
Correct vs Low Estimate	**-0.865**	**0.263**	**-3.296**	**0.001**

A significant effect of self-punishment conditions on perceived regret of the transgressor Simon was found with the model being significant overall ($F(2,155) = 7.493; p < .001$). The model Adjusted R-squared = .08 meaning only 8% of outcome variance is explained by the model predictors. The difference found was between low self-punishment and correct self-punishment type ($\beta = -0.87, t = -3.3, p < .001$). This means, participants in the correct self-punishment condition, perceived Simon to be feeling more regret than those in the low self-punishment condition. There was no significant effect found for perception of Simon's shame between high and correct punishments ($\beta = 0.02, t = .09, p > .92$); participants did not rate Simon to be feeling any more or less regret when comparing high and correct punishment.

Reoffending.

Table 5. Table of coefficient estimate outcomes from the result of linear regression analysis for perceptions of chances that the transgressor will reoffend.

	Beta (β)	**Standard Error (SE)**	**t-value**	**p-value**
Intercept Estimate	**3.635**	**0.193**	**18.792**	**<2e-16**
Correct vs High Estimate	**0.180**	**0.271**	**0.665**	**0.507**
Correct vs Low Estimate	**0.481**	**0.274**	**1.758**	**0.081**

The overall model was found to be insignificant for the variable of reoffending $F(2,155) = 1.578; p = .2$) with an adjusted R-squared = .007. No significant effects were found between any condition when participants were asked on the chances of reoffending by Simon after the incident. There was no difference between low and correct self-punishment conditions ($\beta = 0.48, t = 1.8, p = .08$). The same was also found when comparing high and correct self-punishment ($\beta = 0.18, t = .67, p = .51$).

Punishment Sufficiency.

Table 6. Table of coefficient estimate outcomes from the result of linear regression analysis for the extent that participants perceived the punishment, in their allocated condition, to be sufficient

	Beta (β)	**Standard Error (SE)**	**t-value**	**p-value**
Intercept Estimate	**2.654**	**0.196**	**13.514**	**<2e-16**
Correct vs High Estimate	**0.254**	**0.275**	**0.922**	**0.358**
Correct vs Low Estimate	**-0.750**	**0.278**	**-2.701**	**0.001**

A significant effect of self-punishment conditions was found on whether participants believed Simon's punishment was sufficient or not with the overall being significant ($F(2,155) = 7.148; p < .001$) with the model Adjusted R-squared = .07. The difference found was between low self-punishment and correct self-punishment type ($\beta = -0.75, t = -2.7, p < .001$). Participants believed Simons punishment to be more sufficient in the correct self-punishment condition compared to in the low condition. There was no significant effect found between high and correct punishments ($\beta = 0.25, t = .92, p > .36$).

Willingness to Forgive.

Table 7. Table of coefficient estimate outcomes from the result of linear regression analysis for perceptions on participants willingness to forgive the transgressor.

	Beta (β)	**Standard Error (SE)**	**t-value**	**p-value**
Intercept Estimate	**2.500**	**0.201**	**12.423**	**<2e-16**
Correct vs High Estimate	**0.870**	**0.282**	**3.087**	**0.0024**
Correct vs Low Estimate	**0.558**	**0.285**	**1.960**	**0.052**

The analysis was found to be insignificant for the variable of willingness to forgive $F(2,155) = 4.87; p = .009$) with an adjusted R-squared = .05. No significant effects were found between any condition when participants were asked their judgments for willingness to forgive Simon. There was no difference between low and correct self-punishment conditions ($\beta = 0.56, t = 1.96, p = .052$) with the same being found when comparing high and correct self-punishment also ($\beta = 0.87, t = 3.09, p = .002$).

Moral Character.

Table 8. Table of coefficient estimate outcomes from the result of linear regression analysis for perceived moral character.

	Beta (β)	**Standard Error (SE)**	**t-value**	**p-value**
Intercept Estimate	**3.423**	**0.158**	**21.652**	**<2e-16**
Correct vs High Estimate	**-0.08974**	**0.222**	**-0.405**	**0.686**
Correct vs Low Estimate	**-0.269**	**0.224**	**-1.204**	**0.230**

The overall model was found to be insignificant for judgments of moral character $F(2,155) = 0.75; p = .4$) with an adjusted R-squared = .003. No significant effects were found between any conditions meaning, participants did not perceive Simon's moral character to be different through each condition. There was no difference detected between low and correct conditions ($\beta = -0.269, t = -1.2, p = .23$), as well as between high and correct ($\beta = -0.09, t = -0.405, p = .69$).

Trustworthiness.

Table 9. Table of coefficient estimate outcomes from the result of linear regression analysis for perception of trustworthiness of the transgressor.

	Beta (β)	**Standard Error (SE)**	**t-value**	**p-value**
Intercept Estimate	**2.365**	**0.1696**	**13.949**	**<2e-16**
Correct vs High Estimate	**0.061**	**0.238**	**0.255**	**0.799**
Correct vs Low Estimate	**-0.462**	**0.2398**	**-1.925**	**0.056**

The model was insignificant for perceptions of Simon's trustworthiness $F(2,155) = 2.86; p = .06)$ with an adjusted R-squared = .02. Along with this, no difference was found between conditions, including no significant effect of low and correct self-punishment conditions ($\beta = -0.46, t = -1.9, p = .06$), and when comparing high and correct self-punishment also ($\beta = 0.061, t = 0.255, p = .8$). This means that no participants judged Simon's trustworthiness to differ throughout conditions.

Psychology area: Behavioural Psychology, incorporated elements of developmental psychology

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