

# Influence of arrogance on acceptance of TDM policy

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## 大衆傲慢性が交通需要マネジメントの受容意識に及ぼす影響

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### 要約

スペインの哲学者オルテガ（1883～1955）の著書「大衆の反逆」（1930）に基づいて、社会ジレンマの問題は「傲慢性」の因子という心理的傾向性に影響がある可能性が指摘されている。本研究では、交通需要マネジメント施策の賛同と共感意識形成問題を社会的ジレンマ中の一つと見なし、『傲慢性』が「交通施策に対する賛同と共感意識形成」と負の関係があるという仮説に基づき進める。さらに、政府に対する信頼、環境問題に対する認知、公共交通や自転車、徒歩などの環境にやさしい交通手段に対する意識といった心理的要因も施策への賛同と共感意識の形成に影響する要素と考えている。本研究では、まず、アンケート調査を通じて上に述べた心理的要因に関するデータを収集して TDM 施策に、主に環境税に対する受容可能性に対し影響を及ぼすという仮説を設定し、検証する。

### Key words

mass man, vulgarity, arrogance, acceptance, TDM

### 1. Introduction

Social dilemmas result from situations in which a group shares a common output and in which each individual must decide whether to contribute or not. Pollution, depletion of natural resources, and intergroup conflicts, can be characterized as examples of urgent social dilemmas. Dawes (1980) reviewed the literature related to social dilemmas and reached a conclusion that people can cooperate even when no coercive authority is present and he or she attributed cooperative behaviour to utilities which are distinct from material payoff. In other words, he stressed the role altruism, norms, and conscience in eliciting cooperative behaviour. We consider actions such as ‘voluntarily saving energy’, ‘buying environmental friendly goods’, ‘visiting the polls to vote’, and ‘use public transportation’ as typical examples of cooperative behaviour encountered in daily life. Especially due to environmental problems and resource depletion, understanding how co-operative behaviour can be encouraged has become important.

The “mass man” is a concept proposed by the Spanish philosopher and politician Jose Ortega Gasset (1883-1955) in 1932 to describe problematic changes in public attitudes and citizens participation that had emerged during the modern era. In his article ‘the Rebellion of the Masses’, he discussed that ‘arrogant personality’ can be one trait of the mass man. He noted that the mass man acts directly outside the law, imposing his aspirations and desires by means of material pressure and such personality can be described as indicative of ‘vulgarity’. We can hence

hypothesize that people who have an arrogant personality trait are more likely to show non-cooperative behaviour. Therefore in this study, we measured acceptance of road pricing policy as a social dilemmas and hypothesize that “arrogant persons” are less likely to accept such a TDM policy.

#### 1.1 Vulgarity personalities of Mass Man, ‘Arrogance’

Hatori & Fujii (2008) summarized personality features of the mass man based on Ortega’s article in his study. He noted that mass man contumeliously believes that his own opinion, whatever it is, should be accepted over those of others. As a consequence, the mass man exhibits intolerance for others with different opinions and tastes and does not respect superior persons. Hatori & Fujii also argued that Ortega discussed that the mass man cut themselves off from outside world. As a result they avoid assuming any responsibility: ‘the mass man is scarcely conscious to himself of any obligations.’ (Ortega, 1932) (Hatori & Fujii, 2008) Furthermore, Ortega mentioned that the mass man imposes his aspirations and desires by means of material pressure and Hatori & Fujii (2008) interpret this as abolishing the old standards and establish their own tastes and desires in society.

In above, such personality of mass man was described as indicative of ‘vulgarity’ by Ortega. Hatori & Fujii (2008) split the term vulgar into “arrogance” and “autism”. In the following we focus on the ‘arrogance’ aspects of vulgarity.

#### 1.2 Psychological determinants for acceptance

In this study, we demonstrate the relationship between acceptability of TDM policy and arrogance. For this we considered the

‘Environmental Taxation Scenario’ as a specific example and its related psychological determinants which influence on its acceptance. Previous studies focused rather on psychological factors than on personality traits to explain acceptability. Gärling et al. (2008), following a number of previous studies, refer to the constructs “infringement on freedom” “fairness”, “problem awareness”, and “perceived effectiveness” as psychological determinants that directly or indirectly explain acceptability. Furthermore, higher “infringement on freedom” is expected to reduce acceptance; that is the higher the charge trough such as tax, the higher the infringement (cf. Barron & Journey, 1993; Jakobsson et al., 2000). A policy needs to be perceived as “fair” in order to be acceptable (Ittner et al., 2003). What is perceived as fair clearly differs between people. In general if people perceive that most people will benefit from a policy it is more likely to be perceived as fair and the more likely the policy is to be accepted (Schade, 2003; Jakobsson et al., 2000). The term fairness can be further divided into scenario fairness, distributional fairness and procedural fairness, all being shown to have significant relationships to government policy (cf. Lind & Tyler, 1998). Distributional fairness relates to the perceived equality of the scheme, e.g. whether some population groups might be overly disadvantaged compared to others. Procedural fairness relates to the way the scheme was introduced, e.g. a scheme being introduced without sufficient public consultation might not be accepted.

Moreover, the acceptability of environmental taxation policy is dependent on people’s “problem awareness”, as has been demonstrated by Schade & Schlag (2000). Any policy will be more acceptable if people are aware of the current as well as future problems caused by car use and if they are convinced of the need for policy measures to solve these problems (Steg, 2003). In the following we also separate problem awareness into three factors. These are “social problem awareness”, “self problem awareness” and “personal problem awareness”.

Many studies have shown that the perceived effectiveness of travel demand management measures is an influential predictor variable for their acceptability (Bartley, 1995). If the measure is regarded as effective, e.g. for reducing traffic problems, acceptability of the measure is greater, and vice versa. A lack of perceived effectiveness is possibly one reason for the failure of a number of proposals. Jones (1998) describes that in general respondents state that they do not believe that taxation measures would solve transport-related problems such as air pollution and congestion.

Besides, following on from Fujii (2007), a study by Schmöcker et al. (2012) proposed “trust in government” as a further determinant of acceptance. They show that trust is an important determinant for the acceptance of coercive policies in the U.K. and in Japan. Through correlation analysis they confirm the importance of government trust in gaining acceptance in both countries. Kim et al. (2012) continue this line of research on the importance of trust by exploring whether “trust

in government” can be separated into “specific” and “general” trust. And they verified the effect of “specific trust” on scenario fairness, appears to be the most important factors for acceptance, and other direct determinants indicating the important role of “general trust” as a distal factor of “specific” to achieve acceptance for environmental taxation policy. In this study, we consider all these psychological determinants, to verify the effects on vulgarity traits of mass man focusing on ‘arrogance and autism’.

Ortega’s argument renders the defects of the mass man in situations containing social dilemma almost obvious. Indeed, the mass man, who contumeliously believes that his own taste should prevail over all others, is expected to pursue his personal self-interest. It is also expected that the mass man shuns cooperative relationships with others because of his arrogance. (Hatori & Fujii, 2008) Therefore our objective is to demonstrate that acceptability towards TDM focus on environmental taxation as well as the determinants of acceptance differ between arrogant people and non- arrogant people. The remainder of this study is organized as follows. The first section describes the methods for survey participants and its questions. In the following section, we divided two groups through two-step cluster analysis using ‘vulgarity personal trait; arrogance’ measures and we then analyse the characteristics of these two groups. In Section 4, the results of a descriptive analysis of the mean and standard deviation of acceptability of TDM policy and its psychological determinants are described for the two clusters.

Also the correlation of determinants to acceptance is shown in Section 4. Finally, Section 5 summarizes the findings of this study, discusses and suggests the way to deal arrogant people in Masses’ social dilemmas toward TDM policy.

## 2. Method

### 2.1 Participants

We used the data gathered from in total 307 students from Japan, U.K. and the U.S.. The U.S. data (96 valid samples) was collected from Rutgers University in New Brunswick, New Jersey via an online version of the survey tool and students in three classes were the target respondents: An undergraduate class on Climate Change was surveyed in the Autumn 2009 and 2010 semesters, while a graduate class on Transportation and the Environment was surveyed in the Spring 2010 semester. The U.K. data (72 valid samples) were collected from students from Imperial College London in November 2008 and the Japanese sample is from students from Tokyo Institute of Technology from survey conducted in October 2008. Both the U.K. and Japan surveys were administered in paper form to undergraduate students majoring in Civil Engineering at the end of a lecture period. Details of the sample composition are described in Kim et al. (in press).

2.2 Questionnaire and procedure

To divide respondents by tendency of their personalities, we used the questions that were suggested by Hatori & Fujii (2008). They extracted sentences describing characteristics of the masses from the original article from Ortega, listed all statements and then converted these statements into questions. Actually Hatori & Fujii (2008) found 12 questions for arrogance but in our analysis we only use the 4 questions shown in Table 1 to measure the arrogance trait in this study according to the results of a Cronbach alpha analysis.

All questions were asked on a 7 point Likert scale. Ratings were obtained on this 7 point numerical scale with verbally defined endpoints and midpoints. (“Totally disagree” - “Neutral” - “Fully agree”). The Cronbach alpha value for these four questions gives an acceptable value of 0.739.

Table 2 shows the questions that were designed to measure acceptance and its determinants of an ‘Environmental Taxation Scenario’. We chose the hypothetical scenario shown in below box instead of specific TDM measures as this is easier to relate to for students from all three countries and the topic is not loaded with local issues.

Hypothetical Environmental Taxation Scenario for U.K. Survey

The U.K. government has decided to introduce an environmental tax of £50 per month to be paid by all U.K. residents including all university students. The decision was made after a long debate with several economists and scientists through the government got convinced that this additional tax is needed to influence greenhouse emission. The tax will be used for environmental research and to subsidize the introduction of new technology that emits less CO<sub>2</sub>. The government accounted that they justified the amount by scientific research referring to the carbon footprints.

In the first part of the survey we asked questions aimed at measuring the psychological attitude of students in all three countries. The second part was designed to elicit students’ attitudes toward environmental problems such as climate change to verify that persons associate environmental problems with transportation policy when they decide whether to accept the ‘Environmental Taxation Scenario’. This also served to confirm whether perception of environmental problems affects their acceptance, for the determinants of “perceived effectiveness”, “social problem awareness”, “self problem awareness”, and “personal problem awareness”. These questions, which are related to CO<sub>2</sub> emissions and global warming rather than congestion problems, are used to examine whether perceptions of environmental problems may affect acceptance of environmental

taxation policy. These questions are also measured on a 7 point numerical scale with verbally defined endpoints and midpoints. The determinants ‘acceptability of policy’, ‘social problem awareness’, ‘general trust in government’ and ‘belief in absolute’ are constructed from more than one question. For these we performed a Cronbach alpha reliability analysis and its result are acceptable except for our construct ‘belief in absolute’. (Acceptability = 0.890, Social problem awareness = 0.823, General trust in government = 0.879, Belief in absolute = 0.595).

3. Classification into arrogant and non-arrogant

For understanding the correlation between arrogance and TDM policy acceptance better, we initially split the data into groups according to their arrogance score. One way to do so would be to simply split our sample into groups with high, medium and low scores of a latent construct arrogance that can be formed from the four questions in Table 1. Alternatively, we conduct a two-step cluster analysis using the 4 questions in Table 1 directly. This helps us understanding into how many arrogance levels we should split our sample. The results of our cluster analysis indicate that as the number of clusters increases, the BIC value increase, except in the case of two clusters, when the BIC value decrease. This suggests that 2 is the optimal number of clusters. As shown in Table 4, the sample size is 189 and 118 in both clusters respectively which equates to a 61.6 % and 38.4 % of the samples. Considering Table 5 we refer to those in Cluster 2 as relatively arrogant compared to those in Cluster 1.

Table 1: Questions for arrogance attitudes

I think my opinion is always right.
I feel that I will win all the time.
I am sure my preference should be reflected by society.
In any case, I should believe in me and should not listen to others’ opinion.

1 = “Not at all”, 4 = “Neutral”, 7 = “Yes, strongly agree”

4. Analysis for acceptability

4.1 Summary statistics

We compare the mean values for acceptance and it’s determinants in Table 6. For the environmental taxation scenario, the respondents with less arrogance tend to have significantly different mean values (within 99 %) leading to higher acceptability of the environmental taxation scenario. Only ‘General Trust in Government’ does not show significant differences between the two groups.

Figure 1, 2 illustrates the results of Table 6. In the same way, it is shown that there are the higher values of Cluster 1 than Cluster 2 in diagrams. This means that those in Cluster 1 (less arrogant) have a higher acceptability of the scenario. They con-

Table 2: Questions regarding acceptance and its related determinants

Acceptance	Do you support this government decision to implement an environmental tax?
	Are you willing to accept this government's decision to implement an environmental tax?
Scenario Fairness	Do you think this environmental tax is fair?
Procedural Fairness	Do you think the process of government decision making that lead to an environmental tax is fair?
Distributive Fairness	Do you think this environmental tax is equitable?
Infringement on Freedom	Do you think this environmental tax "infringes on your freedom"?
Perceived Effectiveness	Do you think a tax like this can help to eventually reduce the effect of climate change?
Social Problem Awareness	How serious do you believe the problem of climate change is?
	Do you think climate change will seriously damage our society?
Self Problem Awareness	Do you think the CO <sub>2</sub> that you produce in your daily life will contribute to climate change and this will negatively influence society?
Personal Problem Awareness	Do you think global warming will serious damage yourself?
Specific Trust in Government	Do you trust the Federal government to make a decision to introduce this tax?
General Trust in Government	I respect the government.
	In general I trust the government.
Belief in Absolute	I think there is an objective truth in the world.
	I think there is an "authentic beauty" (in society and nature which is true for all nations and all times.
	I think there is "true justice" which is true for all nations and all times.

Table 3: Result of two-step cluster analysis

Num. of Cluster	BIC	Decrement in BIC
1 cluster	4557.056	
<b>2 clusters</b>	<b>4408.554</b>	<b>-148.502</b>
3 clusters	4445.317	36.763

Table 4: Number of samples in each cluster

Cluster	Number of sample	Composition %
1	189	61.6 %
2	118	38.4 %
Total	307	100.0 %

Table 5: Mean and Std.dev. of Arrogance

Vulgarity Traits of <i>Mass Man</i>	Mean (Std.dev.)		t-test (p-value)
	Cluster 1	Cluster 2	
Arrogance	2.65 (1.06)	3.01 (1.28)	-2.691 (0.008)

sider the scenario to be fairer, perceive it as effective and show higher levels of trust to their government that is responsible for this policy. They also recognize the environmental problems like global warming or climate change and perceive less infringement of freedom through such a policy. (Note that 'Infringement on Freedom' is a reverse item.)

Our results coincide with our hypothesis that arrogant people tend to show defective behaviour in social dilemma situations in general such as acceptability to pay for the common good environment. Moreover the results regarding 'Infringement in Freedom', means that those with arrogant tendencies, usually are more sensitive to violation of their freedom which is one hindrance to policy acceptance. Furthermore, through the differences of 'Perceived Effectiveness' and all three 'Awareness' determinants, we can confirm the arrogant attitude of the mass man: Ortega (1932) noted that the mass man establishes his own taste in society. And from the difference in the results for the three 'Fairness' determinants, we can conclude that the mass man does not have a positive view toward fairness of policy. In summary, our findings could mean that a lack of morality in the mass man will be reflected in negative attitudes towards environmental and transportation policies. This is in line with Ortega (1932) who suggested that the masses lack morality: 'At the center of mass man's scheme of life there is precisely the aspiration to live without conforming to any moral code.

Table 6: Mean and Std.dev. of acceptance and its determinants

Determinants	Mean and (Std.dev.)		t-test (p-value)	Difference (A-B)
	Cluster 1 (A)	Cluster 2 (B)		
Acceptance	4.14 (1.62)	2.08 (1.05)	12.24 (0.00)	2.06
Scenario Fairness	3.89 (1.64)	2.19 (1.35)	9.24 (0.00)	1.70
Procedure Fairness	4.15 (1.41)	2.42 (1.40)	10.45 (0.00)	1.73
Distribution Fairness	3.70 (1.61)	2.52 (1.50)	6.39 (0.00)	1.18
Infringe on Freedom	2.97 (1.59)	4.42 (1.73)	-7.51 (0.00)	-1.45
Perceived Effectiveness	4.84 (1.29)	2.89 (1.56)	11.81 (0.00)	1.95
Social Awareness	6.08 (0.92)	5.25 (1.48)	6.09 (0.00)	0.83
Self Awareness	5.46 (1.20)	4.60 (1.65)	5.33 (0.00)	0.86
Personal Awareness	4.81 (1.68)	3.86 (1.68)	4.79 (0.00)	0.95
Specific Trust	3.85 (1.33)	2.47 (1.17)	9.19 (0.00)	1.38
General Trust	3.57 (1.45)	3.54 (1.56)	0.15 (0.88)	0.03
Absolute in Belief	4.69 (1.18)	4.17 (1.17)	3.77 (0.00)	0.52

4.2 Correlation analysis

The direct correlation between acceptance and its proposed determinants are shown in Table 7. Through this analysis, we tried to verify what psychological determinants cause the higher acceptability of Cluster 1 and the low acceptability of Cluster 2. In the determinants for three forms of fairness, “infringement on freedom”, “perceived effectiveness”, and “social awareness” are all significantly related to acceptability in both clusters. It means that these psychological determinants affect acceptability regardless of the person’s arrogance level. However “self awareness for environmental problem” has correlations only in Clus-

ter 1 (non-arrogant people). Furthermore, there are significant correlations between policy acceptability and personal awareness, the two forms of trust in government, and “absolute in belief” for Cluster 2 (arrogant people). The results suggest that non-arrogant people decide whether to accept a policy based on self recognition about environmental problem and one’s own contribution to these. Instead, arrogant people tend to consider their daily life isolated from others. Therefore personal problem awareness, which we measured with ‘Do you think global warming will serious damage yourself?’, is used as one judgment tool by arrogant people to decide whether they will accept the policy.

Table 7: Correlation between acceptance and its determinants

(bold \*\*: 1 %, bold \*: 5%)

Determinants	Cluster 1	Cluster 2
Scenario Fairness	<b>0.609 **</b>	<b>0.689 **</b>
Procedure Fairness	<b>0.482 **</b>	<b>0.643 **</b>
Distribution Fairness	<b>0.443 **</b>	<b>0.416 **</b>
Infringe on Freedom	<b>-0.271 **</b>	<b>-0.576 **</b>
Perceived Effectiveness	<b>0.547 **</b>	<b>0.622 **</b>
Social Awareness	<b>0.395 *</b>	<b>0.569 **</b>
Self Awareness	<b>0.178 *</b>	0.138
Personal Awareness	0.008	<b>0.233 *</b>
Specific Trust	0.074	<b>0.409 **</b>
General Trust	0.134	<b>0.242 **</b>
Absolute in Belief	0.016	<b>0.294 **</b>

5. Conclusions

This study demonstrated that the mass man tends to have defective attitudes towards acceptance of environmental taxation scenario. We find that persons with higher arrogance tend to lack a trust in authorities, and perceive less obligation to follow the rules that authorities implement. Acceptability is determined by a number of psychological determinants and our analysis confirms that arrogant people tend to score lower for these determinants. Furthermore, arrogant people focus more on infringement and the personal impact of a policy rather than on the common good and possible wider consequences. This is in line with the original definition of “mass man” by Ortega (1932) who suggested that the masses lack morality: ‘At the central of mass man’s scheme of life there is precisely the aspiration to live without conforming to any moral code.

We find that that not only the mean values of acceptability determinants are different depending on a person’s arrogance level, but also that the correlation coefficients with acceptance

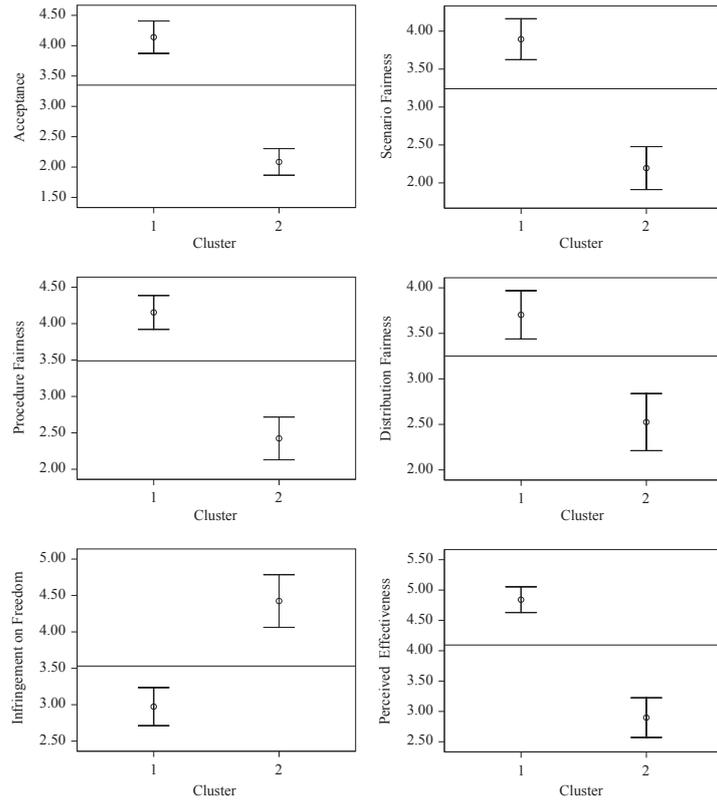


Figure 1: Mean of acceptance and its determinants by clusters

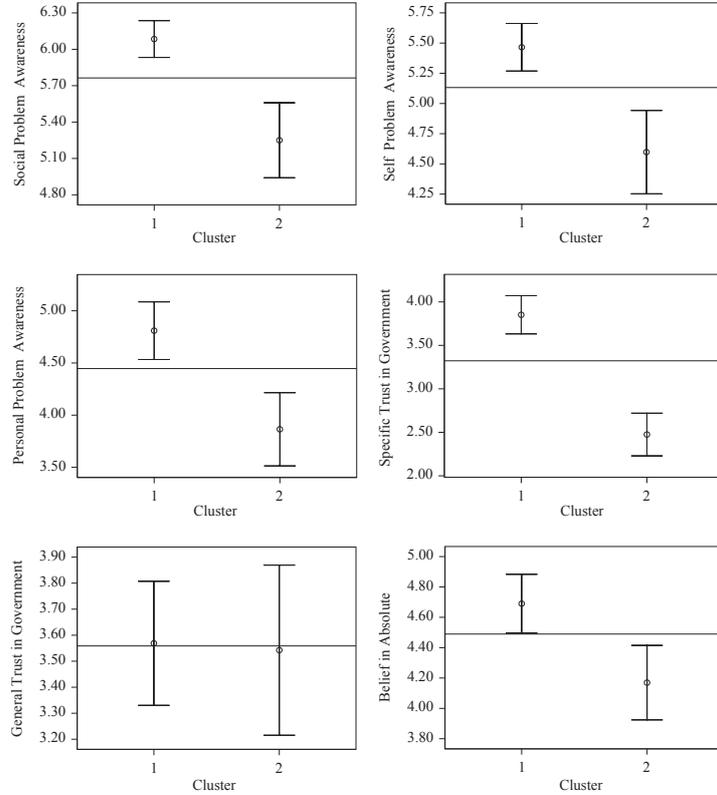


Figure 2: Mean of acceptance and its determinants by clusters

vary. This suggests that the path coefficients in structural equation models commonly used to explain acceptability also differ depending on arrogance. We find that again egoistic motives are more important in a more arrogant population.

Our findings have further implications. The results suggest that wider society trends do have direct impacts on the implementation of sustainable policies. Within a society that becomes more individualistic it will be more difficult to implement coercive policies for the common good. Yoon (2001) noted over-protectiveness and excessive expectation of parents supports arrogant and selfish attitudes among children. Furthermore, such education often leads to a weaker sense of community. Gottlieb et al. (1986) indicated attitudes can be changed throughout childhood by having new experiences and information in all stages of childhood. Therefore, early education preventing the development of arrogant attitudes is important. How exactly, such education should look like, is topic for further research.

Moreover our study poses a question to government; how to deal with the vulgarity traits of masses to promote TDM policy effectively. From the results, it can be suggested that government should contemplate the way to deal with arrogant people, who can disobey against policy, to increase effects of new TDM policy before its introduction. In other words, when the government introduces new policy through some campaigns, they can consider the features of arrogant people. For example, generally, arrogant people want to be respected with polite words. Therefore using polite wording can possibly increase persuasion through campaigns process. Adding small sentences such as ‘Would you not be concerned about global warming consequences for yourself?’ might make a difference.

Analysing persuasion measure tailored towards population groups with different arrogance traits is, therefore, an important topic for future work.

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