

Pre-analysis Plan: An Experiment on Property and Morality

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1 Introduction

The relationship between law and culture has long been the focus of scholarly attention by academic lawyers, economists and political scientists (see Dari-Mattiacci and Guerriero (2015) for a review and recent reassessment). Among prevalent cultural values, moral commitments take center stage and have been recently shown to vary greatly across regions (Awad et al., 2018). An emerging literature is starting to analyze the empirical foundations and implications of moral concerns (Sommers, 2020).

While it is intuitive that there must be a connection between a society’s prevalent set of moral norms and its laws, most previous studies only address part of the problem and, namely, how culture and morality affect the law. So far there is no rigorous empirical study as to how the law affects a society’s moral attitudes. We aim at making a first step towards understanding how property rights—a crucially important set of legal rules—affect morality. We study how changing property rights affects individuals’ survey responses to traditional moral dilemmas—such as killing more or fewer people, killing a man or a woman, killing the young or the old, and the like—which in turn can be matched to broader moral stands, such as the attitude towards gender, age, wealth, and social status.

2 Research Strategy

The project makes use of a land rights reform that was implemented in Benin, West Africa, approximately in 2011. The reform was implemented as a randomized control-trial in half of over 600 rural villages included in the randomization pool. To isolate the impact of the property right reform on subjects’ morality, we rely on the peculiar process of implementation of the

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property rights reform, which was implemented as a randomized control-trial at the village level. Specifically, we will elicit moral decisions taken from the Moral Machine Experiment (Awad et al., 2018) from participants in villages that have been affected by the reform (treated villages) and compare them with decisions from participants in villages belonging to the RCT pool but not selected for having the reform implemented (control villages).

With the support of local research assistants, we will carry on a fieldwork activity collecting lab-in-the-field experimental and survey data on 32 villages (16 treated and 16 control) randomly selected among those included in the lottery pool. Data will be collected from 18 subjects (9 male and 9 female) in each village who will volunteer for participating in the study, for a total of 576 expected participants. Participants receive a participation fee equal to XOF 500 (approximately 0,85 USD) for taking part to the study.

The data collection will start by the end of January 2020. The pre-analysis plan was completed and registered at the AEA RCT trial before the start of the data collection.

3 Design

We plan to present to participants a sequence of vignettes that reproduce a version of the moral trolley problem. Each participant will be requested to state nine moral decisions choosing among two alternatives (whether to leave the car running straight and kill the person(s) in option A or to swerve and kill the person(s) in option B).

The vignettes are taken from the Moral Machine Experiment proposed by Awad et al. (2018). In the Appendix we report the vignettes and an English translation of the instructions provided to participants. Each participant will be presented the same identical pairs of options A and B.

In addition to the nine moral choices, participants will answer a set of non-incentivized survey questions regarding: age, gender, religion, marital status, number of family members, participation to household finance management, education, literacy, village of birth, years of residence in the village, income.

4 Empirical Strategy

4.1 Hypothesis

We will test four hypothesis regarding the effects of a land rights reform that introduced a system akin to private property in a society where access to land was traditionally characterized by collective property and informal possession.

First, we hypothesize that formal property rights determine a shift toward an utilitarian view of society. This will imply a preference for taking actions in order to spare the larger

possible number of lives. Therefore, we hypothesize that, in the decisions presented in the appendix:

- In Figure 1, villagers who experienced the reform will spare more often the two men than participants in control villages
- In Figure 8, villagers who experienced the reform will spare more often the two women than participants in control villages

Hypothesis 1 *The land rights reform produces more utilitarian moral preferences.*

Second, it has been shown by Goldstein et al. (2018) that formalizing land rights increases tenure security especially for women. As a consequence, experiencing the land reform might produce a shift toward gender equality. Therefore, we hypothesize that:

- In Figure 5, villagers who experienced the reform will spare more often the woman than participants in control villages
- In Figure 8, villagers who experienced the reform will spare more often the two women than participants in control villages

Hypothesis 2 *The land rights reform enhances gender equality.*

Third, private property might create a more individualistic society which is less respectful of traditional values and social hierarchies. Therefore, we hypothesize that:

- In Figure 2, villagers who experienced the reform will spare more often the (younger) man than participants in control villages
- In Figures 3 and 4, villagers who experienced the reform will spare more often the boy than participants in control villages

Hypothesis 3 *The land rights reform reduces the importance of social hierarchies based on seniority.*

Finally, a more individualistic society might be less concerned about the creation of public goods and more interested in the creation of private wealth. We therefore hypothesise that:

- In Figure 6, villagers who experienced the reform will spare more often the executive than participants in control villages

- In Figure 7, villagers who experienced the reform will spare less often the doctor than participants in control villages
- In Figure 9, villagers who experienced the reform will spare more often the male executive than the doctor compared to participants in control villages

Hypothesis 4 *The land rights reform reduces the importance of public goods providers.*

4.2 Specification

To test these hypothesis, we will look at the fraction of participants who choose a specific option in the choices we enumerated in the previous subsection. We will apply a Chi-squared test. Since our hypothesis specify a clear prior regarding the direction of the reform effects, we will apply one-sided tests.

Moreover, we will implement a regression analysis that controls for socio-demographic characteristics. To test hypothesis 1-4, we will use a Logit model implementing the following specification:

$$e_i = \alpha + \alpha_S S_i + \delta_T T_i + \delta_{ST} S_i T_i + \epsilon_i \quad (1)$$

where e_i is a dummy equal to 1 when participants' choices go in the direction hypothesized in section 4.1 above¹, S_i is a dummy equal to one when in order to take a choices that goes in the direction hypothesized is section 4.1 participants have to actively decide to swerve the car, T_i is a dummy equal to 1 for subjects in treated villages, and ϵ_i is a vector the individual characteristics specified in the post-experimental survey.

When testing hypothesis 1, we will additionally add to this specification as a control a dummy regarding the outcome of the decision in Figure 5 (sparing one woman or one man).

References

- Awad, E., Dsouza, S., Kim, R., Schulz, J., Henrich, J., Shariff, A., Bonnefon, J.-F., and Rahwan, I. (2018). The moral machine experiment. *Nature*, 563(7729):59–64.
- Dari-Mattiacci, G. and Guerriero, C. (2015). Law and culture: A theory of comparative variation in bona fide purchase rules. *Oxford Journal of Legal Studies*, 35(3):543–574.

¹For instance, for hypothesis 1 we will pool the decisions taken by each participant with respect to Figures 1 and 8, and e_i will be equal to 1 when the participant chooses to spare the two men and the two women, respectively.

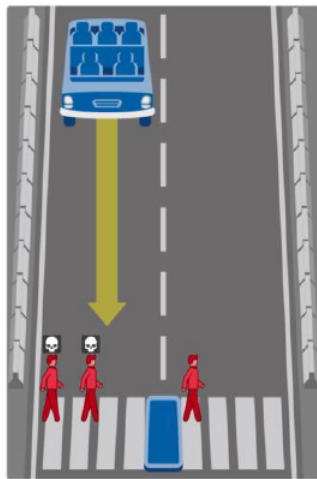
Goldstein, M., Hounghedji, K., Kondylis, F., O’Sullivan, M., and Selod, H. (2018). Formalization without certification? experimental evidence on property rights and investment. *Journal of Development Economics*, 132:57–74.

Sommers, R. (2020). Commonsense consent. *Yale Law Journals*.

Appendix: Instructions

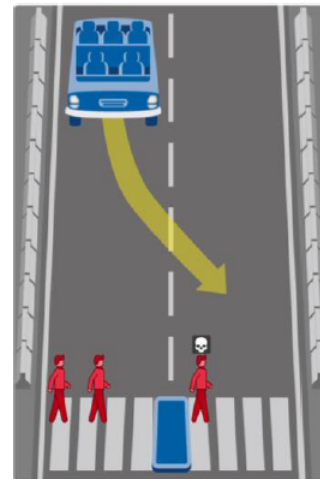
The car in the pictures below has sudden brake failure: What would you do if you were driving the car?
Choose one of the two options below.

CONTINUE STRAIGHT



In this case the car will drive through a pedestrian crossing ahead, which will result in the death of:
2 men

SWERVE

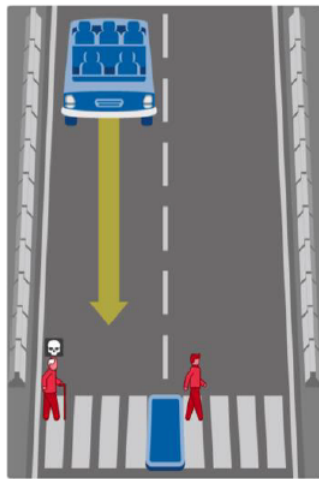


In this case the car will drive through a pedestrian crossing in the other lane, which will result in the death of:
1 man

Figure 1: Decision two men vs. one men

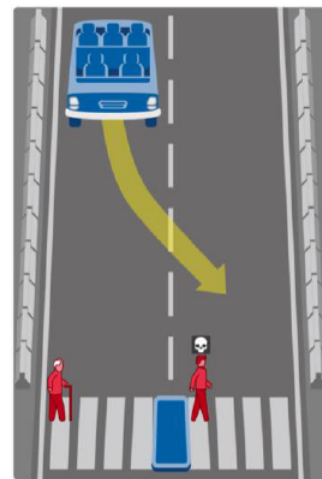
The car in the pictures below has sudden brake failure: What would you do if you were driving the car?
Choose one of the two options below.

CONTINUE STRAIGHT



In this case the car will drive through a pedestrian crossing ahead, which will result in the death of:
1 elderly man

SWERVE

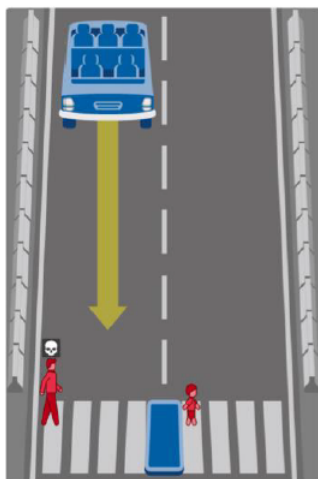


In this case the car will drive through a pedestrian crossing in the other lane, which will result in the death of:
1 man

Figure 2: Decision one elderly men vs. one man

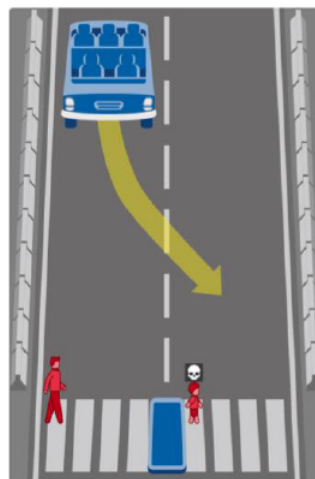
The car in the pictures below has sudden brake failure: What would you do if you were driving the car?
Choose one of the two options below.

CONTINUE STRAIGHT



In this case the car will drive through a pedestrian crossing ahead, which will result in the death of:
1 man

SWERVE

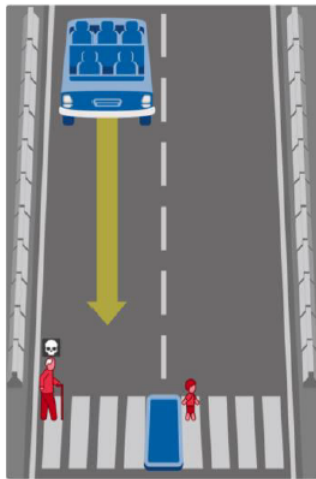


In this case the car will drive through a pedestrian crossing in the other lane, which will result in the death of:
1 boy

Figure 3: Decision one man vs. one boy

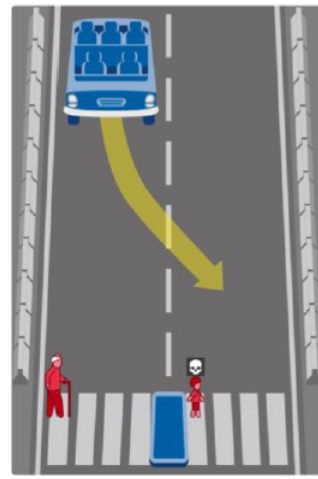
The car in the pictures below has sudden brake failure: What would you do if you were driving the car?
Choose one of the two options below.

CONTINUE STRAIGHT



In this case the car will drive through a pedestrian crossing ahead, which will result in the death of:
1 elderly man

SWERVE

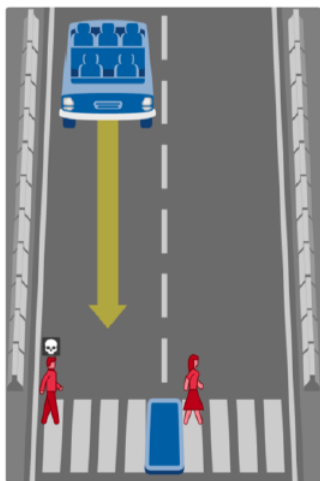


In this case the car will drive through a pedestrian crossing in the other lane, which will result in the death of:
1 boy

Figure 4: Decision one elderly man vs. one boy

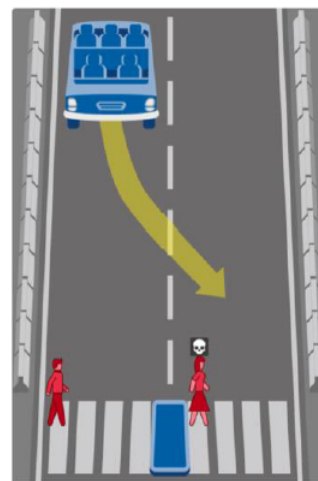
The car in the pictures below has sudden brake failure: What would you do if you were driving the car?
Choose one of the two options below.

CONTINUE STRAIGHT



In this case the car will drive through a pedestrian crossing ahead, which will result in the death of:
1 man

SWERVE

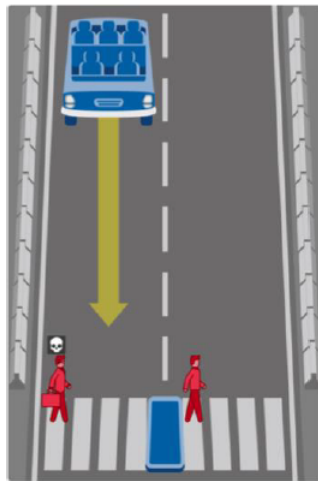


In this case the car will drive through a pedestrian crossing in the other lane, which will result in the death of:
1 woman

Figure 5: Decision one man vs. one woman

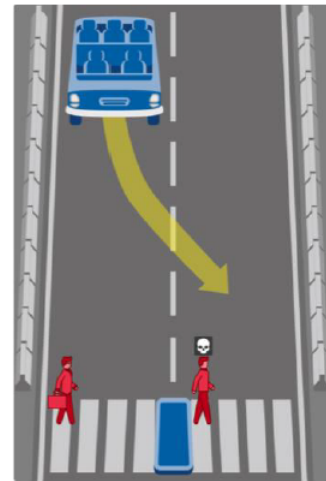
The car in the pictures below has sudden brake failure: What would you do if you were driving the car?
Choose one of the two options below.

CONTINUE STRAIGHT



In this case the car will drive through a pedestrian crossing ahead, which will result in the death of:
1 male executive

SWERVE

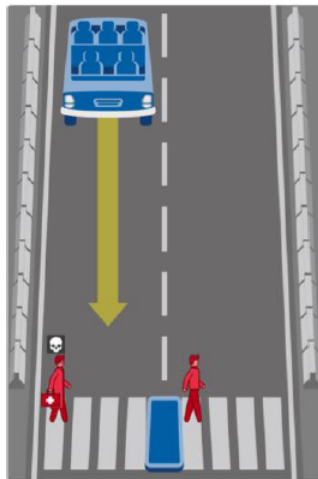


In this case the car will drive through a pedestrian crossing in the other lane, which will result in the death of:
1 man

Figure 6: Decision one male executive vs. one man

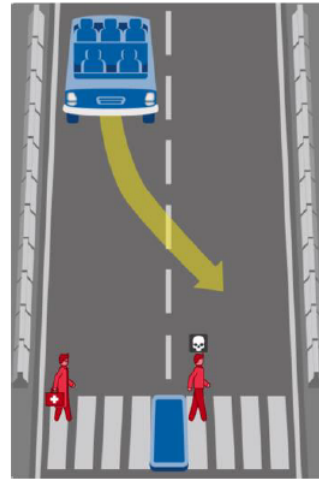
The car in the pictures below has sudden brake failure: What would you do if you were driving the car?
Choose one of the two options below.

CONTINUE STRAIGHT



In this case the car will drive through a pedestrian crossing ahead, which will result in the death of:
1 male doctor

SWERVE

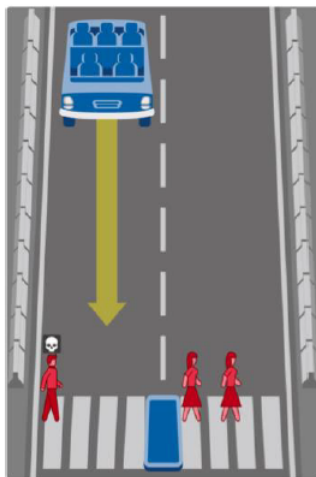


In this case the car will drive through a pedestrian crossing in the other lane, which will result in the death of:
1 man

Figure 7: Decision one male doctor vs. one man

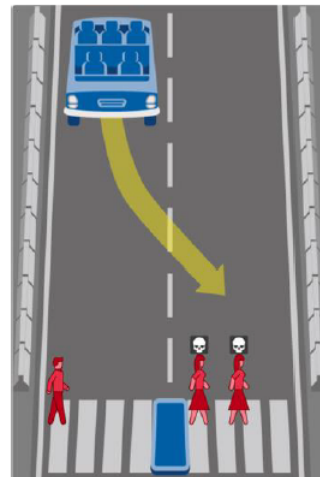
The car in the pictures below has sudden brake failure: What would you do if you were driving the car?
Choose one of the two options below.

CONTINUE STRAIGHT



In this case the car will drive through a pedestrian crossing ahead, which will result in the death of:
1 man

SWERVE

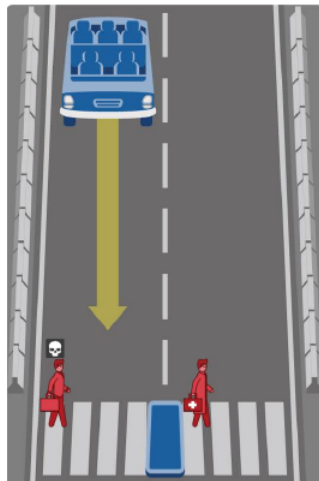


In this case the car will drive through a pedestrian crossing in the other lane, which will result in the death of:
2 women

Figure 8: Decision one man vs. two women

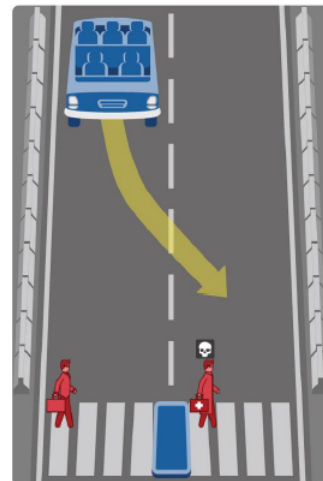
The car in the pictures below has sudden brake failure: What would you do if you were driving the car?
Choose one of the two options below.

CONTINUE STRAIGHT



In this case the car will drive through a pedestrian crossing ahead, which will result in the death of:
1 male executive

SWERVE



In this case the car will drive through a pedestrian crossing in the other lane, which will result in the death of:
1 male doctor

Figure 9: Decision one executive vs. one doctor