EXPLOITATION, MUTUAL ADVANTAGE AND THE MYTH OF THE SAMARITAN’S DILEMMA

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Exploitation, Mutual Advantage and The Myth of the Samaritan’s Dilemma

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Abstract
The objective of this paper is to illustrate a potential problem in Samaritan’s dilemmas: that Samaritans have a vested interest in encouraging parasitism. In effect, they gain from their altruism. To demonstrate this result, we show that the Nash equilibrium in a Samaritan’s dilemma is a Pareto superior outcome.

Keywords: Altruism, Samaritan’s dilemma, Exploitation, Cooperation

1. Introduction

Samaritanism, benevolence, helping people in need, trying to relieve their grief through aid and donations, is considered as one of the main moral duties upon which rest – or should rest – our societies, one duty that we should not try to escape for the good and welfare of all (see, among others, Salter, 2008, p. 36). This seems straightforwardly obvious and yet it is not. to paraphrase the title of a book by Steve Corbett and Brian Fikkert (2014), “helping hurts”: rather than improving the situation of the beneficiaries, helping people contributes to maintain them in a state of poverty. It generates such seriously negative effects as long-term harm, loss of self-reliance, increase in the number of beneficiaries and decrease in the wealth of the beneficiaries, no impact on growth etc.

These problems illustrate the existence, between Samaritans and recipients, of what James Buchanan was, to our knowledge, the first economist to name a Samaritan’s dilemma (1975), which is a situation in which a Samaritan “helps”, by transferring resources, in cash or in kind, to a recipient who, for his part, do not “return” what has been given to him by adopting what could be called a “cooperative” behavior.

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3 Buchanan was not the first to identify the problem. A few years earlier, in 1971, Henry Hazlitt claimed that the same type of phenomenon existed in ancient Rome. Hazlitt concluded his short piece about “Poor Relief in Ancient Rome” by noting that “The growing burden of the dole was obviously responsible for a great part of this chain of evils, and at least two lessons can be drawn. The first, which we meet again and again in history, is that once the dole or similar relief programs are introduced, they seem almost inevitably—unless surrounded by the most rigid restrictions—to get out of hand. The second lesson is that once this happens, the poor become more numerous and worse off than they were before, not only because they have lost self-reliance, but because the sources of wealth and production on which they depended for either doles or jobs are diminished or destroyed.”

4 The literature about the Samaritan’s dilemma is about what recipients do in exchange or in return for the
After Buchanan, although not always in connection with his work, the Samaritan’s dilemma has largely been studied by a particularly abundant literature that finds empirical evidences of its “pervasiveness” (Pasour, 1991). Indeed, it occurs in private settings – families, for instance (see Futagami, Kamada and Sato, 2004) – but also in public situations – such as redistribution and poor relief (Wagner, 2005), medical care and national health insurance, social programs (Bovard, 1983; Boettke and Martin, 2010; Zelinsky, 2010), international aid, in particular in case of natural disaster such as hurricanes or earthquakes (Boone, 1996; Wilson, Andersson, Ostrom and Shivakumar, 2005; Coyne, 2008, 2013; Williamson, 2010; Stone, 2008; see Rajan and Subramanian (2005), Burnside and Dollar (2000, among others). And all these studies point to the same type of reasons that explain why the Samaritan’s dilemma is problematic. Help transforms the incentives the recipients face and creates a situation of “moral hazard” – also called a “charity hazard” (see Raschky and Weck-Hannemann, 2007; Browne and Hoyt, 2000; Smetters, 2003): because they feel insured against problems by the presence of Samaritans, recipients will for instance work or save less or increase risky behaviors. It is therefore by controlling the behaviors of the beneficiaries that one can envisage avoiding the dilemma 5.

There is another dimension in the Samaritan’s dilemma that is not much studied. It relates to the “harm” suffered by the Samaritans. This was one important element in Buchanan’s analysis and the very reason why there is a dilemma – Samaritans either help recipients but are then exploited because they do not receive anything in exchange or, to avoid exploitation, reduce or suppress generous acts but then suffer from the disutility that results from the impossibility to behave generously. But exploitation has never really been an issue in the discussions about the Samaritan’s dilemma. This is what we do in this note. More precisely, our objective is to characterize the Nash equilibrium of a Samaritan’s dilemma to show what it means to be exploited or even if there is exploitation.

We claim that this is interesting for 2 reasons. First, from the perspective of a discussion about what is exploitation. Is there exploitation in a Samaritan’s dilemma? Was Buchanan right to use this word, that he did not define, to name the harm suffered by the Samaritans?

From a standard, marxist and non-marxist, perspective (see Khalil, 2014, for an analysis of this concept), there is exploitation if and only if the exploitee is worse off compared to situations in which there is no exploitation. Viewed from this perspective, it could be said that the Samaritan is exploited if she were worse than if she were not exploited and that she would be better off without exploitation. That was exactly what Buchanan wanted to put forward – the Samaritan being exploited by parasites. In other words, Buchanan was right from the perspective of a standard definition of the concept.

However, we show in this note that he was wrong from the perspective of the phenomenon he was describing. Or, at least, he was implicitly suggesting another definition of exploitation based on mutual advantage (see Khalil, 2014). In effect, we show that exploitation – that is a situation in which the Samaritan behaves generously but the recipient does not “return” this generosity – exists as a consequence of the generous behavior

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of a Samaritan. But we also show that, under certain conditions and specifications, it is not only the recipient that benefits from the altruism of the Samaritan but also the Samaritan who gains from being benevolent. Exploitation, and the parasitic behavior that has created it, is preferred by both the Samaritan and the recipient. That is, exploitation is mutually advantageous. We use a simple model to show that there are some levels of altruism for which the Nash equilibrium of a Samaritan’s dilemma – exploitation – is also a Pareto-superior outcome.

This result is not only interesting from the perspective of how to define exploitation. This is the second interesting aspect of this note. Showing that the Samaritan’s dilemma is characterized by a form of exploitation as mutual advantage has an implication for the dilemma. Actually, if exploitation is mutually advantageous, then there is no such thing as a Samaritan’s dilemma. If both the Samaritan and the recipients/parasites gain from exploitation, this means that the Samaritan has no particular wish to avoid exploitation and exit from this situation. This implies, and this is another result that we put forward, that trying to remove exploitation, for instance by inducing the recipient to behave properly – that is, as the Samaritan expects him to behave – would be a mistake: the Samaritan prefers to interact with a parasite than with a cooperative recipient. Indeed, the Samaritan gains more when interacting with a selfish individual that behaves selfishly, rather than with a selfish individual who behaves generously – for instance, who would be forced to behave generously to reciprocate the benevolence of the Samaritan. This result modifies the conclusions usually derived about the Samaritan’s dilemma.

2. Sympathy for strangers and the conditions of cooperation

To complete our demonstration, we must characterize the Nash equilibrium of a Samaritan’s dilemma, that is we need to characterize the situation in which the Samaritan is exploited by the parasite to show that each individuals win from this situation. This means showing that altruism, from the Samaritan, gives birth to exploitation. This was absent from Buchanan’s original contribution because Buchanan too for granted that the Samaritan looses from the interaction while the parasite wins. In other words, Buchanan took for granted the usual definition of exploitation mentioned in the introduction.

To be as general as possible, we simply consider a large population of individuals randomly interacting in pairs through a one-shot prisoner’s dilemma game. Let us pause here to make an important remark about this assumption. In this paper, we study only interactions that are not repeated – such as the interaction between an individual and an unknown beggar or a transfer of money to unknown victims of a natural catastrophe. Changing from one-shot to repeated interactions would necessarily modify the context of the interaction.

In this game, the row-player and the column-player both (privately) choose a generous, $G$, or a selfish action, $S$. The normal-form of the game is given in Table 1, where the numbers in each cell are row-player’s and column-player’s respective material and therefore objective payoffs they receive in their interaction.

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6For an analysis of the Samaritan’s dilemma with repeated interactions, see Schmidtchen, 1989.
Table 1. Prisoner’s dilemma

<table>
<thead>
<tr>
<th>Player i’s options</th>
<th>Player j’s options</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>(3, 3)</td>
</tr>
<tr>
<td>S</td>
<td>(5, 0)</td>
</tr>
</tbody>
</table>

As perfectly known, mutual defection is the only Nash equilibrium and the only outcome which is not Pareto-efficient and is strictly Pareto-dominated by mutual cooperation; also known, this happens whenever each individual prefers more payoffs to less payoffs independently of payoffs others obtain.

The nature of the interaction changes when one introduces other-regardingness, that, following a standard specification, we model through utility interdependence. More precisely, we assume that any $i$ is characterized by an altruistic parameter that represents her concern for the welfare of $j$ with whom she interacts. This parameter is $\alpha_{ij}$ and is $\geq 0$. This degree of sympathy, altruism or concern towards others works as a weigh with which $i$ values the payoffs earned by $j$ and that indicates what they represent to her, how she perceives them. Thus, $i$’s psychological and subjective well-being depends on $j$’s material and objective payoffs. Then, if $U_i$ and $U_j$ denote the material and objective payoffs received by $i$ and $j$, then the induced subjective payoff of $i$ is given by:

$$\tilde{U}_i = (1 - \alpha_{ij})U_i + \alpha_{ij}U_j.$$ (1)

This means that, although the initial setting – in our case a prisoner’s dilemma – does not change and the game remains objectively the same, players nonetheless perceived it differently. The game is no longer played according to the objective payoffs but according to the subjective perceptions of these payoffs by each individual. In other words, the game is played according to the subjective payoffs individuals receive. The “new” game – that can be called a “psychological” game – is depicted in Table 2, where $\alpha_{ij}$ corresponds to the degree of altruism $i$ feels towards $j$ and $\alpha_{ji}$ is the degree of altruism $j$ feels towards $i$.

Table 2. Psychological Prisoner’s dilemma

<table>
<thead>
<tr>
<th>Player i’s options</th>
<th>Player j’s options</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>(3, 3)</td>
</tr>
<tr>
<td>S</td>
<td>(5; 5)</td>
</tr>
</tbody>
</table>

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7Edgeworth was the first to explicitly consider sympathetic utility functions through the use of an “effective coefficient of sympathy”. He wrote that “between the frozen pole of egoism and the tropical expanse of utilitarianism [there is] the position of one for whom in a calm moment his neighbour’s utility compared with his own neither counts for nothing, nor ‘counts for one’, but counts for a fraction ”(1881, p.102). See Collard (1975) for a detailed account of Edgeworth’s treatment of altruism and its relation to more recent literature.

8Sally (2001, pp. 7-8), criticizes this “usual linear form” because “an altruistic person is subject to the Samaritan’s dilemma in a multi-period setting, as demonstrated by Bruce and Waldman”. Our point is precisely that there is no need to envisage a “multi-period setting” to end up with a Samaritan’s dilemma. This is why we adopt this form
The outcome of the game obviously depends on the values of $\alpha$. Let us start by assuming that the society is perfectly homogenous, at least in terms of altruism and concern towards others. This can be viewed as a benchmark situation in which $\alpha_{ij} = \alpha_{ji} = \alpha$. Then according to equation (1), this leads to the symmetric psychological game depicted in Table 2bis.

<table>
<thead>
<tr>
<th>Player i's options</th>
<th>Player j's options</th>
</tr>
</thead>
<tbody>
<tr>
<td>$G$</td>
<td>(3; 3)</td>
</tr>
<tr>
<td>$S$</td>
<td>$(5[1 - \alpha]; 5\alpha)$</td>
</tr>
</tbody>
</table>

In this numerical example$^{10}$, there are two threshold values, 1/5 and 2/5$^{11}$, and therefore three possible situations. First, if $\alpha < 1/5$, the game remains a prisoner's dilemma. Defection is a strictly-dominant strategy. Individuals with a degree of altruism towards others $\alpha < 1/5$ are unconditional defectors, even though they feel a certain concern for others. Their degree of altruism is too low or insufficient for the psychological game to be of different strategic nature than the material game. Second, at the other end of the spectrum, if $\alpha > 2/5$, then cooperation is a strictly-dominant; individuals are unconditional cooperators$^{12}$. For intermediaries values of $\alpha$ – between 1/5 and 2/5, individuals are conditional cooperators: cooperation is the unique best response to cooperation and defection is the unique best response to defection. In addition, such individuals cooperate if they expect their opponent to cooperate with probability greater than $\frac{1-\frac{5\alpha}{4}}{\frac{5\alpha}{4}}$. The prisoner’s dilemma is turned into a chicken game in which there are two asymmetric strict Nash equilibrium – $\{G, S\}$ and $\{S, G\}$ – and one symmetric mixed equilibrium – where both individual choose $G$ with probability $5\alpha - 1$.

3. The paradox of non-reciprocal altruism: from cooperation to exploitation

Let us now turn to the situation that we want to analyze more specifically, namely when an interaction takes place between a moral – or altruist or benevolent – and a non-moral – or egoist and selfish – individual$^{13}$. The latter, $j$, cares for his own payoffs only – that is, $\alpha_{ji} = 0, \forall i$ – and thus $U_j = U_i$. By contrast, the moral individual, $i$, is such that $\alpha_{ij} > 0$. She is is concerned by the $j$'s welfare and takes his payoffs into account because. Therefore,

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$^9$The degree of moral concern plays no role when the two individuals gain the same payoffs. When payoffs differ, then altruism affects the objective function and, hence, the behavior of the moral individual.

$^{10}$Using different numerical values would not change the logic of the results. And, since we are only concerned with players’ ordinal preferences over outcomes, the value of an individual’s degree of altruism is only instrumental in allowing us to generate alternative outcomes ranking in a comprehensive way.

$^{11}$Threshold values can easily be calculated: for $i$, $G$ is preferred to $S$ if $3 > S[1 - \alpha]$ and $5\alpha > 1$. This gives 1/5 and 2/5.

$^{12}$One can then note that the there is no necessity to go as far as to follow the Biblical teaching “love your neighbor as yourself” (Leviticus, 19:18); “enlightened self-interest” (Simon, 1983) or “imperfect altruism” (Stark, 1989) are sufficient to lead individuals to cooperate with others.

$^{13}$We analyze situations in which an individual characterized by a degree of altruism, $\alpha$, different from 0, face another individual characterized by an $\alpha$ equal to 0. This is a simplification used to analyze situations in which individuals are characterized by positive but different $\alpha$. It does not change the nature of the reasoning.
\[ \bar{U}_i = [1 - \alpha_{ij}]U_i + \alpha_{ij}U_j. \]

As a consequence, she will not base her choice on the payoffs she will receive but on how she perceives them. The perceived and subjective value of her gains differs from their real and objective value. As a consequence, the nature of the interaction changes. The resulting (now asymmetric) psychological game is depicted in Table 3; to simplify the presentation and, since \( \alpha_{ji} = 0 \), we denote \( \alpha_{ij} = \alpha \).

### Table 3. Asymmetric psychological prisoner's dilemma (non-reciprocal altruism)

<table>
<thead>
<tr>
<th>Player i's options</th>
<th>Player j's options</th>
</tr>
</thead>
<tbody>
<tr>
<td>( G )</td>
<td>( S )</td>
</tr>
<tr>
<td>((3;3))</td>
<td>((5;5))</td>
</tr>
<tr>
<td>((5[1 - \alpha];0))</td>
<td>((1;1))</td>
</tr>
</tbody>
</table>

In this situation, the non-moral individual \( j \) still continues to choose the same strategy and to defect whatever the moral individual \( i \) does. The strategy the latter is going to choose depends on how much she cares about the other player, i.e. depends on the value of \( \alpha \). The threshold values are the same as above, \( 1/5 \) and \( 2/5 \). Then, for the lower values of \( \alpha \), the situation is identical as in the case of egoism and reciprocal altruism: when \( \alpha < 1/5 \), the game remains a prisoner’s dilemma. Defection remains a strictly dominant strategy for both players. Then, the second – when \( 1/5 < \alpha < 2/5 \) – and third situations – in which \( \alpha > 2/5 \) – represent particularly interesting and problematic outcomes that result from an interaction between a moral and a non-moral individual. In these cases, morality is sufficient to induce the moral player to change her perception of the payoffs. Therefore, when \( 1/5 < \alpha < 2/5 \), the moral player may choose either to cooperate or to defect. And when \( \alpha > 2/5 \), she will choose to cooperate systematically; i.e. cooperation is a strictly dominant strategy. But, whenever \( \alpha > 1/5 \), there is only one asymmetric strict Nash equilibrium – \( \{C, D\} \) – and it corresponds to a situation in which the moral individual cooperates while the non-moral individual defects. This latter case can no longer be described as a standard Prisoner’s dilemma but rather corresponds to a Samaritan Dilemma. Thus, we demonstrate that the Samaritan’s dilemma – or, at least, what is viewed as a Samaritan’s dilemma in the literature – indeed exists and starts to affect the interactions between a Samaritan and a beneficiary for relatively low level of benevolence. Another point to mention is that, by comparison with the standard analyses of the problem, we did not use specific assumptions about the repetition of interactions, the amount transferred, the closeness of the Samaritan and the beneficiary, the fragmentation of the society. It simply occurs whenever a Samaritan interact with an egoist.

This means that exploitation and parasitism indeed are pervasive, as it is admitted and evidenced in the literature. But it is not what we would like to emphasize. We are rather interested in the existence of a dilemma when there is exploitation. That is, whether or not the Samaritan is better off when she is not exploited than when she is exploited. And the answer is no. When a Samaritan cares for a selfish individual, she has a preference for exploitation. This can easily be deduced from Table 3.

Let us discuss the meaning and implications of this preference.
4. Exploitation as mutual advantage

As soon as \( \alpha > 1/5 \), that is as soon as the Samaritan cares sufficiently for the recipient, then \( \bar{U}_i(G,S) > \bar{U}_i(S,S) \), that is she obtains more than she could obtain if she decided to be selfish in order to avoid exploitation. This means that the Samaritan is better off when she is exploited than if she were behaving selfishly. This therefore means, by contrast to what Buchanan and what the literature on the subject after him argued, that the Samaritan is better off when she is exploited rather than if she were selfish herself.

This begs the question of the relevance of the term “exploitation”. From the perspective of the original article written by Buchanan, the term was relevant because he concluded that the Samaritan was indeed worse off compared to situations in which there is no exploitation; this corresponds to a standard, marxist and non-marxist, perspective on exploitation (see Khalil, 2014, for an analysis of this concept). However, if our result holds, it appears that exploitation is mutually advantageous. As a consequence, it is either no longer possible to speak of exploitation in a Samaritan’s dilemma or one needs an alternative definition of the concept. From this second perspective, we could say that our demonstration contributes to show that exploitation can be, under certain conditions, mutually advantageous (see Khalil 2014) – the Samaritan and the recipient both gain “relative to the non-cooperation baseline” (Wertheimer and Zwolinski, 2013, p. 6). Thus, even if it leads to exploitation, asymmetrical or unilateral altruism is beneficial, which is different from what Singh (1995) argues.

The entire sentence used by Wertheimer and Zwolinski is: “[m]utually advantageous exploitation occurs when A and B gain relative to the non-cooperation baseline, but where the distribution of the benefits between A and B is unfair to B (2013, p. 6). There is a difference compared to our result: the distribution of benefits is not unfair to B, in that case to the Samaritan who gets what she was looking for: a symbolic reward for her altruism.

Indeed, that “exploitation” is “mutually advantageous” comes from the fact that the Samaritan receives some subjective, symbolic benefits the Samaritan obtains from being benevolent – and these gains can be really important for people with a high degree of concern for others. This is the warm glow effect, already emphasized in the literature on altruism (see Andreoni, 1990, for a seminal work on this issue). This means that altruism cannot be viewed only for its incentive dimension – to some extent, this is a problem that comes from the first economic studies, in particular Becker’s about altruism that envisage altruism as conditional. Benevolence has also a consumption value. In that case, Thus, the benefits the Samaritan receives from the simple act of being generous are sufficient to satisfy her. This is exactly what one commentator noticed to explain why, after all,

“Samaritans continue to step up. Businessman-turned-philanthropist Jim Ansara flew to Haiti after last year’s [read 2010] quake and has gone back again and again. He is now building a hospital in the capital. Pitching in was no dilemma for him. Like relief worker Emmett Fitzgerald and millions more, his heart wouldn’t stay quiet.” (Yemma, 2011.

This is for instance the case in an act of charity or benevolence (see Khalil, 2001). And the form of altruism displayed in a charity or benevolence setting here has nothing to do with reciprocity and reciprocation (see Tullberg, 2004 on this point)\(^\text{14}\). In that case, whatever the

\[^{14}\text{In other words, we argue that charity corresponds to situations in which individuals, acting out of benevolence,}\]
recipient does, the Samaritan helps him out of benevolence and does not care if her actions has an impact of the behavior of the recipient.

But, we do not only show that there exists a warm-glow effect. We do not only wish to explain why Samaritans and benevolence exists although it creates a sort of exploitation. This has already been emphasize. And this is the second case in which the Samaritan prefers exploitation. This can also be deduced from the individual payoffs in Table 3. In effect it appears that if $\alpha > 3/5$, then $i$'s gains if $j$ plays $S$ are greater than her gains if $j$ plays $G$. This means that the Samaritan prefers $G;S$ to $G, G$. And this can, also, be easily be explained. If obliged to cooperate, the recipient would suffer from a loss of utility – in our numerical example, he would get 3 instead of 5. But he would not be the only one to suffer from this loss of utility. The Samaritan would also be affected. Thus, $G, G$ corresponds to a situation in which the Samaritan would also suffer from the loss of utility of the recipient. This means that Samaritans with a relatively high degree of altruism – $\alpha > 3/5$ – prefer to interact with a selfish recipient who behaves selfishly than with a selfish beneficiary that would react to her altruism and behave generously as it would be the case if Becker’s Rotten Kid theorem applied. One may note that this is phenomenon increases when the degree of altruism increases: the more altruistic the Samaritan is – the purer is her altruism –, the less she is interested in any form of cooperation or reciprocation from the recipient.

More broadly, when $\alpha > 3/5$, the outcome $\{G, S\}$ is preferred by both the moral and the non-moral individual. Exploitation is thus the Samaritan’s and the parasite’s preferred outcome. Therefore, exploitation is Pareto-efficient. Both the Samaritans and the recipients would be made worse off by any attempt to oblige the recipient to choose strategy $G$, that is to behave non-selfishly. In particular, if one enlarges the perspective, this means that both individuals would be made worse off by any public intervention seeking to force the parasite to cooperate.

Indeed, Samaritans need parasites as much as parasites need Samaritans. They need to be exploited, to increase their satisfaction. From this, one could concluded that noted “there is no obvious escape from this dilemma” (Lee, 1987, p. 162) because “[a]ctions that are motivated by feelings of compassion are difficult to resist even if the long-run effects are known to be detrimental to those who are the object of our compassion” (Lee, 1987, p. 162), that is because Samaritans have a vested interest in encouraging their behavior. Otherwise, they would no longer have the possibility to behave altruistically. One could also conclude that there cannot be such a thing as a Samaritan’s dilemma.

5. Conclusion

The literature on why and how to help people in need almost systematically emphasizes the strategic behaviors of the recipients and the possible manipulation of the help they receive. When this happens, we have a situation that economists describe as a Samaritan’s dilemma – in which the Samaritan helps and the recipients does not reciprocate or act in any positive way to return the aid received. And, because of this situation, a number of important problems occur. This is why it is usually argued that helping people in need should be strictly controlled.

do not wait for reciprocity. Charity is premised on humanity and compassion. This corresponds to Smith's definition of benevolence (see Khalil, 2013).
In this paper, we show that there is no such thing as a Samaritan’s dilemma. Because the Samaritan receives a certain utility from the increase of the utility or gains of the recipient, she prefers to be exploited than not to be exploited. In other words, for certain (high) levels of benevolence, exploitation is efficient rather than inefficient.

The analysis presented above is specific and the extent of the problem we have stressed depends on the numerical values chosen for the payoffs and how benevolence is defined. But it is nonetheless suggestive of one important aspect of the interactions between donors and recipients that has never, to our knowledge, been stressed: the impact of warm-glow on the Samaritan’s dilemma.

References