

# XVIII Thisworldly social effects of gifting and of not taking

This chapter is on diverse manners of giving for the purpose of getting something in return, be it from the donee or from third human parties. In particular, there are two questions. Firstly, which givings and takings “add up” in an economy? Secondly, how exactly might a donor benefit from showcasing his liberality or power?

## A Anonymous giving in a homogeneous model

### (1) Unproductive receivers

In this first subsection, highly-stylised models are built for a society consisting of agents, some of whom end up as givers, while the others become receivers. I assume that all agents are equally capable of assuming either role. In this sense, they are homogenous. Givers donate the amount  $D = D_G$  which is assumed to be the same for all givers, a second homogeneity assumption. I.e., when taking up the role of a giver, an agent donates the amount  $D$ . Thus, the role of a giver and the specific amount to be gifted are closely connected, at least in the short run. In the long run, the gifted amount will go up if the role of a giver is more attractive than that of a receiver. Remember that we need “demand equals supply” conditions in a Walras or GET model (section XI.C). Here, similarly, the numbers need to “add up”. Not every amount  $D$  is compatible with a given giver-receiver distribution.

Let  $n$  be the number of people in the society. There exist  $g$  givers and  $r$  receivers so that  $g + r = n$  holds. Givers have an initial income of 1, which they can consume for themselves or donate. The amount given by an individual giver is denoted by  $D$  (where there is no need to use an index, as all givers donate the same amount by assumption). We assume the following utility functions for givers (indicated by G) and receivers (indicated by R):

$$[13] \quad U^G(D) = 1 - D \quad \text{and} \quad U^R(D_R) = D_R$$

Now, in order that the numbers “add up”, the overall amount received by the receivers has to equal the overall amount given by the givers:

$$[DS] \quad rD_R = gD$$

Thus, in equilibrium, the receiver’s gift or utility equals  $U^R = \frac{g}{r}D$ .

For very small gifts  $D$ , the givers obtain a higher utility than receivers. It is then more attractive to be a donor than to be a receiver. Inversely, agents prefer to be receivers if  $D$  is relatively large. Now, think of agents who choose between the two strategies “adopting the role of giver” or “adopting the role of receiver”. The condition of individual rationality IR then implies that an agent (and, indeed, every agent) chooses the role of receiver whenever  $\frac{g}{r}D$  is larger than  $1 - D$ .

Thus, in an equilibrium with both givers and receivers, no agent should have an incentive to switch roles:

$$[IR] \quad \frac{g}{r}D = U_R(D, g) \stackrel{!}{=} U_G(D, g) = 1 - D$$

This no-switching equilibrium condition amounts to the no-switching amount of the gift

$$[14] \quad D^{n-sw} = \frac{r}{n}$$

In the case of many receivers, the individual gifts need to be rather large. One may also interpret this condition the other way around. Given a fixed amount of the gift  $D$ , the equilibrium quantity of receivers is given by

$$[15] \quad r^{n-sw} = nD$$

With either interpretation, the payoff for members of both groups is  $g/n$ .

In this homogenous model, one may go one step further and look for the (i) equilibrium and (ii) Pareto-optimal amounts of giving. From the no-switching payoff  $g/n$ , it is clear that members of both groups prefer a society where there are no receivers, but only givers:  $g^{opt} = n$ . From that perspective, giving seems an unlikely event—in the long run, gifting does not take place in this model. The equilibrium and optimal amount gifted is  $D^{opt} = \frac{0}{n} = 0$  and all members of society are potential—but not actual—givers with payoff 1. The theoretical difficulty of giving is also discussed in chapter XIX.

## (2) Productive receivers

We now assume that receivers of gifts provide benefits to givers. In particular, receivers of gifts provide a public good, i.e., a service that is not subject to rivalry in consumption.

For example, the receivers might be people who study, teach, and transmit important texts. In the Indian context, one may think of Vedic texts or *dharmaśāstras*. This work might benefit all people in a society, givers and receivers alike. Of course, one might surmise that the ideology transmitted and expressed by the *dharmaśāstras* is more beneficial to some social classes than to others. I do not intend to deny (or even seriously enter into) the reasonableness of Ambedkar’s and other’s attacks on “caste” (see Kundu (2018, chapter 10)), but simply ask the reader to bear with this assumption for the time being. See also section XX.C.

The benefit provided by  $r$  receivers of gifts is assumed to be  $\ln(r)$ . This mathematical form has two implications: (i) the more benefit-producing receivers exist, the higher the above-mentioned benefits to each member of the society, (ii) the additional benefit of receivers is reduced as the number of receivers increases. Note that the benefit is not exclusive to the giver, meaning that we may be justified in calling this exchange non-reciprocal.

Furthermore, it is assumed that study and teaching are strenuous and come at a cost  $c$  to those pursuing these activities. Hence, the following adaptations of the above utility functions (in equation [13]) may be proposed:

$$[16] \quad U_G(D, r) = 1 - D + \ln(r) \quad \text{and} \quad U^R(D_R, r) = D_R + \ln(r) - c$$

Relegating the mathematical details to appendix C, one obtains the equilibrium (no switching) gift:

$$[17] \quad D^{n-sw} = \frac{r}{n} (1 + c)$$

If learning and teaching knowledge is very difficult ( $c$  is large), the givers have to provide a generous gift to make up for these difficulties.

We now turn to the long run and consider the Pareto-optimal amount of the gift and the Pareto-optimal giver-receiver distribution. The Pareto-optimal number of givers can be found to be

$$[18] \quad g^{opt} = n - \frac{n}{1 + c} = \frac{n}{1 + \frac{1}{c}} < n$$

and the optimal gift received equals

$$[19] \quad D_R^{opt} = c$$

Thus, in this specific model, the more difficult learning and teaching are, the higher the number of givers and the smaller the number of receivers. Summarising, in the long run, some portion of the society consists of receivers that study the *Vedas*, etc. Remember, however, our two vital assumptions: (i) All the members of society are equally capable and allowed to “earn money in the real world” and to “study the Veda”. This assumption stands in contrast to <15>. (ii) The gift amount is fixed for the individual who assumes the role of a giver. This, again, is a serious assumption, seeing that it is contradicted by <92>.

## B A simple probabilistic model of *beneficium* reciprocity

The Roman philosopher Seneca (1<sup>st</sup> c. CE) wrote the treatise “De Beneficiis”, in which he advanced the idea of giving for “companionship” (see <198>).<sup>752</sup> If I give to a friend today, I only expect him to reciprocate if I fall on hard times and he is capable of doing so. Notwithstanding Seneca’s insistence on being virtuous for the sake of virtue (<197>), one may argue that this idea falls under the heading of *arthadāna*. In contrast to most *dānagrahaṇa* cases considered so far, we have an incomplete-contract setting here. There is no contract, no enforceable manner of getting something in return.

A very simple model of the advantage of fellowship in the sense of Seneca (*societas*) might run like this. A person G who possesses initial wealth of 1 gives some amount  $D \leq 1$  to a friend R in period 1. In period 2, if G does not meet a calamity, there is no expectation that R give him something in return. If, however, a calamity (with cost  $c$  to G) affects G in period 2, R might be willing to pay back the *beneficium* offered to him.

Let a calamity strike G in period 2 with probability  $\pi$ . Let  $\tau$  be the probability that R is a trustworthy friend who is prepared to help G in period 2 if capable of doing so. Let  $W$  be the wealth that R has available in period 2. It seems likely that R is prepared to give a large fraction of  $W$  to G if the present  $D$  was large. In order to work with a concrete example, assume that this fraction is given by  $\sqrt{D} \leq 1$ . Then, G’s expected utility may be specified as follows:

$$[20] \quad U^G(D, \pi, W, \tau) = 1 - D + \pi(-c) + \pi\tau \cdot \sqrt{D}W$$

As shown in Appendix D, the optimal “gift” can be calculated as:

$$[21] \quad D^{\text{Seneca}} = \frac{\pi^2 \tau^2}{4} W^2$$

In this model, giving out of companionship is generous if the chances of a calamity striking the giver are large, if the receiver is likely to be trustworthy, and if the receiver stands a good chance of being wealthy in the second period. In a full-fledged model, one may try to endogenise  $\tau$  by extending the model into additional periods. Ungratefulness would then carry the risk of not being deemed a trustworthy companion, worthy of help if needed.

## C Common knowledge and rituals

Trautmann (1981, p. 279) is surely right in stressing that *dānadharma* is of a soteriological nature. This does not exclude thisworldly effects of giving, which may or may

<sup>752</sup> See the monograph by Griffin (2013).

not be in the back of some donors' minds. The theoretical background is provided by the concepts of common knowledge and of principal-agent theory.

Chwe (2001) advances the interesting idea that rituals serve the purpose of producing “common knowledge”. Common knowledge of an event is said to be present between actors A and B if A and B know of the event, B knows that A knows of it, A knows that B knows that A knows of it, etc. ad infinitum. In particular, common knowledge between two people might be produced if they are looking at each other while observing or hearing some event.

In the presence of many actors, common knowledge can be defined in a similar manner. In that case, common knowledge might come about if all the agents are observing an event while sitting in an “inward facing circle” so that each person can see or at least assume that every one else observes the same event.<sup>753</sup> Common knowledge can also be brought about by repetitions (of *mantras*, say), songs, or audience participation.<sup>754</sup>

Chwe explains how common knowledge may help people to solve “coordination problems”.<sup>755</sup> Consider two different courses of action. It may be the case that people benefit from agreeing on the same course of action. An example is provided by technical standards in telecommunications. While people may disagree on the best standard, they may nevertheless prefer a commonly-accepted standard over a variety of “standards”.

The coordination problem of submitting to a social or political authority is discussed in some detail by Chwe (2001, pp. 19–25). Consider a king who has a *mahādāna* or

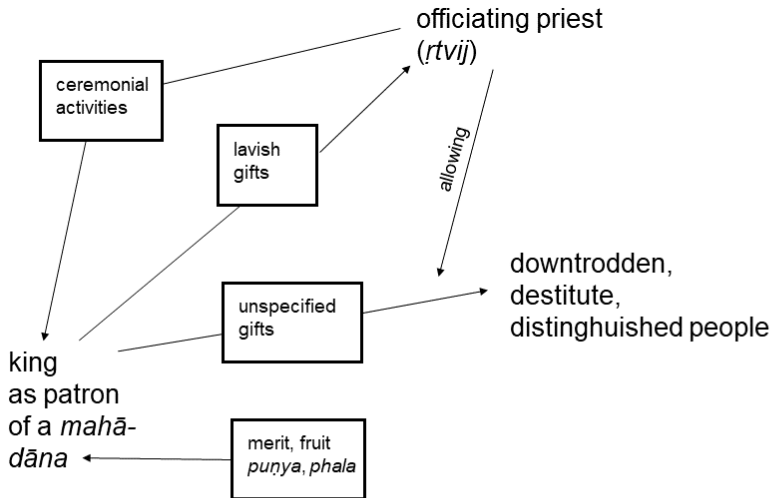


Figure 9: The complex mahādāna pattern

753 See Chwe (2001, pp. 30–33) for examples.

754 See Chwe (2001, pp. 27–30).

755 See Chwe (2001, pp. 8–13, 101–111).

*parvatadāna* (subsection VI.H(2)) performed on his behalf. *Mahādāna* is depicted in the most complicated pattern dealt with in this book (Figure 9). A “great gift” contains both charitable giving in order to earn merit and a reciprocal relationship.

One effect or one motivation of having a *mahādāna* performed may be to produce common knowledge of the king’s power. Not only do people see how resourceful he is, but they also see that others see and possibly interpret the event in the same manner. They also see that others observe others noticing this event, etc.<sup>756</sup> The reader might remember section XVI.F on the Varuṇa rule, where the king tries to produce the common knowledge of his honest dealings as a punisher. The contrast with dharmic gifts—that are best kept secret (see <105>—is evident.

## D Outwitting and principal-agent theory<sup>757</sup>

### (1) The tiger and the traveller

That mistrust is a well-known topic in the Old Indian *arthaśāstra* literature is clear from <5> (p. 13). The next section will indicate how giving might alleviate mistrust. The topic of mistrust itself and how it is examined in microeconomics is expounded upon in this section.

A fable from the Hitopadeśa collection concerns a tiger and a traveller. The tiger finds himself on one side of a lake and sees a traveller passing by on the opposite side. The tiger attempts to catch and eat the traveller by offering a golden bracelet to him. Since the traveller is suspicious of the tiger’s intentions, the tiger argues that he would not (claiming to have profoundly changed his former evil behaviour) and could not (claiming to be old and weak) do any harm to the traveller. Finally, the traveller is convinced to enter the murky waters, where he gets stuck. Immediately, the tiger takes advantage of the traveller’s misfortune and kills him as planned.

One may of course speculate as to why the traveller is so “stupid”. Did “greed cloud the mind” or did he act on some probability assessment about the tiger telling the truth? A truth-telling tiger cannot be ruled out. In the story, it is the tiger himself who claims to have studied the Vedas in order to lend credibility to his peaceful intentions. However, it seems obvious that the fable writer does not think of this example under the heading of “better safe than sorry”. Instead, he argues that—the tiger’s preferences being as they are—the traveller should have known his fate in advance. Before being killed, the traveller has time to share some wise insights with the readers:

<sup>756</sup> Consider Heim (2004, p. 116): “The king displays and centralizes his own power and glory worshipping the brahmins and lavishing upon them prestigious gifts.” and Heim (2004, p. 108): “The ceremonialism of *dāna* also tends to make a gift a public affair rather than a private matter.” The main point added by the current author is to stress that “public” needs to be understood in terms of common knowledge.

<sup>757</sup> This section borrows liberally from Wiese (2016b).

⟨234⟩ *na dharmasāstraṃ paṭhatīti kāraṇaṃ  
na cāpi vedādhyayaṇaṃ durātmanaḥ |  
svabhāva evātra tathātiricyate  
yathā prakṛtyā madhuraṃ gavāṃ payaḥ ||*<sup>758</sup>

It is not because he has read treatises on religious duty or because he has studied the Vedas that he behaves like this—it is the wicked creature’s own nature that prevails here, just as cow’s milk is naturally sweet.<sup>759</sup>

Pious appearances are also used by the cat in an animal tale from the Pañcatantra. The cat is chosen to judge in a dispute between a partridge and a hare. Although wary of the danger, the two contestants finally approach the cat, who kills them without much ado.<sup>760</sup>

## (2) Hitopadeśa/Pañcatantra theory on deception

The Pañcatantra’s “central message” is that “craft and deception constitute the major art of government”. But: “Deception, of course, is a double-edged sword; it is important to use it against others, but just as importantly one must guard against its use by others against oneself. So, in a sense, even the losers provide counter-examples”.<sup>761</sup> However, guarding against deception is difficult because people are not to be trusted (see ⟨5⟩ once more) and there is no way to judge another person’s intentions:

⟨235⟩ *poto dustaravārirāśitarāṇe dīpo ’ndhakārāgame  
[... ] |  
itthaṃ tad bhuvi nāsti yasya vidhinā nopāyacintā kṛtā  
manye durjanacittavṛtiharāṇe dhātāpi bhagnodyamaḥ ||*<sup>762</sup>

If you have to cross an impassable ocean, you have a boat;  
when darkness comes, you have a lamp;

[...]

Thus there is no problem in the world for which  
the Creator has not carefully invented some solution.

But when it comes to countering a wicked person’s way of thinking,  
it seems to me that even the Creator has failed in his efforts.<sup>763</sup>

Since one cannot know “a wicked person’s way of thinking”, an asymmetry arises, with the wicked person knowing his or her own intentions, which are unknown to

---

758 HU 1.17

759 Törzsök (2007)

760 Olivelle (2006b, pp. 392–399)

761 Olivelle (2006b, pp. 40–41). Wiese (2012) argues that guarding against deception amounts to applying the game-theoretic method of backward induction.

762 HU 2.163

763 Törzsök (2007)

others. Thus, problems of mistrust and asymmetric information have been very clearly understood by these *arthaśāstra* authors.

### (3) Principal-agent problems

Old Indian texts exhibit an amazingly clever perspective on human agency.<sup>764</sup> Within economics, outwitting is treated under the heading of principal-agent theory.<sup>765</sup> In recent times, economists have given due credit to Kauṭilya, the Arthaśāstra's author, as a very early principal-agent theorist.<sup>766</sup> Roughly speaking, principal-agent theory deals with the problems arising from “asymmetric information”, with one person A (the “agent”) being better-informed than another person P (the “principal”). It may seem obvious at first that A (in possession of some relevant information not available to P) stands to benefit from this superior knowledge. Relatedly, a person A who cheats another person P will typically profit from that action.

A big chunk of principal-agent theory is concerned with “hidden action” problems.<sup>767</sup> Consider the example of a firm (the principal) that has employed a worker (the agent), who may diligently work in the principal's interest or pursue his own interests instead. If and insofar the principal cannot observe the effort exerted by the agent, the principal's problem is how to supervise or remunerate the worker so that the interests of the latter are aligned with those of the former. We term this the “outwitting problem” of principal-agent theory. The agent tries to outwit the principal: he aspires to a high reward without effort. The principal tries not to be outwitted: he wants to make the agent work hard for as little remuneration as possible.

Referring back to <49> through <52>, remember that Thieme (1957) calls the Vedic gods Mitra and Varuṇa “king Contract” and “king True-Speech”, respectively. These two gods are responsible for safeguarding contracts and for ensuring the beneficial results of agreements between humans. Differently put, prosperity can flourish because the outwitting problem is overcome with the help of these gods.

Not relying on divine help in this matter, Kauṭilya is a foremost expert on outwitting. With respect to the topic of peacemaking through the taking of hostages, he writes: “The taking of a kinsman or a chief constitutes a hostage. In this event, the one who gives a traitorous minister or a traitorous offspring is the one who outwits. One who does the opposite is outwitted”.<sup>768</sup> It is from this translation by Olivelle that the

764 This has already been noted by Zimmer (1969, p. 89), who observes, in the context of Indian fables, that Indian political thought was characterised by “cold-blooded cynical realism and sophistication”.

765 Textbook presentations of principal-agent theory include Salanié (2005) and Rasmusen (2009).

766 See Brockhoff (2014) and Sihag (2007). In a series of papers, Sihag has highlighted Kauṭilya's achievements in other parts of economics, too. Sihag (2014) is a book-length summary of his efforts in this domain.

767 A second branch of principal-agent theory (called adverse selection) deals with a principal who wants the agent to reveal information held by the agent.

768 KAŚ 7.17.11–13, Olivelle (2013)



current outwitting section has obtained its name.<sup>769</sup> In order to avoid being cheated upon, Kauṭilya advises the king to investigate wrongdoings “through interrogation and torture”<sup>770</sup> and suggests that one scrutinise “the ministers’ integrity [...] through secret tests”<sup>771</sup>.

Economic principal-agent theory also involves another aspect of asymmetric information. The person in command of superior knowledge may not always be able to benefit from this knowledge. After all, if the informed party needs the uninformed side to agree to some mutually-beneficial venture, asymmetric information may harm the informed side by preventing this venture. This is the “gains-from-trade problem” of principal-agent theory. I conjecture that there was no explicit (openly expressed) understanding of the gains-from-trade problem in Old India. This is of course difficult to prove; a text dealing with the gains-from-trade problem might have simply escaped my attention.

## E Trustworthiness resulting from giving

Giving—or not taking—may serve to emit positive signals to third parties. Ānanda provides the quote ⟨171⟩, according to which giving creates trust. Trust is a vital ingredient to business and other relationships. Taking up this idea, I sketch a simple game-theory model that can shed some light on why a donor might be trustworthy (Sanskrit *viśvasanīya*). In section XVI.F, the public act of non-taking by a king had similar trust effects.

Consider two agents, a “trading partner” TP and a “giver” G. It will soon become clear how giving plays an important role in this model. In Figure 10, TP may choose to offer a deal to G. In that case, G may deal honestly so that both receive a “benefit”  $B$ , indexed with TP and G, respectively. However, if G outwits TP, the latter obtains a “stealing” or “scam” payoff of  $S$ , which is lost by the former. I assume  $S > B_G$  so that G prefers to outwit TP. The latter, foreseeing this deception, will not offer a deal. This is the backward-induction outcome, attained by the procedure described in section XI.D.

In contrast, Figure 11 deals with an honest G. This agent is punished with some fine  $F$  if he cheats. The punishment may refer to some “external” punishment (organised by the king) or to some “internal” punishment, like pangs of conscience or fear of bad *karman*. Assuming  $S - F < B_G$ , agent G will choose to deal honestly. In this case, TP will offer the deal and the mutually-beneficial trade goes ahead.

Of course, “a wicked person’s way of thinking” (⟨235⟩) is difficult to detect. Assume, now, that G may practice gifting before TP makes an offer. One may surmise that a generous giver is more likely to be one who has *śraddhā* in the sense of “conviction

769 The Sanskrit word for “outwit” is *ati-sam-dhā*, found in KAS 7.17.12–13. Kangle (1969b) translates it as “over-reach”.

770 KAS 4.8, Olivelle (2013)

771 KAS 1.10, Olivelle (2013)

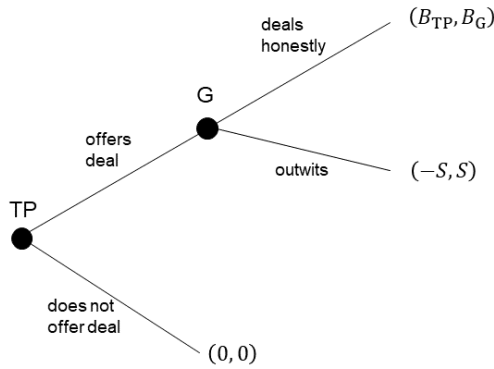


Figure 10: The no-deal outcome in the presence of a dishonest giver

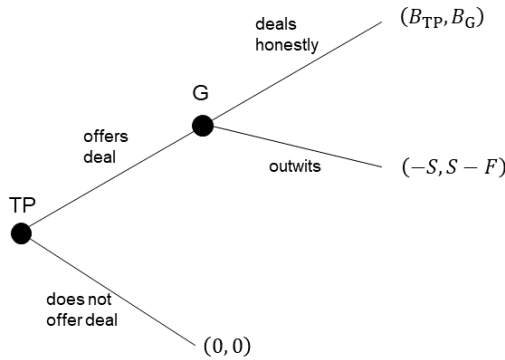


Figure 11: The no-deal outcome in the presence of an honest giver

about the certainty of rewards” (see section VI.B). Then, observing G donating generously makes it more likely from TP’s point of view that the fine  $F$  does indeed feature in G’s payoff.

The situation here is not the one encountered in the tiger-traveller fable (subsection XVIII.D(1)). There, the tiger’s arguments are just “cheap talk” (see section XVI.F.). Both a mischievous and a benevolent tiger could claim to be benevolent without any cost. The tiger’s assertions are therefore not credible, even if the traveller was stupid enough to lend them credibility. In contrast, in the present case of a gift, giving comes at a cost to someone who has no “conviction about the certainty of rewards”. Of course, even a non-believer (*nāstika*) might donate in order to pretend to be a believer (*astika*) and in order to feign the fear of a fine  $F$ , which he does not in fact fear. The point is that a virtuous person can signal “ $S - F < B_G$ ” at a lower cost than a deceiver.<sup>772</sup> Thus, indeed, a “donor is trusted”.

<sup>772</sup> Game theorists have formalised this idea. See the beer-quiche game in Fudenberg & Tirole (1991, pp. 446–451).