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Year: 2006

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DOI: <https://doi.org/10.1111/j.1745-6916.2006.00022.x>

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ZORA URL: <https://doi.org/10.5167/uzh-2477>

Journal Article

Accepted Version

Originally published at:

Frey, Bruno S (2006). Giving and receiving rewards. *Perspectives on Psychological Science*, 1(4):377-388.

DOI: <https://doi.org/10.1111/j.1745-6916.2006.00022.x>

# ***GIVING AND RECEIVING AWARDS***

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(Revised version 11 August 2006)

## **Abstract**

Awards in the form of orders, medals, decorations, prizes and titles are ubiquitous in monarchies and republics, private organizations, not-for-profit and profit-oriented firms. Nevertheless, this kind of non-material extrinsic incentive has been given little attention in the social sciences including psychology.

The demand for awards relies on an individual's desire for distinction, and the supply of awards on the provision of motivation. A number of empirically testable propositions are formulated and found to be consistent with observable data using the technique of analytic narratives. (84 words)

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I am grateful for the support of Susanne Neckermann when writing the paper, and for enlightening discussions with, and helpful comments to earlier version of the paper to Michael Baurmann, Christine Benesch, Matthias Benz, Tim Besley, Geoffrey Brennan, Ed Diener, Reiner Eichenberger, Christoph Engel, Nicolai Foss, Dieter Frey, Hartmut Kliemt, Barbara Krug, Lord Richard Layard, Siegwart Lindenberg, Simon Luechinger, Stephan Meier, Margit Osterloh, Friedrich Schneider, Alois Stutzer, Anna Weinstein and two anonymous referees. I thank Rosemary Brown for checking the English.

## *I. Awards Everywhere and Always*

If an alien were to look at the social life of people here on earth, it would be stunned by the enormous number of awards in the form of orders, medals, decorations, prizes, titles and other honours. It would be hard pressed to find any area of society in which awards are not used. Awards are equally ubiquitous in monarchies as in staunch republics<sup>1</sup>. In the United States, the President and Congress bestow medals (the *Congressional Gold Medal* created in 1776, the *Presidential Medal of Freedom* created in 1945, and the *Presidential Citizens Medal*, created in 1969). At the same time, there are a very large number of awards in the military sector. Best known are the *Purple Heart*, *Bronze* and *Silver Star* which are handed out quite liberally, and at an increasing rate (Cowen 2000: 93). It is well known that a flood of orders, medals and titles (such as “*Hero of the Soviet Union*” or “*Hero of Socialist Labor*”) was handed out in communist countries, such as the Soviet Union or the German Democratic Republic, and that it is typical for both right- and left-wing dictatorships to hand them out frequently.

Not only governments bestow awards. In the arts, culture, sports and the media, awards are also of central importance. A few prominent examples are the *Academy Awards (Oscars)*, or the prizes handed out by the film festivals at Cannes, Venice or Berlin (see e.g. Simonton 2004), the *Emmy* award for outstanding achievement in television in the United States, the *Grammy* award for artistic significance in the field of recording, the *Queen Elisabeth International Piano Competition* in Brussels, the *Booker Prize* and the *prix Goncourt* in literature<sup>2</sup>, or the *Pulitzer Prize*<sup>3</sup>. Arts institutions, such as museums, bestow titles, such as benefactor or patron<sup>4</sup>, upon their supporters. In the field of sports there are regular, often yearly competitions for the title of *Olympic* or *World Champion*. In chess, there are *International Masters (IM)* and *Great Masters (GM)*. Athletes get the honour of being “*Sports Personality of the Year*”, and are admitted into one of the many Halls of Fame. Religious organizations such as the Catholic Church award the titles *Canon* or *Monsignore*,

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<sup>1</sup> A probably incomplete list of types of official awards is given in the article “List of Prizes, Medals, and Awards” in wikipedia (<http://en.wikipedia.org>). See also Robertson (2005) and the House of Commons (2004).

<sup>2</sup> There are at least 10 other major prizes in British literature, and 5 in French literature, such as the *Prix Fémina*, *Prix Médicis* or the *Grand Prix du Roman de l'Académie Française*.

<sup>3</sup> It is awarded in the nine categories Novel, History, Fiction, Poetry, Non-Fiction, Criticism, Telegraphic Reporting, Breaking News Photography and Reporting.

<sup>4</sup> See, for example, Levy (1987), Holden (1993), Nelson (2001), Ginsburgh and van Ours (2003).

and beatify and canonize distinguished persons which can be considered a post mortem award.

We might expect that academia, as a place of rational interaction, represents an exception. The opposite is true: academia has an elaborate and extensive system of awards. Consider all the universities handing out the titles honorary doctor or senator, or professional associations awarding an enormous number of medals, the most important one probably being the *Fields Medal* in mathematics<sup>5</sup>. And then, of course, there are the *Nobel Prizes*. Many prestigious fellowships exist in academies of science (e.g. Fellow of the *Royal Society FRS*, founded in 1660; Fellow of the *American Academy of Arts and Sciences*, founded in 1780; Fellow of the *Royal Society of Edinburgh FRSE*, founded, among others, by Adam Smith in 1783; or *Fellow of the Academy of Social Sciences in Australia FASSA*). There are also honorary fellowships in professional organizations such as e.g. in psychiatry (Weiss Roberts et al 1999). Moreover, there is a complicated system of titles (not always connected to functions), such as that of lecturer, reader, assistant professor, associate professor with or without tenure, full professor, named professor, university professor, distinguished professor etc. And then there is the flood of *best paper awards* handed out at conferences and by journals (Coupé 2003). An alien looking at earth might well find that academia is (next to the military) one of the places with most awards.

Most surprising is the widespread use of awards in the corporate sector of a market economy where the only valid reward, after all, is supposed to be money. But titles are important and are often little related to functions. What manager is not, at the very least, a vice-president, or even better, a senior vice-president, or first senior vice-president (Bielby and Baron 1986, Malmendier and Tate 2005)? Firms also commend their own employees for being “*Salesman of the Month*” or “*Employee of the Week*”. Many corporations use formal recognition programs and bestow titles such as “*Superstar*” as a way of giving approval and acknowledgement to their most valued employees (see e.g. Magnus 1981, Nelson 2005). There seems to be no limit to inventing ever new awards. The media support this activity by regularly choosing a “*Manager of the Month*”, “*Manager of the Year*” or even “*Manager of the Century*”. Organizations, such as the World Economic Forum, appoint people to the

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<sup>5</sup> But there are at least 15 other important prizes in mathematics ( [http://en.wikipedia.org/wiki/List\\_of\\_prizes](http://en.wikipedia.org/wiki/List_of_prizes), medals and awards).

position of “*Global Leader of Tomorrow*” (1200 persons), and “*Young Global Leaders*” (1111 persons below 40 years of age).

Despite the importance of awards in society, academic research (outside history) has largely disregarded them. There may be various reasons for this neglect. Firstly, awards may be considered to be little effective as a motivational device, because they are not fungible and difficult to apply marginally. Monetary compensation is therefore considered a superior instrument for inducing effort (Baker, Jensen and Murphy 1988). Secondly, awards may just be a reflection of the success and high monetary incomes. Thirdly, awards as such may be taken to be of no interest to recipients. After all, they cannot be consumed. The only things of value to individuals may be taken to be the ancillary income and the increase in future income induced<sup>6</sup>. There is certainly some truth in this. It has been empirically shown, for instance, that the recipients of *Oscars* enjoy a huge increase in subsequent income (Nelson et al. 2001). But recipients of the *Nobel Prize* certainly value the Prize over and above the accompanying or subsequent monetary reward. Psychologists have shown experimentally (Huberman, Loch and Öncüler 2004) that people value status independently of the monetary consequence; they are even willing to incur material costs to obtain it. As awards are one of the most important producers of status, it follows that people attach value to awards. Conversely, some prizes, medals and awards that are accompanied by large sums of money are nevertheless relatively unknown and have no prestige even within the relevant community, say academia<sup>7</sup>.

There are major differences between awards and monetary compensation, making it worthwhile to analyze awards separately. Suffice it at this point to mention the following differences:

- The material costs of awards may be very low, or even nil, for the donor, but the value to the recipient may be very high;

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<sup>6</sup> Another benefit from receiving awards may be that they improve the health of the recipients. It has been calculated that, on average, the actor receiving an *Oscar* lives four years longer than actors not getting one, see Redelmeier and Singh (2001).

<sup>7</sup> A pertinent example is a prize awarded to eminent scholars since 1961 by the Italian and Swiss presidents. It goes with 1 Million Swiss Francs (US\$ 770,000), but few persons know about it, and attribute any prestige to it. It is called the Balzan Prize. For a list of other such prizes, see [http://en.wikipedia.org/wiki/List\\_of\\_Orders,\\_Medals\\_and\\_Awards](http://en.wikipedia.org/wiki/List_of_Orders,_Medals_and_Awards).

- Accepting an award establishes a special relationship, in which the recipient owes (some measure of) loyalty to the donor. The respective contract is *psychological*<sup>8</sup>; it is tacit, incomplete, and difficult, or impossible, to enforce by the donor;
- Awards are a better incentive instrument than a monetary payment when the recipient's performance can only be vaguely determined;
- Awards are less likely to be subject to the "hidden costs of rewards" (Lepper and Greene 1978) than are monetary payments;
- Awards may be the only option available for rewarding exceptional performance when firms are restricted to pay the same wage to all workers at a particular job level e.g. because of collective bargaining agreements (Clark and Riis 1998);
- Awards are not taxed, while monetary income is.

Unlike monetary compensation, it is characteristic of awards that they can only be vaguely defined. There is, for example, no clear distinction between orders<sup>9</sup>, decorations or medals, and they can come with or without titles and money. These unclear distinctions are no accident, but an important feature of awards. It makes an analysis difficult because the quality aspect is essential. Moreover, there are serious data limitations. There is no comprehensive list of awards spanning the different types and levels of awards in the various spheres of society (government, the arts, culture, media, sports, religion, academia, not-for profits and for-profit enterprises), countries and time periods. The number of awards handed out in each category, and for each country and time period is even more elusive. Only partial, sketchy and inconsistent evidence is available from scattered sources. This applies in particular to the many awards given by private institutions, such as non-profit organizations, clubs and firms. Orders given by monarchs or governments are somewhat better documented (see footnote 1). Because of the data situation, the method of *analytic narratives* (Bates et al 1998) is applied here. This approach allows the researcher to integrate knowledge of different quality, stemming from many different sources useful in supporting or rejecting the propositions

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<sup>8</sup> See Rousseau and McLean Parks (1993), Rousseau (1995), and a large literature following.

<sup>9</sup> The word "order" has itself several different meanings: a mathematical sequence, a command, a religious community or an award. The last two meanings are historically connected. Knights with orders of chivalry (such as the Order of the Holy Sepulchre, founded in 1099, the Templars, founded in 1118, the Order of St. John, 1118, and the Teutonic Order, 1170) wore insignia. Over time, such insignia gained a life of their own, independent of membership to an organisation.

advanced. In the absence of consistent data on awards, it seems preferable to resort to many different sources of information rather than to forego empirical work altogether.

This paper discusses awards as an important source of motivation: what makes individuals seek awards (the *demand* side), and what makes organizations offer awards (the *supply* side)? The analysis should help us to better understand the important role of awards as *extrinsic*, but *non-material rewards*.

The following section presents a short overview of the literature. Section III derives the demand for awards as a result of individuals' quest for distinction. Section IV analyses what induces organizations to use awards as an incentive device. Section V concludes.

## II. The Literature on Awards

The science of *Phaleristics* (the Greek and Roman word for award) has produced a huge literature on *specific* awards, in particular on orders, decorations and medals. It is historically oriented and is mainly devoted to presenting legal rules and regulations, as well as facts. Examples are Risk (1972) on the *Most Honourable Order of the Bath*, or Galloway (2002) on the *Order of St Michael and St George*. Most useful discussions (including some data) on the present state of orders, focusing on Britain, are provided in Phillips (2004) and the House of Commons (2004). Fewer works cover orders across several countries, for instance Klietmann (1984), Honig (1986), and Mericka and Marco (1990). Particular aspects of awards have been analyzed in the context of arts and culture. Ginsburgh and van Ours (2003), Ginsburgh (2003, 2005) and Simonton (2004) discuss Academy Awards (*Oscars*) in films, the *Brooker Prize* in literature, and the *Eurovision Song Contest*. Glejser, and Heyndels (2001) deal with one of the most important piano competitions, the *International Queen Elisabeth Prize*.

There is a considerable literature on awards in sociology. Examples are Bourdieu (1979), Elster (1983), Braudy (1986), Walzer (1983) or Baurmann (2002). With few exceptions, these works address awards and distinctions in general, but do not analyze particular types of awards. Recently, economists have become interested in some of these issues, examples being Nalebuff and Stiglitz (2001) on incentives, Brennan and Pettit (2004) on esteem, Akerlof (1976) on reputation, Auriol and Renaud (2004) on social status, and Scitovsky (1976), Frank (1985) and Frank and Cook (1995) on positional goods. With the exception of Hansen and

Weisbrod (1972), Besley (2005), Gavrilu et al (2005), Frey (2005) and Frey and Neckermann (2006) there seems to be no work on awards in economics.

The study of awards relates to many issues of central importance in *psychology*, most importantly to social status, social comparisons and reference groups, identity, esteem, reputation, fame and non-monetary, symbolic and intrinsic incentives, and, of course, to the whole area of motivation. Specific contributions by psychologists explicitly considering awards are, for instance, Magnus (1981), Tait and Walker (2000), Zhou and Martocchio (2001), Kelley et al (2002) and Nelson (2005) on non-monetary award programs for employees, Weiss Roberts et al (1999) on the prestige associated with awards, Heppner and Pew (1977) on the perceived competence and expertness of diplomas, certificates and titles, Simonton (1992, 1998, 2003, 2004) on the relationship between awards and creativity,

### ***III Why Do People Want Awards?***

Individuals have an *innate desire to distinguish themselves from other individuals*. People have a strong urge to be better than others. The quest for social distinction is taken to be a hard-wired trait of human nature<sup>10</sup>.

Individuals tend to exhibit a higher demand for awards if they live in a society in which one's position in society is uncertain and has to be advertised. In contrast, in societies in which the social rank of the various members is well established and recognized by others, it is less necessary to establish one's status by awards. In a society which is extensively fractionalized, i.e. where people are geographically separated into small groups, and where mobility is low, social distinction has to a large extent been established by history: each person is more or less aware of his or her position. With a racially, culturally, linguistically and religiously diverse population, social distinctions are well visible and there is therefore little demand for further differentiation via awards. In contrast, if the population is more or less homogenous, individuals seek social distinction in the form of awards.

*Proposition 1. The more fractionalised or isolated the setting in which an individual lives, the lower is the demand for distinctions and for awards.*

This proposition can be empirically illustrated for the case of Switzerland, a country that is strongly fractionalised in several respects. Its geography is characterised by high mountains

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<sup>10</sup> This assumption is in line with the socio-biological and evolutionary literature; see e.g. Henrich and Gil-White (2001), Zizzo (2002).



and deep valleys, as well as by many rivers and lakes. It has four native languages (German, French, Italian and Romanch), with virtually hundreds of dialects in common usage. Accordingly, culture also differs markedly over a small area. Switzerland has two major religions, Catholicism and Protestantism, the latter being divided into Calvinists and Zwinglians. With a population of only 7.5 million, Switzerland nevertheless has 26 cantons and more than 3,000 communes (all with substantial decision-making powers). It is one of the most federalist countries in existence. This heterogeneity is consistent with the observation that *no* Swiss government hands out any orders or decorations, not even in the armed forces.

The United States is another country with considerable socio-economic and political diversity. The several different waves of immigration have made it racially and linguistically heterogeneous, although English remains the single official language. The US is perhaps the most religiously diverse country in the whole world. The country is divided into 50 States and a large number of communes, all with considerable independence. It is therefore expected that the United States hands out only a few government awards. This certainly holds for the civil sector: As mentioned at the beginning, the central government bestows only three (civilian) awards.

The situation is different for France<sup>11</sup>, whose geography and population is far more homogenous than that of Switzerland and the United States. The various parts of the country, while historically very different from each other, have been homogenized by the last kings (Louis XIV and Louis XV), revolutionaries (they opposed all fractionalization) and the Napoleonic Empires. Most of the country's citizens are (at least nominally) Catholic, and all have to speak French. Politically, France is one of the most centralized nations in existence, the regions and communes possessing little decision-making power. According to Proposition 1, France is expected to be a country where individuals exert a high demand for governmental awards. This is indeed the case. Compared to Great Britain, France is centralized to a much greater degree and produces "four times as many awards as Britain in any one year" (House of Commons 2004: 2). The well-known "*légion d'honneur*" has been awarded to 4,000 persons since 1967 (Phillips 2004: Annex 2)<sup>12</sup>. In addition, there are several other orders and

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<sup>11</sup> This applies to the 20th century. Recently, racial, cultural and religious and political distinctions have become more diverse.

<sup>12</sup> Another source (the wikipedia article on the *legion d'honneur*) indicates a much higher number. The award is reported to have 113,780 bearers.

medals bestowed by the government, such as the *National Order of Merit*, or the “*palmes academiques*”.

Italy is another country homogenized by the political unification process (*Risorgimento*). Until recently, the central government in Rome dominated politics, leaving little power in the administrative regions. Therefore, we would expect Italy to have a well-developed system of orders and decorations. This is indeed the case. Orders play a significant role in Italy. The titles “*Cavaliere*” and “*Commendatore*” are commonly used. The *Order of Merit of Work* has no fewer than 850,000 living members (House of Commons 2004: 2)

In most modern societies, *income* gained in the market is the dominant means to signal distinction. In some societies, however, the market is unable to perform this role. In this case, people turn to other means to distinguish themselves from others. In particular, receiving awards is an important way to reach distinction. This leads to

*Proposition 2. The less income provides distinction, the more awards are sought.*

In socialist and planned economies, the market is to some extent blocked (see Walzer 1983). Market activity is subdued and unable to produce the differences in income individuals seek to attain distinction. In countries with relatively small or suppressed market sectors, awards are therefore in greater demand. This was especially true in Britain before the Thatcher revolution. The market has since gained prominence. As a result, the demand for (governmental) awards has fallen. In recent years, the British honours system has indeed come under attack. This has been reflected in two official reports (Phillips 2004, House of Commons 2004) that suggest major reductions in the number of orders and types of orders granted by the government. The House of Commons Report (2004) makes the recommendation that no new appointments are made to the *Order of the British Empire*, the *Order of the Bath* and the *Order of St Michael and St George*, and that they are substituted by one single new order (*Order of British Excellence*). This would mean the end of the *Sir/Dame* title associated with some of these orders.

The more equal the distribution of income and wealth is, the more individuals seek distinction in the form of awards. Individuals are unable to find social reputation by having a higher income than others. The communist countries of the former Soviet empire strongly equalized the distribution of income and wealth. People more or less earned the same income,

irrespective of their position<sup>13</sup> or work effort. Individuals were therefore eager to establish social distinction by gaining awards. Communist countries had indeed an elaborate system of honours, the best-known being the “*Hero of Work*”, but there were hundreds of such awards for all kinds of activities and efforts. About one in every 1,000 Russians (men, women and children) received a state award (Phillips 2004: 56); probably a far higher amount than in most other countries.

Awards are only demanded if they are valuable to the recipient by being able to signal distinction to other persons. If an award is easy to get, it loses it no longer serves this purpose.

*Proposition 3. The higher the quality of awards, the more people want to have them.*

The quality of an award is the higher, the more it is held in esteem by the individual’s reference groups and the population at large. Such recognition is the higher, the less other people receive the award, the more highly esteemed the former recipients are, and the more distinguished the award’s tradition is (Gavrila et al 2005). In contrast, if awards can be bought, i.e. if there is corruption, they contribute little or nothing to a recipient’s distinction.

The demand for awards is also expected to depend on a direct economic effect. Awards are not taxed. The tax burden of a person awarded, for instance, the title “Manager of the Year” or a knighthood, does not increase. In contrast, if social distinction is achieved by income, the respective income is subject to taxation. When marginal taxes are substantial, awards are a more attractive way of achieving social distinction than is higher income. This effect is the stronger, the higher the tax progression is.

*Proposition 4. The higher the marginal tax rates on income, the larger the demand for awards.*

Individuals in Britain before Maggie Thatcher’s time, as well as individuals in numerous other European countries, were burdened by high marginal taxes. In the United States and, by way of exception among European countries, in Switzerland, individuals’ tax burden was lower. This helps to explain why, in the (other) European countries, awards played a greater role in social life than in the US and in Switzerland. Since the end of the last century, the

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<sup>13</sup> This only holds for monetary income, but not for economic opportunities. Members of the Communist party, especially members of the Politbureau, had significant economic privileges, such as being able to get otherwise unavailable goods in special shops, datchas etc. But the ruling class (the *Nomenklatura*) made a great effort to maintain the illusion of economic equality.

situation in some of the European countries has changed and the top tax rates on income and wealth have been lowered, which holds especially for Britain<sup>14</sup>. This means that, in *relative* terms, lower income persons are now expected to exert a greater demand for awards than do higher income earners. This can indeed be observed. More awards are now bestowed on persons with lower income rather than with higher income. The amount of state honours accorded to groups with below average income has risen markedly. From 1965 to 2004, the percentage of orders<sup>15</sup> granted to women has increased from about 16 to 35 percent, and the percentage of orders going to black and minority ethnic groups has increased from 2 to 6 percent (Phillips 2004: 73-4).

The more highly a society esteems material compared to non-material success, the less effort individuals devote to gaining awards.

*Proposition 5. The stronger the market ideology, i.e. the more socially recognized is the distinction produced by the market, the smaller the demand for awards.*

Capitalist societies tend to measure success according to income. A pertinent example is the United States where, in general, state awards are considered less important than private wealth. This is consistent with the observation that, in comparison to other countries, the US has few (only three) state awards. In Russia, the market has achieved considerable reputation, particularly in the faster growing areas of the country. At the same time, the excessive amount of awards during the Communist era seems to have subsided and the distinction acquired by market income has become more important.

The aversion existing in a society with regard to the inequality of *income* or *wealth*, rather than with regard to the inequality of *awards*, is a closely related factor influencing individuals' demand for awards. In societies with marked aversion against income inequality, people turn more to awards in order to assert their status. They would face higher social disapproval if they tried to establish their social position via income.

The inequality aversion existing in a particular society can be captured by appropriate surveys. The share of left-wing parties in parliament or government is a more indirect

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<sup>14</sup> More than 20 years ago, Maggie Thatcher and Ronald Reagan triggered a world-wide revolution by dramatically slashing marginal income tax rates. Top tax rates in developed nations – on average – are nearly 20 points lower today than they were in the 1970s (<http://executivecaliber.ws/sys-tmpl/taxineurope/>).

<sup>15</sup> Covering the *Order of the Bath*, the *Order of St Michael and St George*, the *Order of the British Empire*, the *Companion of Honour*, as well as *Knights Bachelors*.

indicator. The Scandinavian countries have a higher inequality aversion with regard to income differences<sup>16</sup> and are therefore expected to have a higher demand for awards. This is consistent with the substantial importance of awards in these societies. In contrast, in the United States, individuals have little aversion against *economic* inequality. Americans with low income assume that there is a high upward mobility in their country from which they can benefit in the future. Research on happiness (Alesina, Di Tella and MacCulloch 2004) indeed shows that the well-being of Americans is not diminished by rising income inequality, because they think it is likely that they can profit from income inequality by getting into a high-income class in the future. In accordance with proposition 5, fewer awards exist in the United States compared to more inequality-averse Europe.

Finally, individuals are influenced in their evaluation of awards by the history of their society. In countries in which awards have existed for a long time and have played an important part in establishing the social hierarchy, individuals value awards more highly than in countries in which no such tradition exists.

*Proposition 6. In societies characterized by an aristocratic tradition, individuals exert a higher demand for awards than in societies with republican traditions.*

Examples are the United Kingdom, Denmark, Belgium and The Netherlands, where orders and decorations are held in high esteem in society and are used extensively. For example, the Danish *Orders of the Elephant* and *of the Danneborg* belong to the oldest and most prestigious awards (they were created in 1462, and in 1219, respectively), and the British, Belgian and Dutch governments and monarchs hand out orders and titles liberally. In Austria, despite having introduced a republic after WWI, the government still confers titles, such as “Hofrat” (literally “Court Advisor”), which explicitly refers to the monarchy. Accordingly, individuals in these countries make great efforts to achieve social distinction through awards. In contrast, in the United States (which chose to be a republic in preference to a monarchy) or in Switzerland (which never was a monarchy), state awards, like orders and titles, are used sparingly (as in the US) or not at all (as in Switzerland).

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<sup>16</sup> In Sweden, for example, the Social Democrats have been dominating Swedish politics for almost half a century. Their dominance has now weakened somewhat but they are still the single largest party. They vehemently reject differences leading to social ranking and social divisions in power and influence.

### ***III. When Do Organizations Offer Awards?***

Awards can be seen as a device to motivate individuals to exert effort, along with other motivators such as monetary income and intrinsic motivation (Tait and Walker 2000). The institution bestowing awards wants to induce the recipients of the awards to act in its interests. The relationship established has the character of a *psychological contract* involving a tacit and incomplete agreement. The terms of this award contract are not precisely specified, and are often left deliberately vague. A person accepting an award enters a special relationship with the bestowing institution. The recipient owes some measure of loyalty to the award giver. The other members of the society clearly recognize this *psychological bond* established by accepting an award. A recipient who turns against the bestowing institution faces disapproval by the other members of the society who argue, or at least think, that the particular person should not have accepted the award in the first place if he or she does not side with the bestowing institution. The psychological contract between the donor and recipient of an award differs significantly from a trade contract on a market, in which an agent is promised payment for a well-defined performance (for instance for delivering a good). If the principal accepts the performance as satisfactory, the agent receives the payment and is then free of any further obligation.

Governments consciously exploit the bonding effect of awards. They offer awards to persons of whom they are aware that they do not fully agree with their ideology and policy. The potential recipient finds himself in an awkward position. If he refuses to accept the award, he has to face the wrath of the government with possibly strongly negative consequences for him. If he accepts the award, he is to some extent bonded and other people consider him to be a supporter of the regime.

*Proposition 7: Governments bestow a great number of awards in order to bind the recipients to their regime.*

This proposition is well established by empirical evidence, especially for the case of authoritarian and dictatorial regimes. The Soviet Union, the German Democratic Republic and Nazi Germany provide striking examples. All of them handed out orders, medals, decorations and prizes in many different forms and in great numbers. Professional organizations appointing honorary fellowship awards profit from a similar effect. The recipients are inspired to more fully integrate in the activities of the organization. A study of

six American professional organizations in psychiatry over 22 years reveals that a majority of the study's participants attend more often meetings, and become more involved with other professional groups as a result of being appointed fellow (Weiss Roberts et al 1999).

When the task to be performed is difficult, or impossible, to specify *ex ante*, and to monitor *ex post*, it is hard to make a monetary payment considered fair by the recipients. "Soft" awards (e.g. Holmstrom and Milgrom 1991, 1994), which endeavour to take a broader view of the agent's efforts, are then more useful. Such awards are well suited to that purpose. With a few exceptions in the military branch<sup>17</sup>, orders, decorations and prizes are indeed given to honour more general efforts, rather than very specific efforts.

*Proposition 8. The more difficult it is to formulate specific contracts ex ante, and to monitor ex post, the more efficiently awards function as incentives, compared to monetary compensation.*

According to Nobel's testament, his *Nobel Prize* should be given to the scientists who made the most important contribution to science in the previous year. The fact that the *Nobel Prize* is, in the overwhelming majority of cases, awarded on the basis of a scholar's overall life performance, suggests that prizes serve that purpose better. On the other hand, one rarely observes a person being given a sum of money for his or her life achievement. If it were done, the question would immediately arise why the sum is not higher or lower. An evaluation in dollars and cents of what one has achieved, and how one has performed in life, is difficult, to say the least, and many would consider it offensive to have their life evaluated in these terms. The same question also arises with respect to awards, but it is less harmful, exactly because the value of awards is *purposely* left vague. But precisely this property helps awards to efficiently compensate people for outstanding achievements.

In many parts of society an overall evaluation of effort is more efficient than compensating people for specific efforts. This applies for the *military* where decorations are both extremely important and abundant, because exactly what tasks have to be performed, especially in combat, are largely unpredictable and cannot be contracted *ex ante*. The United States, for instance, knows only three civilian state awards, but has about 170 military decorations (of which over 60 are currently in use), such as the *Medal of Honor*, the *Distinguished Service*

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<sup>17</sup> Some orders, such as the *Victoria Cross*, are given for specific acts of valour, but most military decorations are not. The United States, by 1969, had given awards of valour, such as the *Purple Heart*, to 56 generals who served in Vietnam, although only one general died from enemy fire at that time (Cowen 2000: 93).

*Cross, the Distinguished Service Medal, the Silver and Bronze Star, the Legion of Merit, the Distinguished Flying Cross, the Soldier's Medal, the Meritorious Service Medal, the Air Medal, the Army Commendation, the Purple Heart* (Robertson 2005).

In the *public sector* it is expected that more awards will be handed out because it tends to be more difficult to formulate an efficient ex-ante contract than in the market sector. The report of the House of Commons (2004: 3) refers to “the special generosity to state servants stemming from the relative modesty of public sector salaries when compared to the private sector”. In recent years, public salary levels have improved substantially, and, at the same time, “the long term trend (of granting awards) was clearly away from the state sector”. Fifty years ago, roughly 40 percent of all British state awards went to public servants, while today's percentage is below 14 percent (House of Commons 2004: 3-4).

Institutions short of income have to turn to awards in order to provide incentives to the agents. Awards are cheap in monetary terms. Sometimes they just consist of a piece of ribbon. In many cases, the recipients must even pay for the insignia of the order bestowed upon them. The only material costs involved for the donor are the actual ceremony where the award is presented. These costs are, in general, quite low. The low costs make awards particularly attractive to donors short of income.

*Proposition 9. The more an institution is restrained by a lack of income, the more it turns to awards rather than to money to provide incentives.*

The role of the income constraint on the supply of awards applies in particular to three institutions. *Monarchies* were strongly income restrained in the past, and today often have no independent source of income. They therefore tend to turn more to awards than do republics benefiting from tax revenue. The more *dictatorships in poor countries* are income-constrained, the more they use awards as incentive instruments. *Not-for-profit firms* are often very income-constrained and therefore resort more frequently to awards than for-profit firms.

Awards only serve as effective incentive instruments if the prospective recipients value them. The donor must therefore be able to control the supply process. For this reason, the institution must be able to credibly bind itself. Institutions with a long history and high stability find it easier to establish and observe such self-constraints. Moreover, other donors must be prevented from handing out the same, or similar awards.



The more an award is conceived as a pure positional good (Frank 1985, Frank and Cook 1995, De Botton 2004, Marmot 2004), the higher is the utility to the recipient, but the more strongly it is counterbalanced by the utility loss of those not receiving it. In the aggregate, the incentive effect may even be counterproductive. Giving awards not only has a positive incentive effect on the persons receiving them, or hoping to receive them, but may also have a *negative external effect* on the persons who are disappointed or angry at *not* having received them. This aspect was clearly expressed by Winston Churchill in a House of Commons speech on 22 August 1944: “A medal glitters, but it also casts a shadow. The task of drawing up regulations for such awards is one which does not admit of a perfect solution. It is not possible to satisfy everybody without running the risk of satisfying nobody. All that is possible is to give the greatest satisfaction to the greatest number and to hurt the feelings of the fewest” (Cabinet Office 2004:1).

*Proposition 10. The more an award is seen as a pure positional good, the less productive it is in the aggregate as an incentive instrument.*

Award givers are aware of this effect and react to it. One possibility to mitigate the negative external effects on non-recipients is to introduce marginal changes in the system. When people have the possibility of slowly climbing up a social ladder of classes for an award, or if the recipient must have a minimum age, outsiders are less inclined to perceive the award in terms of a positional good, and suffer a smaller negative external effect. The *Order of Merit* of the Italian Republic does this by requiring a minimum age of 35 years and by not allowing people to jump grades; recipients must work their way up from *Cavaliere, Ufficiale, Commendatore, Grande Ufficiale, Cavaliere di Gran Croce* to *Cavaliere di Gran Croce decorato di Gran Cordone*.

Recent research on incentive systems suggests that extrinsic rewards do not always work well to raise performance (see e.g. in psychology Deci 1971, Lepper and Greene 1978, Deci and Ryan 1985, Pittman and Heller 1987, Deci, Koester and Ryan 1999; in economics Frey and Osterloh 2001, Frey 1997)<sup>18</sup>. When the outside intervention is perceived to be controlling, people react by reducing their intrinsic motivation. In contrast, when people perceive the outside intervention to be supporting, their intrinsic motivation is raised. Awards are typically

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<sup>18</sup> The “Hidden Costs of Rewards” have been criticized e.g. by Cameron and Pierce (1994) and Eisenberger and Cameron (1996) and have been subject to several formal meta-analytical studies, e.g. Rummel and Feinberg (1988), Wiersma (1992), Tang and Hall (1995) and Deci, Koestner and Ryan (1999). Extensive empirical laboratory and field evidence has been collected in Frey and Jegen (2001).

perceived as a gesture of support, rather than of control, and it is therefore likely to have a positive, rather than a negative, effect on performance<sup>19</sup>.

*Proposition 11.* In sectors and activities where *intrinsic motivation is important*, and is likely to be *crowded-out by monetary compensation*, awards are relatively more efficient.

Intrinsic motivation is of particular importance in the volunteering and humanitarian sectors, academia, the arts, the military, and certain sectors of public services (Frey 1997). The list on awards compiled by Robertson ([www.medals.org.uk](http://www.medals.org.uk)) documents that awards do indeed play a major role as an incentive instrument in these sectors. Examples can be found in the many countries bestowing awards for voluntary work in the Red Cross, in the Fire Brigade or in the Lifeguard.

Awards are only effective as a motivational device if they are kept *scarce*. This has been clearly expressed by Winston Churchill in a speech in the House of Commons, 22 August 1944: "... a distinction is something which everybody does not possess. If all have it, it is of less value" (Cabinet Office 2004:1). The award-giving institution therefore has a strong interest in maintaining the quality of the awards. They must take measures to guard against a decline in quality.

*Proposition 12.* *The more the donors are able to control the supply of awards, the more effective they are as incentive instruments.*

Self-imposed restrictions to control the number of awards handed out serve as a means to maintain their quality (Hansen and Weisbrod 1972, Gavrilu et al 2005). In contrast, when several institutions are able to hand out similar awards, a typical public good situation arises. A particular donor only takes into account the costs for him of providing the awards, but not the costs of diminishing the quality of the rewards falling upon all donors handing out awards. But he is also burdened by the costs imposed from other principals handing out awards. Each prefers to act as a free-rider, in the sense that there is too low an incentive to keep the number of awards down, and therewith keep their quality up.

Military decorations are also handed out more liberally when there is no strong central command, but the various branches of the military are in competition with each other and can to some extent act on their own. In tandem with this expansion of different types of awards,

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<sup>19</sup> See Hamner (1975) for a supporting, and Kohn (1993) for a divergent view.

the number of awards bestowed also increases greatly. This is particularly visible in the United States. In the Revolutionary War, there was essentially one Military Force under General Washington's command. The *Purple Heart* was only awarded three times. In contrast, during WWII in one battle alone, at Iwo Jima, there were 28,686 casualties (of which 6,821 died), and each one received a *Purple Heart* (Cowen 2000: 93). Today, the American forces are composed of the Army, the Navy and the Air Force, and more recently of the Marines and the Coast Guard, each one having its own command, with a good measure of independence. The highest award of the US military, the *Medal of Honor*, was originally issued to members of the US Army. In 1947, the US Air Force began issuing its own version of the *Medal of Honor*, followed later by the US Navy and the Marines. There is also a US Coast Guard version.

Proposition 12 is consistent with the explosion in the number of awards given by not-for-profit institutions and by private enterprises which compete with each other. A case in point is the number of awards given to people in sports. Each year, the BBC alone bestows the following awards: "*Sports Personality of the Year Team*", "*Overseas Personality*", "*Coach*", "*Lifetime Achievement*", "*Young Personality*" and "*Unsung Hero*", but other groups do the same. It seems that each sports organization appoints its own "*Sports Man*", "*Sports Woman*" and "*Sports Team*" of the year, and increasingly also of the decade or even of the century.

The British monarchy has been successful in stringent self-imposed restrictions on the number of titles conferred in some of the orders. One of the reasons the *Most Noble Order of the Garter* and the *Most Ancient and Noble Order of the Thistle* (which is bestowed personally by the Sovereign) are held in such high esteem is that the number of *Knights/Ladies* is restricted to 25 and 16 respectively (Phillips 2004). The highest British order, the *Victoria Cross*, has only been bestowed 1,354 times since its establishment 150 years ago. In contrast, the Italian Republic, with a similar population to the UK, hands out state awards very liberally. The *Order of Work* has no fewer than 850,000 living members, and each year a further 20,000 are added. The French Republic has maximum limits on the five ranks of its *légion d'honneur*, but in actual fact greatly exceeds the limits<sup>20</sup>.

These observations are consistent with Proposition 12. The British monarchy, long established, is very stable, whereas the Italian and French governments count as two of the

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<sup>20</sup> For instance, the number of Commanders is restricted to 1250, but there are actually 3626; the respective numbers for Officers are 10,000 and 22,401 (wikipedia, article on *légion d'honneur*).

most highly unstable governments in Europe. Consistent with our analysis, orders and titles in Britain have been able to retain much of their esteem (see Phillips 2004), while this is clearly less so in Italy and France.

The quality of an award depends on it being bestowed on persons who deserve it rather than to persons not worthy of it.

*Proposition 13. The more a donor can ensure that awards go only to deserving persons, the more its value is maintained.*

The Catholic Church has an elaborate system to ensure that only those persons are beatified and sanctified who deserve it, according to their carefully formulated standards. It has used an ingenious institution for that purpose, the *advocatus diaboli*. This person is officially given the task of finding potentially harmful aspects in the life of people proposed as *beati* or *sancti*. Accordingly, one rightly speaks of a “process”, in which both the positive and the negative sides are represented. The Church is well aware that its reputation would suffer badly if a saint would turn out to be unworthy. But, due to its long-standing experience and history, it has managed admirably, and saints are still venerated by a huge number of church-members and non-church members alike.

The *Nobel Prize* Committee also makes great efforts to ensure that the recipient of a Prize deserves it. It resorts to extensive consultations within the scientific community. It even checks whether a scholar can be expected to behave in an appropriate manner at the award ceremony, where the Swedish King bestows the *Prize*<sup>21</sup>.

A relatively safe way to avoid giving honours to unworthy persons is to give them only after they have proved to be loyal to the donor. For that reason it can be observed that orders – where the issue of loyalty is most important – are predominantly given at an advanced age (for Britain, see the extensive documentation in the House of Commons 2004, Phillips 2004). Where loyalty is of lesser importance, and present work effort matters more, awards are given to younger people.

The shorter the time horizon of the donors, the more they rely on awards, because the costs, in the form of award inflation, will only occur in the future.

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<sup>21</sup> A well-known documented case refers to John Nash (Nasar 1998).

*Proposition 14. The lower the probability of continuing in power (in a democracy, the lower the re-election probability), the larger the number of awards supplied, and the lower their quality.*

Before his resignation in 1976, the British Prime Minister Harold Wilson did great harm to the honours system by handing out far too many awards to Labour supporters (which was heavily criticised, see De-la-Noy 1985: 141). When a regime fears for its survival, the time horizon is short and there is a great incentive to try to forestall this fate by using awards as incentives to supporters. Examples are the German *Iron Cross*, established in 1813, and highly esteemed up until the 20<sup>th</sup> century. But it lost much of its lustre when it was given out to 5,400,000 soldiers in WWI, in which 13.2 million German soldiers were engaged, i.e. on average, 40 percent of all soldiers received one. As some soldiers received *Iron Crosses* of several grades, historians estimate that about 20 percent of the German soldiers were decorated in this way. Similarly, in WWII, 5,000,000 *Iron Crosses* were awarded by the *Wehrmacht* (Kellerhoff 2004). In both Wars, the Germans were on the losing side. The war leaders were, quite early on, aware of the fact that their chance of winning the war was small and ever diminishing<sup>22</sup>.

#### **IV. Concluding Remarks**

Awards form an important part of the motivation system in a society. In many respects, they deviate systematically from extrinsic incentives in monetary or material form, as well as from intrinsic incentives. Awards constitute a type of *non-material extrinsic reward*, extensively used in all spheres of society, including the economy.

Based on the assumption that individuals have a hard-wired desire for social distinction, the determinants of the *demand for awards* are analyzed. On the *supply* side, awards can be seen as a device to motivate individuals to exert effort, along with other motivators such as monetary income and intrinsic motivation. The institution bestowing an award wants to induce the recipients of the awards to act in its interests. The relationship established has the character of a *psychological contract* involving a tacit and incomplete agreement.

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<sup>22</sup> This statement is empirically supported by an analysis (Frey and Kucher 2000, 2001) of the change in value of government bonds during WWII. The bond prices increased for the Allied powers, while they fell for the members of the Axis over course of the War.

As reliable and consistent data on awards do not exist the technique of analytic narratives is used. It enables us to integrate the knowledge stemming from many different sources and consisting of different qualities. It seems better to resort to this approach than to forego empirical work altogether.

The propositions advanced are only a first step towards a coherent analysis of orders, medals, decorations, prizes and other awards. A collaborative effort of several disciplines, in particular psychology, sociology and economics seems to be the most promising way to gain further insights.

## References

- Akerlof, George A. (1976). The Economics of Caste and of the Rate Race and Other Woeful Tales. *Quarterly Journal of Economics* 90(4): 599-617.
- Alesina, Alberto, Raffael Di Tella and Robert MacCulloch (2004). Inequality and Happiness: Are Europeans and Americans Different? *Journal of Public Economics* 88(9-10): 2009-2042.
- Auriol, Emmanuelle and Régis Renault (2004). Status and Incentives. Mimeo, ARQADE and IDEI, Université des Sciences Sociales de Toulouse Université de Cergy-Pontoise, ThEMA.
- Baker, George P., Michael C. Jensen and Kevin J. Murphy (1988). Compensation and Incentives: Practice versus Theory. *Journal of Finance* 43 (3): 593-616.
- Bates, Robert Hinrichs, Avner Greif, Margaret Levi, Jean-Laurent Rosenthal and Barry R. Weingast (1998). *Analytic Narratives*. Princeton, N.J.: Princeton University Press.
- Baurmann, Michael C. (2002). *The Market of Virtue: Morality and Commitment in a Liberal Society*. The Hague: Kluwer Law International.
- Besley, Tim (2005). Notes on Honours. Mimeo, STICERD, London School of Economics.
- Bielby, William T. and James N. Baron (1986). Sex Segregation within Occupations. *American Economic Review* 76 (2): 43-47.
- Bourdieu, Pierre (1979). *La Distinction. Critique Sociale Du Jugement*. Paris: Les éditions de minuit.
- Braudy, Leo (1986). *The Frenzy of Renown : Fame & Its History*. New York: Oxford University Press.
- Cameron, J. and W. D. Pierce (1994). Reinforcement, Reward, and Intrinsic Motivation: A Meta-Analysis. *Review of Educational Research*, 64 (Fall): 363-423.
- Clark, D.J. and C. Riis (1998). Competition over More than One Prize. *American Economic Review* 88 (1): 276-289.
- Coupé, Tom (2003). Revealed Performances: Worldwide Rankings of Economists and Economics Departments, 1990-2000. *Journal of the European Economic Association* 1 6: 1309-1345.
- Cowen, Tyler (2000). *What Price Fame?* Cambridge, Mass.: Harvard University Press.
- De Botton, Alain (2004). *Status Anxiety*. 1st. New York: Pantheon Books.
- Deci, Edward L. (1971). Effects of Externally Mediated Rewards on Intrinsic Motivation. *Journal of Personality and Social Psychology* 18: 105-115.

- Deci, Edward L. and Richard M. Ryan (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. New York: Plenum Press.
- Deci, Edward L., Richard Koestner and Richard M. Ryan (1999). The Undermining Effect is a Reality After All - Extrinsic Rewards, Task Interest and Self-Determination: Reply to Eisenberger, Pierce and Cameron (1999) and Lepper, Henderlong and Gingras (1999). *Psychological Bulletin* 125: 692-700.
- De-La-Noy, Michael (1985). *The Honours System*. New York: Allison & Busby.
- Elster, Jon (1983). *Sour Grapes: Studies in the Subversion of Rationality*. Cambridge: Cambridge University Press.
- Eisenberger, R. and J. Cameron (1996). Detrimental Effects of Reward: Reality or Myth? *American Psychologist* 51: 1153-1166.
- Frank, Robert H. (1985). *Choosing the Right Pond : Human Behavior and the Quest for Status*. New York ; Oxford [Oxfordshire]: Oxford University Press.
- Frank, Robert H. and Philip J. Cook (1995). *The Winner-Take-All Society : How More and More Americans Compete for Ever Fewer and Bigger Prizes, Encouraging Economic Waste, Income Inequality, and an Impoverished Cultural Life*. New York: Free Press.
- Frey, Bruno S. (1997). *Not Just for the Money: An Economic Theory of Personal Motivation*. Cheltenham, U.K.: Edward Elgar.
- Frey, Bruno S. (2005). Knight Fever. Towards an Economics of Awards. Institute for Empirical Research in Economics Working Paper No 239 (May).
- Frey, Bruno S. and Reto Jegen (2001). Motivation Crowding Theory. *Journal of Economic Surveys* 15(5): 589-611.
- Frey, Bruno S. and Marcel Kucher (2000). History Reflected in Capital Markets: The Case of World War II. *Journal of Economic History* 6 (2): 468-496.
- Frey, Bruno S. and Marcel Kucher (2001). Wars and Markets: How Bond Values Reflect the Second World War. *Economica* 68: 317-333.
- Frey, Bruno S. and Susanne Neckermann (2006). Auszeichnungen: Ein vernachlässigter Anreiz. *Perspektiven der Wirtschaftspolitik* 7: 1-14.
- Frey, Bruno S. and Margit Osterloh (eds) (2002). *Successful Management by Motivation*. Berlin and New York: Springer.
- Galloway, Peter (2002). *The Order of St Michael and St George*. London: Third Millennium Publishing.
- Gavrila, C., J.P. Caulkins, G. Feichtinger, G. Tragler and R.F. Hartl (2005). Managing the Reputation of an Award to Motivate Performance. *Mathematical Models of Operations Research* 61: 1-22.
- Ginsburgh, Victor A. (2003). Awards, Success and Aesthetic Quality in the Arts. *Journal of Economic Perspectives* 17(2): 99-111.
- Ginsburgh, Victor A. (2005). Languages, Genes, and Cultures. *Journal of Cultural Economics* 29 1: 1-17.
- Ginsburgh, Victor A. and Jan C. van Ours (2003). Expert Opinion and Compensation: Evidence from a Musical Competition. *American Economic Review* 93(1): 289-296.
- Glejser, Herbert and Bruno Heyndels (2001). Efficiency and Inefficiency in the Ranking in Competitions: The Case of the Queen Elizabeth Music Contest. *Journal of Cultural Economics* 25 (2): 109-129.
- Goodin, Robert E. (1980). *Manipulatory Politics*. New Haven: Yale University Press.
- Hamner W.C. (1975). How to Ruin Motivation with Pay. *Compensation Review* 7: 17-27.
- Hansen, W.L. and Burt Weisbrod (1972). Towards a General Theory of Awards, or, Do Economists Need a Hall of Fame? *Journal of Political Economy* 80 (2): 422-431.

- Hanson, Robin (1998). Patterns of Patronage: Why Grants Won over Prizes in Science. Working Paper, University of California, Berkeley.
- Hennerberger, Melinda (2002). The Saints Just Keep Marching In. *New York Times*, March 3: 6.
- Heppner, Paul P. and Steve Pew (1977). Effects of Diplomas, Awards, and Counselor Sex on Perceived Expertness. *Journal of Counseling Psychology* 24 (2): 147-149.
- Hernich, Joe and Francisco Gil-White (2001). The Evolution of Prestige: Freely Conferred Deference as a Mechanism for Enhancing the Benefits of Cultural Transmission. *Evolution and Human Behavior* 22: 165-196.
- Holden, Anthony (1993). *The Oscars: The Secret History of Hollywood's Academy Awards*. London: Little Brown and Company.
- Holmstrom, Bengt and Paul Milgrom (1991). Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design. *Journal of Law, Economics, and Organization* 7(2): 24-52.
- Holmstrom, Bengt and Paul Milgrom (1994). The Firm as an Incentive System. *American Economic Review* 84(4): 972-991.
- Honig, Werner (1986). *Die Ehre im Knopfloch. Orden und Ehrenzeichen im Wandel der Zeiten*. Berg.-Gladb.: Lübbe.
- House of Commons, Select Committee on Public Administration (2004). *A Matter of Honour: Reforming the Honours System. Fifth Report of Session 2003-04*. London: Stationary Office.
- Huberman, Bernardo, Christopher H. Loch and Ayse Öncüler (2004). Status As a Valued Resource. *Social Psychology Quarterly* 67: 103-114.
- Kellerhoff, Sven F. (2004). Das Grosse Sterben. *Die Welt*, 4. August: 27.
- Kelly, Carolyn, Herbert Heneman III and Anthony Milanowski (2002). Teacher Motivation and School-Based Performance Awards. *Education Administration Quarterly* 38 (3): 372-401.
- Klietmann, Kurt-Gerhard and Otfried Neubecker (1984). *Ordens-Lexikon*. Berlin.
- Kohn, Alfie (1993). *Punished by Reward: The Trouble with Gold Stars, Incentive Plans, A's, Praise, and Other Bribes*. Boston: Houghton Mifflin.
- Krebs, David, Paul Milgrom and Wilson Roberts (1982). Rational Cooperation in the Finitely Repeated Prisoner's Dilemma. *Journal of Economic Theory* 27: 245-252.
- Lepper, M.R. and D. Greene (eds) (1978). *The Hidden Costs of Reward: New Perspectives on the Psychology of Human Behavior*. Hillsdale, N.Y.: Erlbaum.
- Levy, Emanuel (1987). *And the Winner Is: The History and Politics of the Oscar Awards*. New York: Ungar.
- Loch, Christoph H., Bernardo A. Huberman and Suzanne Stout (2000). Status Competition and Performance in Work Groups. *Journal of Economic Behavior and Organization* 43 1: 35-55.
- Magnus, Margaret (1981). Employee Recognition: A Key to Motivation. *Personnel Journal* (Feb): 103-107.



- Malmendier, Ulrike and Geoffrey Tate (2005). Superstar CEOs. Mimeo, University of Stanford, University of Pennsylvania.
- Marmot, M. G. (2004). *The Status Syndrome : How Social Standing Affects Our Health and Longevity*. 1st American. New York, N.Y.: Times Books/Henry Holt.
- Mericka, Vaclav and Jindrich Marco (1990). *Das Buch der Orden und Auszeichnungen*. 2. Hanau: Dauslen.
- Nalebuff, Barry J. and Joseph E. Stiglitz (2001). Prizes and Incentives: Towards a General Theory of Compensation and Competition. *Bell Journal of Economics* 14 1: 21-43.
- Nasar, Sylvia (1998). *A Beautiful Mind : A Biography of John Forbes Nash, Jr., Winner of the Nobel Prize in Economics, 1994*. New York: Simon & Schuster.
- Nelson, Randy A., Michael R. Donihue, Donald Waldman and Cal Wheaton (2001). What's an Oscar Worth? *Economic Inquiry* 39(1): 1-16.
- Nelson, Bob (2005). *1001 Ways to Reward Employees*. New York: Workman Publishing.
- Osterloh, Margit and Bruno S. Frey (2000). Motivation, Knowledge Transfer, and Organizational Forms. *Organization Science* 11(5): 538-550.
- Phillips, Sir Hayden (2004). *Review of the Honours System*. London: Cabinet Office.
- Pittman, T. S. and J. F. Heller (1987). Social Motivation. *Annual Review of Psychology*, 38: 461-489.
- Risk, James C. (1972). *The History of the Order of the Bath and Its Insignia*. London: Spink and Son.
- Robertson, Megan (2005). Orders, Decorations and Medals of the United States of America. <http://www.medals.org.uk/usa>.
- Rosen, Sherwin (1981). The Economics of Superstars. *American Economic Review* 71(5): 845-858.
- Rousseau, Denise M. (1995). *Psychological Contracts in Organizations. Understanding Written and Unwritten Agreements*. London and New Dehli: Thousand Oaks.
- Rousseau, Denise M. and Judy McLean Parks (1993). The Contracts of Individuals and Organizations. *Research in Organizational Behavior* 15: 1-43.
- Rummel, A. and R. Feinberg (1988). Cognitive Evaluation Theory: A Meta-Analytic Review of the Literature. *Social Behavior and Personality* 16: 147-164
- Scitovsky, Tibor (1976). *The Joyless Economy: An Inquiry into Human Satisfaction and Consumer Dissatisfaction*. New York: Oxford University Press.
- Simonton, Dean Keith (1992). Leaders of American Psychology 1879-1967: Career Development, Creative Output, and Professional Achievement. *Journal of Personality and Social Psychology* 62: 5-17.
- Simonton, Dean Keith (1998). Achieved Eminence of Minority and Majority Cultures: Convergence versus Divergence in the Assessments of 294 African Americans. *Journal of Personality and Social Psychology* 74: 804-817.
- Simonton, Dean Keith (2003). Creativity Assessment. In R. Fernandez-Ballesteros (ed), *Encyclopedia of Psychological Assessment (Vol I)*, London: Sage: 276-280.
- Simonton, Dean Keith (2004). Film Awards as Indicators of Cinematic Creativity and Achievement: A Quantitative Comparison of the Oscars and Six Alternatives. *Creativity Research Journal* 16(2): 163-172.
- Tait, Robin and Deborah Walker (2000). Motivating the Work Force: The Value of External Health and Safety Awards. *Journal of Safety Research* 31 (4): 243-251.
- Tang, S. H. and V. C. Hall (1995). The Overjustification Effect: A Meta-Analysis. *Applied Cognitive Psychology* 9: 365-404.

- Walzer, Michael (1983). *Spheres of Justice : A Defense of Pluralism and Equality*. New York: Basic Books.
- Ward, Melanie E. and Peter J. Sloane (2000). Non-Pecuniary Advantages Versus Pecuniary Disadvantages; Job Satisfaction among Male and Female Academics in Scottish Universities. *Scottish Journal of Political Economy* 47(3): 273-303.
- Weinberg, Bruce A. and David W. Galenson (2005). Creative Careers: The Life Cycles of Nobel Laureates in Economics. Mimeo, Harvard University.
- Weiss Roberts, Laura, Teddy D. Warner, Russell Horwitz, Teresita McCarty and Brian Roberts (1999). Honorary Fellowship Awards and Professional Development in Psychiatry. *Academic Psychiatry* 23 (4): 210-221.
- Weiss, Yoram and Chaim Fershtman (1998). Social Status and Economic Performance: A Survey. *European Economic Review* 42 3-5: 801-820.
- Wiersma, U. J. (1992). The Effects of Extrinsic Rewards on Intrinsic Motivation: A Meta-Analysis. *Journal of Occupational and Organizational Psychology* 65: 101-114.
- Young, H. Peyton (1993). The Evolution of Conventions. *Econometrica* 61(1): 57-84.
- Zhou, Jing and Joseph J. Martocchio (2001). Chinese and American Managers' Compensation Award Decisions: A Comparative Policy-Capturing Study. *Personnel Psychology* 54: 115-145.
- Zizzo, Daniel John (2002). Between Utility and Cognition: The Neurobiology of Relative Position. *Journal of Economic Behavior and Organization* 48 1: 71-91.