Understanding Choice, Explaining Behaviour

Essays in Honour of Ole-Jørgen Skog

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Chapter 10

On mattering maps

George Loewenstein and Karl Moene

> Everyone loves a hero. What we differ on is the question of who the heroes are, because we differ over what matters. And who matters is a function of what matters. Here in Princeton what matters is intelligence, the people who matter are the intelligent, and the people who matter the most, the heroes, are the geniuses.
>
> Rebecca Goldstein, *The Mind-Body Problem* (1983)

By fraternizing with economists, Ole-Jørgen Skog, a sociologist by training, is guilty of disloyalty to his discipline. When it comes to theoretical perspectives, research methods and styles of writing, he flagrantly disregards disciplinary boundaries, picking and choosing the tools that best address the problem he is addressing. Indeed, in some work, such as his research on social networks and patterns of alcohol consumption, he melds the approaches of different disciplines so seamlessly that it would be difficult to identify the work as falling under the purview of one discipline or another. While many people pay lip-service to the importance of interdisciplinary work, Ole-Jørgen demonstrates just how fruitful it can be.

In this essay we cross the border between economics and sociology in the other direction. We discuss the social dependence of preferences, and its implications for economics, by pursuing the simple idea that in different social settings, different things are valued. This idea is obvious in sociology,[1] as well as in psychology,[2] but neglected in most of economics.

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[1] Sociological work on the valuation of individuals by groups is too voluminous for us to review in this preliminary paper; however a particular prominent contributor to this line of work was Erving Goffman, whose many books document the importance of the social realm for self-esteem, and who documents the diverse strategies that people use to achieve and protect self-esteem (e.g., face-saving tactics) and the terrible consequences of losing the regard of the group (e.g., in his 1963 book on *Stigma*).

[2] See, e.g., Baumeister (1998).

The concept of 'mattering maps' captures this insight. As Rebecca Goldstein (1993: 22) expresses it in the novel from which we adopt both the idea and the term:

> The map in fact is a projection of its inhabitants' perceptions. A person's location on it is determined by what matters to him, matters overwhelmingly, the kind of mattering that produces his perceptions of people, of himself and others: of who are the nobodies and who the somebodies, who the deprived and who the gifted, who the better-never-to-have-been-born and who the heroes. One and the same person can appear differently when viewed from different positions.

A mattering map is thus a "projection" (in her novel and in real life, Goldstein is married to a mathematician) of how different things are valued in different social settings. It highlights the fact that different social groups[3] value different things, and, because people are inherently social and naturally adopt the attitude toward themselves that others adopt toward them, what people value in themselves, and their feelings of personal worth, often undergo radical changes when they shift from one social context to another.

The idea of mattering maps is closely related to a variety of historical topics in economics that have resurfaced in recent years. Given the preliminary nature of this essay, it is certain that we don't do justice to these connections, but we attempt to note a few of the most prominent.

One such topic is status (also referred to, variously, as 'respect' or 'esteem'). From Adam Smith to Veblen (1989), Marshall (1898), Leibenstein (1976) Keynes (1936), Duesenberry (1952) and a very large number of recent writers (e.g., Frank 1985, Fershtman and Weiss 1993, Khalil 1996; Offer 1997), economists have long recognized, and explored implications of, the idea that people care about how they compare to others. Mattering maps provide a mapping from an individual's characteristics to their value in a particular group, and that value is clearly closely related to the notion of social status. Of particular note is a recent book by Brennan and Pettit

[3] By "social group" (or in other places "subgroup" or "social context") we refer to any way that people categorize themselves - e.g , by occupation, employer, family. According to this definition, most people belong to numerous subgroups. Such groups can in some cases be overlapping (e.g., the same person can belong to both a family and a work-place), and in other cases can be organized hierarchically (e.g , different families might all be part of a social group defined by the country in which they reside).

(2004) on the *Economy of Esteem* (see page 69 for a discussion that is especially closely related to the concept of mattering maps). Less commonly, but with some regularity, economists have also dealt with the closely related topic of "*self*-esteem," "pride" and "ego" (e.g., Lea and Webley 1997, Koszegi, forthcoming).[4]

A somewhat more distant connection is to diverse literatures on endogenous, and state-dependent, preferences, and indeed any form of changing preferences (see Pollak 1976, Postlewaite 1998, and for a review, Loewenstein and Angner 2002). Contrary to the view that people have a fixed set of preferences, and that utility is a function of the degree to which those preferences are satisfied, when a person's mattering map changes they can move abruptly from the ' top of the heap', excelling on what matters in a particular environment, to the bottom, when they shift into a group that doesn't value their specific characteristics.[5]

Whereas most of traditional economics is about consumption, broadly construed, mattering maps are about capabilities and process as much as about end results. In many if not most groups, *who you are* – e.g., your skills, appearance, personality, sense of humor – matters more than *what you have*. Most of these characteristics are somewhat, but far short of fully, mutable. One can develop skills, attempt to enhance one's appearance, and try to cultivate an appealing personality and sense of humor, but there are striking individual differences in people's endowments of these attributes which are difficult or impossible to overcome.

A mattering map is a 'map' (as opposed to, for example, an 'index') because more than one thing can matter in any social setting. Yet, Goldstein's comment about mattering "overwhelmingly" suggests that mattering maps are often dominated by a single dimension – e.g., publications in academia.

In principle, there is a map for each person, each social environment and for society as a whole. Because each person typically belongs to more than

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[4] Abundant research in psychology addresses the distinctions, associations and causal connections between public and private esteem (see, e g , Baumeister, 1986 and Tetlock and Manstead, 1985).

[5] The abrupt changes in status caused by movement between groups or situations are a common theme in movies In one movie that was related to us, for example, a group of people get stranded on an island and the butler who is a master of the new technical needs, (getting food, building a shelter, Robinson type stuff) becomes the leader of the group. Then, when they finally get rescued by a ship, he sinks back into mere servant. In another movie, King Rat, there is a prisoner of war whose skills make him #1 among his colleagues; but after liberation he falls back on being a nobody.

one social group - e.g. workplace, family, friends - these groups and the mattering maps that apply to them, often overlap. To complicate matters, while mattering maps are defined over social groups, the social groups can themselves be part of higher level mattering maps. Thus, the social scene in many schools is characterized by cliques, each of which may have its own mattering map. However, the mattering map for the school as a whole is likely to include membership in cliques as an important dimension. In such a situation, to the extent that people have access to different cliques, they may be faced with a classic choice between being a big fish in a small pond (i.e., a high status member of a low status group) or the reverse (Frank 1985, see also Falk and Knell 2003, and Brekke, Nyborg and Rege 2005).

Mattering maps matter because they can exert a powerful influence on how people behave. For example, grades in school reflect the combined effect of aptitude and effort. One can:

a) loaf and get good grades,
b) work hard and get good grades,
c) loaf and get low grades, or
d) work hard and get low grades.

In many schools in which good grades are valued, students admire the 'naturals' and despise the hardworking failures. We have heard, anecdotally, that this was the case at Oxford, where "essays mysteriously wrote themselves." Thus, the social rankings of fellow students might correspond to a)>b)>c)>d). In such an environment, many are likely to loaf and end up in c) even though they prefer b) to c) and would have a good chance of obtaining the preferred result b) if they worked hard. They don't, because working hard would run the risk of ending up with the least preferred outcome d). By loafing, and doing so demonstratively, they preclude the worst of all outcomes d) and may still have a minor chance of getting the most preferred outcome a). More generally, the greater the weight placed on intelligence, as opposed to performance (grades), the greater will be the incentive to loaf because doing so will immunize from the perception that one is untalented. (It is better to loaf and face a minor suspicion that one might be stupid as well than to work hard and remove any doubt.) As highlighted in the psychological literature on "self-handicapping" (Berglas and Jones 1978), such mattering is clearly counterproductive; if only grades mattered, more students would work hard.

The diversity of what matters

One of the most striking properties of mattering maps is the enormous diversity of what matters in different social settings.[6] Most of the economics literature dealing with status focuses on traditionally 'economic' variables such as income or wealth (e.g., Luttmer 2005), consumption (e.g., Duesenberry 1952), position in the employment hierarchy (e.g., Fershtman, Hvide and Weiss 2005), or some combination of these (for example, Frank (1985) discusses the tradeoff that people make between position in the employment hierarchy and salary). However, these are only a few of the diverse dimensions that matter in groups.

At the societal level, the world has seen enormous shifts in what is seen to matter. As Alain de Botton expresses it in *Status Anxiety*, his wide-ranging treatise on the determinants and consequences of social status,

> Every society holds certain groups of people in high esteem while condemning or ignoring others, whether on the basis of their skills, accent, temperament, gender, physical attributes, ancestry, religion or skin colour. Yet such arbitrary and subjective criteria for success and failure are far from permanent or universal. Qualities and abilities that equate with high status in one place or era have a marked tendency to grow irrelevant or even become undesirable in others (2004:175).

In the different historical periods he discusses, what matters differs, from spear-throwing to religious zeal, to skill at dancing. Wealth, he argues, citing Veblen (1899), became the most important society-wide dimension of mattering only relatively recently, at the beginning of the 19th century.

Moreover, even wealth, if examined closely, reveals a diversity of mattering maps. In some social settings, simply possessing wealth, whatever its origin, is sufficient to confer status. In other settings, analogous to schools in which good grades only matter if they signal brains, you must have earned the wealth yourself. That is, what really matters is your capacity to earn wealth rather than the wealth itself. In still other societies, the best wealth is *old* wealth – wealth that one *did not* earn oneself. Jon Elster provides some explanations for why this might be the case in his "Alchemies of the Mind"

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[6] Research in social psychology supports the idea that self-esteem is a function of one's standing in different domains, such as religion, morality, academic achievement and appearance, and that individuals suffer emotional distress as well, often, as health effects, when they fall short on dimensions that they value (Crocker, & Wolfe, 2001).

(p. 69). Adam Smith gives a poignant illustration of the miseries of the newly wealthy in a society that values old wealth:

> The man who, by some student revolution of fortune, is lifted up all at once into a condition of life greatly above what he had formerly lived in, may be assured that the congratulations of his best friends are not all of them perfectly sincere. An upstart, though of the greatest merit, is generally disagreeable, and a sentiment of envy commonly presents us from heartily sympathizing with his joy. If he has any judgment, he is sensible of this, and instead of appearing to be elated with his good fortune, he endeavours, as much as he can, to smother his joy and keep down that elevation of mind with which his new circumstances naturally inspire him. He affects the same plainness of dress, and the same modesty of behaviour, which become him in his former station. He redoubles his attention to his old friends, and endeavours more than ever to be humble, assiduous, and complaisant. And this is the behaviour which in his situation we most approve of; because we expect, it seems, that he should have more sympathy with our envy and aversion of this happiness, than we have to his happiness. It is seldom that with all this he succeeds. We suspect the sincerity of his humility, and he grows weary of this constraint. In a little time, therefore, he generally leaves all his old friends behind him, some of the meanest of them excepted, who may perhaps condescend to become his dependants: nor does he always acquire any new ones; the price of his new connections is as much affronted at finding him their equal, as that of his old ones had been by his becoming their superior: and it requires the most obstinate and persevering modesty to atone for this mortification to either. He generally grows weary too soon, and is provoked, by the sullen and suspicious pride of the one, and by the saucy contempt of the other, to treat the first with neglect, and the second with petulance, till at last he grows habitually insolent, and forfeits the esteem of all (pp. 55-56).

Moreover, while some variant of wealth may be the most important variable when one looks at contemporary capitalist society as a whole, within specific subgroups one can observe a remarkable diversity of what matters. Focusing on groups of undergraduates, for example, one can see that some groups value intelligence, some wealth, some looks, some skills – e.g., at athletics or at playing an instrument, or even capacity to hold one's liquor.

Often, although not always, the things that matter to a particular group are a function of the theme that unites the different members of the group. For example, music students are likely to value musical talent, athletes, athletic prowess. However, even for a particular category of group, different things can matter to different specific groups. Thus, for example, we are aware of some business schools in which what matters is research productivity – i.e., publications – and others in which what matters is how much consulting one does (and how much money one makes from such consulting). The reason, as we discuss below, is that what comes to matter is highly path-dependent; small differences in the starting conditions of a group can have large and enduring effects on what comes to matter in the group.

Mattering maps and the fragility of self-esteem

For mattering maps to matter, two conditions must be met. First, people must experience some insecurity about their own self-worth. That this is generally the case does not seem particularly controversial; in academia, it seems virtually indisputable. As envisioned by de Botton (2004: 9), "our 'ego' or self-conception could be pictured as a leaking balloon [...] ever vulnerable to the smallest pinpricks of neglect". Along similar lines, Thomas C. Schelling, in his brilliant essay "The mind as a consuming organ", recounts that:

> I have observed in myself, so often that it no longer surprises me, that if I give a performance before some audience, I am jollier at dinner and eat more if I am pleased with my performance. Disagreeable feedback spoils the evening. At my age the statistical record of my performance ought to reflect so many observations of good, poor, and mediocre performance that one more experience at either tail of the distribution could hardly affect a rational self-assessment. I try to remind myself of that on those occasions when feedback depresses me; but my welfare function apparently isn't constructed that way (p. 336).

Recent economic models of "self-signaling[2]" (Bodner and Prelec 2003, Benabou and Tirole 2004) capture the insight that people are uncertain about their own strengths and weaknesses – about their objective nature, and about what matters. According to such models, people engage in certain types of activities and certain forms of consumption to signal to themselves that they are the type of person who would engage in those activities.

In sum, very few people are constituted so that they can feel good about themselves while being held in disregard by others. Indeed, immunity from concern about how others perceive one is often diagnostic of serious personality disorders such as psychopathy (see e.g., Lykken 1995).

Second, for mattering maps to matter it must be the case that we use the evaluations of the people who surround us, at least in part, to resolve that uncertainty. That we care about how others perceive us is consistent with a large body of psychological research on self-presentation (see Baumeister, 1982, for a review), and with common sense. Indeed, virtually every social commentator has noted the point at least in passing (see Brennan and Pettit, 2004, pages 24-25 for a long list of quotes). Indeed, Adam Smith's entire treatise on human behavior, *The Theory of Moral Sentiments* (1759), is premised on the idea that people care about how others perceive them and naturally adopt an attitude toward themselves as others do toward them:

> The love and admiration which we naturally conceive for those whose character and conduct we approve of, necessarily dispose us to desire to become ourselves the objects of the like agreeable sentiments, and to be as amiable and as admirable as those whom we love and admire the most. Emulation, the anxious desire that we ourselves should excel, is originally founded in our admiration of the excellence of others. Neither can we be satisfied with being merely admired for what other people are admired. We must at least believe ourselves to be admirable for what they are admirable. But, in order to attain this satisfaction, we must become the impartial spectators of our own character and conduct. We must endeavour to view them with the eyes of other people, or as other people are likely to view them. When seen in this light, if they appear to us as we wish, we are happy and contented. But it greatly confirms this happiness and contentment when we find that other people, viewing them with those very eyes with which we, in imagination only, were endeavouring to view them, see them precisely in the same light in which we ourselves had seen them. Their approbation necessarily confirms our own self-approbation. Their praise necessarily strengthens our own sense of our own praiseworthiness. In this case, so far is the love of praise-worthiness from being derived altogether from that of praise; that the love of praise seems, at least in a great measure, to be derived from that of praise-worthiness (III.I.10).

In addition to these two necessary conditions, a third requirement for mattering maps to matter is that people must exhibit a certain kind of perceptual

myopia; they must pay more attention to the maps of social groups they are part of than to those of groups they could be part of but are not. That is, actually having high or low status in a group that one is part of must have greater impact on utility than simply being aware that one would have high or low status in a group that one is not a part of. If this were not the case, there would be no incentive to actually move to a group where one enjoyed high status; simply thinking about the existence of such a group would be sufficient.

The idea that people care much more about their position in groups they are part of than in groups they are not part of is consistent with a wide range of phenomena in closely related domains. For example, a mainstay of social comparison theory (Festinger 1954) is that people compare themselves to others who are similar to themselves. Research on learning in repeated games likewise shows that learning depends much more on what actually happens to people (called 'reinforcement learning') than on what could have happened to them had they played a different strategy (called 'fictitious play') (see e.g., Camerer and Ho 1999).

Self-norming of mattering maps

Spike Lee's movie School Daze is about an all-black college in which the value placed on light skin color in the greater society is reproduced within the narrower range of skin colors prevailing at the college. The movie draws attention to an important property of mattering maps: they are, in effect, self-calibrating, both when it comes to mean and dispersion. Along similar lines, and even more explicitly, Toqueville in a chapter of Democracy in America (1835) titled "Why the Americans are so restless in the midst of their prosperity" wrote that, "When inequality is the general rule in society, the greatest inequalities attract no attention. But when everything is more or less level, the slightest variation is noticed" (cited from de Botton 2004).

Human (and seemingly also other animal) groups exhibit a natural propensity to rank their members – to create a "pecking order" or social hierarchy. When there are dimensions on which people are unequal, these will naturally tend to get preference over dimensions on which people are equal, if for no other reason than the ease of ranking people. For example, until recently in U.S. academia, wages tended to be fairly uniform (as well as quite low), whereas publications and public prominence was much more variable. This may have created conditions in which publications and prominence were the main thing that mattered. More recently, however, the U.S.

has moved to more of a 'star system' with large disparities in wages both between fields and between academics within the same field, and money has naturally started to matter. However, the problem is that many academics have alternative sources of money, some of which dwarf their potential earnings from salary, so the change in mattering maps may have increased the incentive for academics to do highly paid non-academic work, such as consulting, and serving as expert witnesses.

Even under conditions of great equality, however, groups will manage to formulate mattering maps, and it is the self-calibrating nature of mattering maps ensures that this will occur. Mattering maps, it could be said, are based on standardized values of the attributes that are valued, where adjustment is made for the mean and variance of the group. When whatever matters varies little between individuals, small differences will become accentuated and elevated in importance. Likewise, mattering maps are likely to depend, not on the absolute levels of a particular attribute, but on level relative to the range prevailing in a particular group. If the I.Q. range in a particular group that values intelligence is from 80 to 120, those with an IQ of 120 will feel worthy and those with an IQ of 80 will feel unworthy. But, if the IQ range were instead between 120 and 160, those with an IQ of 120 would feel unworthy, while those with IQs of 160 would feel worthy.

If such self-norming were complete, we would be faced with an unpleasant reality because, in any social group half of the members will be inescapably below the median in whatever matters. But this presents a somewhat simplistic view of mattering maps.

First, although mattering maps tend to be positional in character (Frank 1985), the mapping of position onto self-esteem can vary. In some groups only those ranked at the absolute top in what matters might achieve high status, but others could display the opposite asymmetry. A speculation is that, in part because the groups themselves are embedded in their own mattering maps, high status groups will tend to confer higher status to a larger fraction of their members. Thus, we would conjecture, a larger fraction of a professional baseball team is held in high esteem by the team as a whole than of a semi-professional team.

There may not be a perfect consensus among members of a group as to what matters or about how to operationalize what matters. Thus, while publications, teaching and grantsmanship all matter for many academics, it would not be surprising to find that those who excel on one of these dimensions not only value it most highly, but probably believe that their weighting is shared to a greater extent than it actually is. Prior research sug-

gests that, the more ambiguous are the criteria for what matters, the greater will be the propensity for people to believe that they excel in what matters (Dunning, Meyerowitz and Holzberg 1989).

How mattering maps change standard rational choice theory

In standard economics, individuals have fixed preferences that they seek to satisfy to the maximum possible extent given whatever constraints (e.g., on inherited wealth, genetic endowment and economic opportunities) they face. Mattering maps complicate this tidy perspective in part because things can matter that aren't bought and sold (but, see Brennan and Pettit 2004, chapters 2 and 3).

An even more important complication is that mattering maps introduce a new category of action that people can take to maximize their utility. When different things matter in different social settings then, rather than attempting to maximize according to what matters in their own immediate social environment, people can shift toward social settings in which their existing capabilities are valued. This is a distinct departure from standard theory as long as own preferences adapt to new social environments, implying a potentially radical change in own preferences and mattering.

Whether it is beneficial to maximize within a particular social environment, or to shift social environments, will depend on a variety of factors. Most obviously, it will depend on which of these options provides greater opportunities for enhancement of utility.

For example, cosmetic surgery and makeup aside, beauty is relatively immutable. If beauty is what matters in a particular environment, people who are unattractive will have little hope of improving their lot and should be motivated to shift environments rather than attempting to enhance their appearance.

If moving between social settings is difficult or impossible, then people will tend to use the more conventional strategy of maximizing within the constraints set by their environment. Most children, for example, cannot escape their families, and hence the mattering maps that prevail within those families, for some period of time. However, even when people cannot physically leave a group, they may have some capacity to shift their social identity (Akerlof and Kranton 2004) toward – i.e., identify with – groups that value their strengths. The non-academically inclined child in an academic family, for example, might develop an identity as a musician.

Moses Shayo (2005) discusses this in a brilliant paper on nationalism. He shows that people who are poor, but living in a powerful country, will have an incentive to identify not with their social class (because doing so would simply accentuate their disadvantageous position) but rather with their country. Consistent with such an analysis, he finds, across a wide range of countries, that poor people tend to be more nationalistic than wealthier people. The same factors may also help to explain the prevalence of ethnic conflicts in poor countries instead of wars of the poor against the rich.

When people consider shifting between social environments, optimally they should compare their current well-being, given their current mattering map, to a prediction of their future well-being were they to shift to a different environment and adjust to its mattering map. Whether people are, in fact, so forward-looking is open to question. Do people, in fact, take account of how their own values will shift if they shift between groups, or do they simply maximize according to their current mattering map (which could in some cases involve changing social groups)?

For example, suppose that in a particular social group which is entering the labor market (e.g., classmates at a business school) some professions are considered higher status than others. Students will naturally be attracted to higher status professions, given their current mattering map. However, once in the profession, they will find themselves immersed in an entirely new mattering map, where their particular aptitudes may or may not be highly valued. Indeed, professions that are 'in fashion' at a particular point in time are likely to attract the greatest talent, rending it more likely that any individual entering will end up ranking lower on what matters. Going into investment banking may impress one's classmates, but once immersed in the profession the relevant mattering map that will be that of investment bankers.

Prior work on the "projection bias" (Loewenstein, O'Donoghue and Rabin 2003) suggests that people will tend to view the consequences of a contemplated change that will alter their social group through the lens of their current mattering that which they will be immersed in and inevitably adopt for themselves after the change occurs. This failure to think through the consequences of change for one's mattering map increases the likelihood that people will change social groups in ways that decrease their utility by plunging themselves into big ponds in which they are a small fish.

Working in the opposite direction – i.e., deterring instead of encouraging people to change groups – is the fact that people tend to underestimate the subjectivity and arbitrariness of the values of groups they are part of.

Despite the easily observable plethora of differences in what matters between groups, people often assume that there is something inherent in the mattering map they are immersed in – that it is an objective indicator of their worth – and to underestimate the change of perspective they would experience were they to change groups.

Another factor that can deter movement between groups is time discounting. Moving to another social group often involves a costly investment if one can only develop the characteristics that matter to a group when one is actually part of that group. This aspect forces people to endure a period of low status to improve their position. For example, Native Americans in the United States often live in poverty on reservations but have the opportunity to receive highly subsidized education if they leave the reservation. Leaving the reservation, however, requires a period of adjustment during which they would be plunged into social settings in which the skills and capabilities they have developed on the reservation would have little, if not negative, value. People will be less likely to endure these costs in exchange for the delayed benefits they are likely to confer, the greater are the costs and the steeper is their rate of time preference.

Equilibrium constellations

Moving to the aggregate level introduces new complications because what matters in a particular social group depends to some degree on who joins that group and how they behave. Thus, the mattering map of a group influences the behavior of its members, but the map itself is also affected by composition and behavior of the people who compose it.

The dynamics by which groups form and develop mattering maps can be exceedingly complicated and difficult to describe in general terms. Mattering maps are easier to describe when the dust has settled – when the system is in equilibrium. An equilibrium constellation, consisting of groups with different mattering maps and a distribution of individuals across groups, is defined by two requirements; one related to the behavior of individuals within groups and the other related to movements between groups.

The first requirement concerns the actions people choose within social groups they are part of, and the evaluations that group members have of one-another. What matters in the group can be described by patterns of behavior and motivations that are sustained by group members who adopt the attitude toward themselves that others adopt toward them. Thus in equilibrium people make the best out of the situation by maximizing their individual social

utility. Since a person's utility incorporates the expected evaluations by other persons, and since this is the case for all members of the social group, there is a tendency for each group member to concentrate attention to the same small set of focal actions and motivations - on what matters.

The second requirement of an equilibrium constellation concerns movements between groups. Given the actions and evaluations within the social group, each member should perceive no reason to move to another group. A person is more likely to stay within a specific social group the higher the group is ranked in society and the higher the person is ranked within the group.

Although the equilibrium requirements are relatively straight forward, these conditions can generally be met in multiple ways; there are multiple equilibria. And, since there are multiple possible equilibrium maps, temporary and small changes may have permanent effects. That is, mattering maps are likely to exhibit strong path dependence. In the fashion of the "tipping models" first developed by Tom Schelling, if one MBA student decides to seek out a job in investment banking, and this student shifts mattering maps in favor of investment banking, then others may follow, shifting the mattering map further, and so on. The example illustrates not only the path dependency produced by the endogenity of mattering maps, but also the possibility of fads in mattering - sudden changes in what matters that are unrelated to changes in fundamentals. These fads can, in turn, result in massive social inefficiencies, in this case robbing sectors other than investment banking of the greatest talent.

Some phenomena that can be understood in terms of mattering maps

Mattering maps and externalities: In 1996, Ted Turner, the founder of CNN, proposed that natural human competitiveness could be exploited to increase charitable giving by wealthy individuals by publicizing charitable contributions instead of their wealth - as Fortune Magazine does in its list of the wealthiest Americans. Turner's proposal led to the creation of Slate magazine's list of the most generous Americans. As Duffy and Kornienko (2004) expressed it in a paper that tests Turner's idea experimentally, "If winning a generosity tournament confers social status, competitive altruism might counteract competitive selfishness... Ted Turner, in effect, hypothesized that unselfish, philanthropic behavior would respond to the same competitive urges that drive selfish behavior" (for more formal discussions of similar issues, and empirical tests, see Frey 1997, Freeman, 1997).

Turner's idea highlights an important insight: different types of mattering maps can produce different types of social costs and benefits. If the size of one's house is what matters, then everyone will live in larger houses. Ultimately, however, if utility from housing depends on the ranking rather than absolute size of one's house, then no one will be much better off, and people may well be worse off if they have to work longer hours, incur greater debt, or forego other valued forms of consumption to finance those large houses. Competition over who can give throw the best parties, on the other hand, would be likely to generate much more positive externalities.

The tyranny of small differences: The self-calibrating nature of mattering maps suggests that the utopian ideal of an egalitarian society will be difficult to achieve. While it may be possible to create societies that are more egalitarian materially, it will be much more difficult to create societies that are egalitarian in terms of status. There is, however, a silver lining: to the extent that small differences matter when absolute differences are small, it may be possible to maintain work motivation with a relatively egalitarian distribution of wealth.

Paradox of equality and local status: When the reference group is limited to co-workers in the same company with similar levels of education, more concern with own rank leads to more local competition to become top ranked. Thus the absolute value of the wages to the best paid workers can be reduced as long as they keep their high rank in the local distribution of pay. On the other end of this pay scale more concern with own rank makes threats to leave the company more credible implying that the lowest wages in the reference group must be raised in order to retain workers with the lowest rank.

This mechanism, first discussed by Frank in his book "Choosing the right pond", can be viewed as a special case of compensating wage differentials in labor economics. Those who are socially deprived of status must be compensated somewhat and those who are socially rewarded with high status can be "taxed". The same result also applies when the employer sets effort-inducing wages in order to maximize his profits. Status can induce efforts just like financial rewards. In either case an obsession with relative standing can paradoxically reduce pay inequality among workers in the same reference group.

Sorting: If people seek to belong to groups where their skills are valued, segregation according to skills or attributes can be strong. The consequences of this kind of sorting depend on whether the relevant capabilities are substitutes or complements. In the labor market, sorting according to skill is particularly relevant for high tech firms, law firms, soft ware companies and

research institutes. With a wage structure that compensates those at the bottom of the local pay scale and holds back the pay to those at the top, employers would like to have a uniform high quality of everyone they hire. The sorting in both supply and demand of workers may imply that enterprises with access to the same technology, which operates in the same labor market can become quite different as the most talented workers group together within the same enterprises. Due to complementarities between workers the distribution of pay across enterprises will then tend to be more unequal than the distribution of talents across enterprises. This is so in part because the pay distribution within enterprises tends to be more equal than the distribution of talents. Similarly, many beautiful women (and men) in the U.S. go to Los Angeles where beauty is valued. The relevant capabilities are complements in the sense that they make Venice Beach in LA into a scene where beauty really matters and where people search for those with a nice look. Yet the relevant capabilities are also substitutes in the sense that for instance women who would be in furious demand in Pittsburgh are just average in attractiveness on Venice Beach.

Globalizing mattering maps: Most often mattering maps are based on active face to face approval and disapproval. In rather immobile societies, as most European countries used to be, the relevant interaction may take place within rather small stable groups. In more mobile societies like the US, however, such small local groups are more fluid and the mattering maps are likely to be based on interactions within larger sections of society. As a consequence income status may have less of a local equalizing effect in the US than in Europe. This may change. Higher mobility in Europe may move the European mattering map closer to the US one. In general, the trends towards a more economically and socially integrated world may imply that we shift from a local to a more global notion of what matters.

Non clearing markets: Status can be related to characteristics other than pay. When some jobs attract a lot of applicants because they convey high status in the mattering map, the relative pay of these jobs might decline. Yet their status may continue to rise simply because the jobs are so hard to get. Thus excess demand for some jobs may maintain the conditions that sustain the excess demand for the jobs in spite of the declining relative wage. One, example could be architects.

Subcultures: In *The Hot House*, Pete Earley's (1992) Book about life in Leavenworth Federal Prison, an inmate is released after serving a long sentence, and put on a plane to his native state. On the way, however, the plane makes a stop-over, where the individual gets into a fight with a airline worker, ending his liberation before he even makes it home. Although it is

tempting to say that the same violent nature which got him into prison in the first place sent him back again quickly, another, not necessarily mutually exclusive explanation for these events is that, perhaps at some subconscious level, he may have wanted to return. People develop skills to conform to their subculture, even when those skills might be counterproductive outside of the subculture. Thus, someone who is incarcerated for a number of years will develop the skills and characteristics that matter in prison, but same skills and characteristics may have negative value outside of prison. This will discourage movement outside of the prison.

Moreover, those who attempt to change the culture may be met with enormous resistance, given the investment that those already in the system have in the existing mattering map. This seems to be true not only in prisons, but in inner-city American schools, where poorly performing students often establish a subculture in which academic achievement is negatively valued.

Family dynamics. In *Born to Rebel : Birth Order, Family Dynamics, and Creative Lives*, Frank Sulloway (1996) argues, albeit controversially, that the ranks of rebels and of the most creative individuals include very few first-borns. In support of this claim (that some critics were skeptical of) Sulloway draws on an argument very closely related to mattering maps. Unlike many environments, people have no choice about leaving the family environment, at least until a certain age. If individuals' skills don't match the mattering map established by parents (and perhaps by successful first-born children), this can result in enormous stress. Thus, second-borns who follow very successful first-borns often tend to strike out new territory, as if they want to avoid being measured by the mattering map that the first born is adhering to.

Revolutions: Revolutions are often interpreted in economic terms, as a conflict between the have-nots and the haves. However, an alternative perspective could view revolutions as attempts to change mattering maps. For example, under feudalism, the main thing that mattered was whether you were born into the nobility. Bourgeois revolutions can be seen as an attempt to change the mattering map from nobility to one interpretation of merit. Meritocracies may be more stable because, without the possibility of social mobility – if what matters is immutable – the only avenues for self-enhancement are to leave the system or to change it.

The very term 'revolution' implies a kind of discontinuous upheaval, as opposed to a more gradual change. Perhaps mattering maps help to explain how and why revolutions can occur. In one regime, people are likely to take the mattering map under which they exist as immutable – as part of the background. Once it starts to be questioned, however, there can be a kind of

cascading effect: The more the mattering map is questioned, the less force it has, and the less force it has the more it is questioned. Tocqueville, in "The Ancien Regime" pointed to a related, but yet different feedback mechanism: "The evil that one endures patiently because it appears inevitable seems unbearable the moment its elimination becomes conceivable. Then, any abuse that is ended seems only to call attention to those that remain and to make their sting more painful: the ill has diminished, to be sure, but sensitivity to it has increased."

Utility cost of economic upheaval: In addition to perhaps shedding some light on when and why revolutions occur, mattering maps also have implications for the cost of such change. Economic costs of changes, such as the demise of communism, of apartheid, or of feudalism, may radically underestimate the true total negative effects. This is because, where one mattering map has prevailed over a long period of time, people will have fine-tuned their own capabilities to that map. When the map suddenly changes, the skills they have so assiduously honed are likely to be suddenly devalued, whereas others that had previously seemed to be unimportant may suddenly become immensely valuable. (See for instance Graham and Pettinato 2002, and Chand and Chand 2005).

Conclusion:
The cement of society or of personal prison walls?

Mattering maps serve a vital social function: They help to coordinate the aims of the individuals composing groups and societies, creating a sense, and indeed reality, of shared purpose. They enable both the greatest accomplishments of the human race when we compete to outdo one-another in things that are constructive, and our greatest follies when we compete over activities that are wasteful or destructive.

Mattering maps exist because, and ensure that, people care about how others perceive them[3]. This internalization, when it takes the form of "conscience", or as Freud termed it "super-ego", plays an important role in checking some of the base instincts of humans. As Smith saw it, the propensity to view oneself as others view one is the source of "self-denial, of self-government, of that command of the passions which subjects all the movements of our nature to what our own dignity and honour, and the propriety of our own conduct, require" (Smith 1759 [1981], I, i, *v*, 26). More generally, whether on matters of morality, or any other domain of human life, mattering maps coordinate the aims and actions of the disparate individuals who

form groups. For better or for worse, mattering maps represent, as Jon Elster expressed it in the title of a recent book, "the cement of society".

Yet, while mattering maps may represent essential cement that binds us to one another, at the individual level mattering maps serve as concrete blocks that lock us into a grim reality. Thus, Freud, in *Civilization and It's Discontents* identified the overwhelming sense of guilt as one of the central problems threatening modern civilization, which he attributed to the operation of the super-ego. Alain de Botton, likewise, views the tendency to care about how others perceive one in mainly negative terms, as both a source of perpetual discontentment and as an impediment to discovering the things that bring true happiness because we pursue what we envy – which is determined by what matters – rather than what will actually bring us happiness.

Even Smith, while identifying the impartial spectator as the basis of civilization, also recognized the great misery generated by the pursuit of status. Describing an individual who had played the status game and seeming 'won' at it, Smith (1759: 260-262) wrote:

> Through the whole of his life he pursues the idea of a certain artificial and elegant repose which he may never arrive at, for which he sacrifices a real tranquility that is at all times in his power, and which, if in the extremity of old age he should at last attain to it, he will find to be in no respect preferable to that humble security and contentment which he had abandoned for it. It is then, in the last dregs of life, his body wasted with toil and disease, his mind galled and ruffled by the memory of a thousand injuries and disappointments which he imagines he has met with from the injustice of his enemies, or from the perfidy and ingratitude of his friends, that he begins at last to find that wealth and greatness are mere trinkets of frivolous utility. .. In his heart he curses ambition, and vainly regrets the ease and the indolence of youth, pleasures which are fled for ever, and which he has foolishly sacrificed for what, when he has got it, can afford him no real satisfaction.

Is it possible for society to enjoy the benefits of mattering maps without individuals experiencing their destructive effects? de Botton ends his book with on the hopeful note that

> a mature solution to status anxiety may be said to begin with the recognition that status is available form, and awarded by, a variety of different audiences – industrialists, bohemians, families, philosophers – and

> that our choice among them may be free willed. [...] We are at liberty to ensure that our worries about being disgraced will arise principally in relation to an audience whose methods of judgment we both understand and respect.

Yet, he barely seems persuaded by his own argument. Only pages removed from this passage, he recounts more pessimistically that "most bohemians recognize that their peace of mind may be only too easily shattered, and their commitments brazenly challenged, by conversing for a few minutes with an acquaintance who feels, even if he or she does not say so explicitly, that money and a public profile are ultimately estimable. The same disruption may result from reading a newspaper or magazine that, by reporting exclusively on the feats of bourgeois success stories, insidiously undermines the worth of any alternative ambitions.

Do mattering maps distract us from what 'really matters' – from the things that would bring us 'true' happiness? We are skeptical of any such claim. Humans are inherently social creatures, so our happiness and sense of fulfillment is inextricably bound to our interactions with other people. Mattering maps may be a source of misery, but not one that we can avoid. We should count ourselves lucky if, to quote a schmaltzy song, we can find a social group which "loves us just the way we are".

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