

Choice Architecture



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Introduction: the policy maker's struggle

Policy makers have different tools that can be used to assure policy application. The three classical tools are 1) commandments and prohibitions; 2) financial incentives; 3) persuasion and warning. These tools might be better known due to their depiction in an image of a man sitting on a donkey, trying to get the donkey to move. In one hand the man is holding a whip (the commandments and prohibitions); in his other hand a stick with a carrot connected to it which hangs a couple of centimetres in front of the donkey's face (financial incentives); and a speech balloon hovers over his head (persuasions and warning). Ironically enough, in this image you will always see the donkey standing still. Even though this picture is a caricature of the relation between the policymaker and its subject, it highlights the perception of policy making and its limits. These limits lie at the heart of what we call the policy maker's struggle.

The main reason for this struggle is that classical policy instruments too often 'assume' that the subjects of their policy are driven by rational motivations. In other words: classical policy instruments presuppose that people's actions aim towards deliberatively articulated goals, goals that are stable and that people will do anything to achieve them. This image of human beings is in many cases either too simplistic or too idealistic. An alternative perspective on policymaking is offered by Richard Thaler and Cass Sunstein in their bestseller *Nudge. Improving decisions about health, wealth and happiness* (2008), in which they present their theories on choice architecture and libertarian paternalism. The authors take from psychology and behavioural and social sciences; disciplines that demonstrate that most of the time, we do not act rational at all. That is, not on the basis of reasons and deliberation nor in our own best interest.

The aim of this paper is to provide a theoretical background of the psychological insights, and to provide a conceptual framework for policymaking in which Thaler and Sunstein's proposal could be understood. In the first chapter, we briefly discuss the two central ideas of Sunstein and Thaler's *Nudge*: choice architecture and libertarian paternalism. In the second part, a short introduction is given to the theoretical roots from which the insights in *Nudge* originate. At the end of that chapter the contemporary dialogue will be discussed. The last chapter reviews practical considerations that should be taken into account by choice architects such as policymakers, and provides a list of 'tools' that could be used to improve existing policies.

1. The nucleus of Nudge

One of the central psychological insights taken as a point of departure by Thaler and Sunstein is the ‘two system-theory’. This theory is also known as Kahneman and Tversky’s ‘dual process theory’. Nobel-prizewinning Kahneman (2012:13) explains it as follows: ‘[there is a distinction between] the automatic operations of System 1 and the controlled operations of System 2, and....associative memory, the core of System 1, continually constructs a coherent of what is going on in our world at any instant... [While System 2 relies on an] automatic and often unconscious process... [that] underlies[s] intuitive thinking.’ Thaler and Sunstein confirm that on one level, we think intuitively and act automatically (the ‘Automatic System’) while on the other level we think rationally and reflect before we act (the ‘Reflective System’). Actions that result from the former system can be characterized as uncontrolled, effortless, associative, fast, unconscious and skilled, while actions resulting from the second system are controlled, effortful, deductive, slow, self-aware and rule-following (Thaler & Sunstein, 2009:22). The automatic system plays an important role in our quick decisions and our reflexes, while the reflective system is crucial when deliberating more complex decisions. In more popular terms: the authors see our automatic system represented in the character of Homer Simpson, and the reflective system in Star Trek’s Mr Spock.

Thaler and Sunstein claim their main goal is to ‘see how the world can be made easier, or safer, for the Homers among us (and the Homer lurking somewhere in each of us). If people can rely on their Automatic Systems without getting into terrible trouble, their lives should be easier, better, and longer.’(Thaler & Sunstein, 2009:24) Now if we want people relying on the automatic system to not get into ‘terrible trouble’, we need to consider what the tendencies of people’s automatic system in specific situations are and ask what is likely to happen if people rely on their automatisms and reflections. The answer to this question depends on the context of the situation in which the decision or choice is to be made and this context should therefore be examined thoroughly.

Choice Architecture

The theory of choice architecture was presented and coined by Thaler and Sunstein in their work and offers a support in the abovementioned examination. Choice architecture encompasses the characteristics of the environment or context in which a choice or decision is made. Thaler and Sunstein start their book with an illustrative anecdote on their friend Carolyn. Carolyn is responsible for the school cafeterias of a large school district and has discovered that the way in which products are presented (are carrots or French fries placed at eyelevel? Where are the desserts situated?) is directly connected to how much is bought of each product. This means that she can influence what students buy for lunch. And because she knows how the *choice architecture* of the options influences the final choices, she can no longer deny her role as a *choice architect*. She can opt for healthy food, or maximize profits, or place all the food at random. In the words of the author of *Can behavioural economics save us from ourselves?*, Sharla Stewart (Rainford et al, 2011:4): ‘Once you know that every design element has the potential to influence choice, then either you close your eyes and hope for the best, or you take what you know and design programmes that are helpful.’ And helpful is what Thaler and Sunstein want to be: they propose to ‘nudge’ (encourage with a light push) people – by means of better choice architecture – in the right direction. They argue that nudges are especially useful in cases of ‘decisions that are difficult and rare, for which they do not get prompt feedback, and when they have trouble translating aspects of the situation into terms that they can easily understand’ (Thaler & Sunstein 2009:79).

Libertarian Paternalism

But what is considered helpful, or as the ‘right’ direction, is of course highly disputable: helpful to whom? Here the (apparent) oxymoron called ‘Libertarian Paternalism’ enters the picture. Thaler and Sunstein coined ‘their new movement’ in their work (Thaler & Sunstein, 2003), explaining that they ‘strive to design policies that maintain or increase freedom of choice...while attempting to move people in directions that will make their lives better.’ (Thaler & Sunstein, 2009:5-6) They argue that the choice architecture should be designed in a way that stimulates a choice which makes the life of a person longer, healthier, and better. The choice architect takes the best interest of the person making the choice as the aim of his design, and is in that sense a paternalist: he becomes the figurative ‘father’ who knows what is best for his child. And what is in a person’s best interest is that which he would have chosen, had he ‘paid full attention and possessed complete information, unlimited cognitive abilities, and complete self control’ (Thaler & Sunstein, 2009:6). This full attention is part of the reflective system, Mr Spock if you will. The problem is that we do not always, or better yet: we usually do not, use our reflective systems but our automatic systems. Despite the negative connotations of ‘traditional’ paternalism – considered as disrespectful to the individual’s autonomy and limiting his freedom of choice (Mill, 2008) – libertarian paternalism is of a relatively ‘nonintrusive’ and – as the name suggests – liberal kind. Its liberalism can be found in the fact that even though it is recognized that people often do not make optimal choices with regard to their self-interest, its aim is to ‘maintain or increase freedom of choice’ and to ‘not burden those who want to exercise their freedom’ (Thaler & Sunstein, 2009:5)¹. The new libertarian paternalistic movement should be ‘liberty-preserving’ – and attempt to nudge people towards making decisions which make them better off, as they would judge themselves. In principle nudging is not about having another tool to try to get subjects to do what policy makers want them to do, but to help subjects by making it easier for them to do what they themselves want to do.

¹ Note that this is of course not the last word said in a normative discussion about the limiting effects on autonomy or freedom of nudging. Since this is not the object of this paper, we refer for substantial criticisms to ‘Behavioral Law and Economics: The Assault on Consent, Will, and Dignity’, M.D.White; ‘Nudge Nudge, Think Think: Two Strategies for Changing Civic Behaviour’, John, Smith and Stoker (2009); ‘The Ethics of Nudge’, L. Bovens (2008).

2. Scientific and intellectual roots of Nudge

Where did the insights on which libertarian paternalism and choice architecture are based come from? And how could they have culminated into a political theory? And why the seemingly sudden popularity? The idea that people are not merely rational beings but act also by other motives is as old as the ancient Greeks. Plato for instance pictures the soul as a charioteer – the reason – who is continually attempting to control his two horses: the one longing for sensual pleasures, the other for pride (Plato, 2005:246a-249d). Later, in the 18th century, the role of affects and emotions in our will and actions is also emphasized by the philosopher David Hume (1817), from whom we inherit the famous expression that ‘reason is the slave of the passions’.

However, this philosophy of the ‘mind’ or the ‘soul’ does not come even close to the specificity of the insights in human behaviour achieved by contemporary social sciences, based on experimental research. The development from the quite speculative philosophy of the mind to an empirical science has resulted in a specified view on how and in what systematic ways people’s rationality is limited. Moreover, the influence of the social and material aspects of the environment on human behaviour has proven to be significant. We point to a few scientific approaches that seem to have been of particular importance for the emergence of Thaler and Sunstein’s theory.

Behaviourism

In reaction to the speculative focus on the mind and consciousness by philosophers and the first psychologists, behaviourism emerged around 1913² as a distinct school within psychology. Adherents of this approach proclaimed to take psychology as an experimental and objective natural science, that takes observable behaviour as only valid object of psychological studies. Any reference to non-observable consciousness and mental attitudes should therefore be banned (Jones et al, 2001:49). Exemplary for this development are the experiments by Ivan Pavlov who studied the stimuli-response relation in dogs: he found out that dogs that were repeatedly confronted with a stimuli (a sound, feeling, image) followed by food started producing saliva (the response) after several of these sequences by merely receiving a stimuli (Hothershall, 1995:479).

Behaviourism as a theoretical approach is considered as having failed, since more complex behaviours cannot be described in the simple terms of stimulus and response, nor in terms of being produced by associative learning. Complex behaviour is also partly constituted by deliberate and conscious processes (Jones et al, 2001:54). However, the stimulus-response relation is the theoretical basis of what is later identified as habit behaviour of individuals (Aarts, 2009). It is with respect to this type of behaviour that we are easily influenced by all kinds of unconscious stimuli, part of the Thaler and Sunstein’s Automatic System.

Social psychology

Social psychology studies the nature and causes of individual behaviour in social situations. The roots of this discipline can be found in 1898, when the psychologist Norman Triplett discovered and identified the first ‘social-psychological’ phenomena, namely ‘social facilitation’. Triplett’s study showed that people doing simple tasks, executed these tasks better when they were watched by others: social evaluation influenced the performance (Guerin, 2009:7).

Although individual context and relations remained the primary object of study, the influence of social situations on individual’s behaviour seems to have gained interest due to

² In this year, a behaviourist manifesto was published by J.B. Watson: ‘Psychology as a behaviourist views it’ (D. Jones and J. Elcock, (2001), *History and Theories of Social Psychology. A Critical Perspective*. p.51)

societal developments. In the 20th century, the Second World War for a great part triggered and fed the questions social psychology poses. In the US, for example there was a special interest in the adjustment of soldiers to the life in the army (Jones et al, 2001:122). And later, in the 60's, the history of Nazi-Germany also became an important source of questions for social psychology. Famous in this respect is the study by Stanley Milgram to the willingness of people to obey authority, showing the ease with which ordinary people obey a 'legitimate' authority and appear to be willing to perform cruel acts against innocent victims (Blass, 2009:ix). More closely related to the insights in behaviour in the more normal or everyday situations on which choice architecture is based, are the studies to the influence of mass media on individual behaviour which were performed after the Second World War (Jones et all, 2001:122). People are greatly influenced by their social relations, individually or collectively, as will be discussed more specifically in chapter 3.

Behavioural economics

In the early 90's Camerer and Loewenstein wrote that it was the young Adam Smith who already recognized that people do not act merely out of self-interest; he drew attention to the same phenomena as behavioural economists do, such as loss aversion (Ashraf et al, 2005:3). In *The Theory of Moral Sentiments*, Smith's first book (1759), he argued that our behaviour is determined by 'the passions', but that people could overcome these instinct-driven tendencies by taking up the stance of 'the impartial spectator' (Ashraf et al, 2005:1). Nonetheless, behavioural economics as a distinct field is a relatively young development and in general the work of Kahneman and Tversky is considered ground-breaking for the field. They pointed out the heuristics people use, and the biases people are led by in situations of uncertainty, such as loss aversion (Anger et al, 2006:30). Related to this, they developed the Prospect Theory, which describes how people are primarily led by losses and gains, instead of by the final outcome. It shows that the way options and choices are framed, i.e. as losses or as gains, is what is decisive for the choice people make (Anger et al, 2006:31). Behavioural economics criticizes classical economy for its blind reliance on people's capacity for introspection and conscious rational behaviour. Behavioural economics is closely related to psychological cognitivism (Anger et al, 2006), which in response to behaviourism re-accepted mental concepts as part of its study object (Jones et al, 2001:135). The insights of behavioural economics are thus heavily based on psychology. However, for choice architecture, emergence of the field itself has been important in so far it explicitly makes the connection between these psychological insights and the kind of actions that were supposed to be oriented at self-interest

Today: popularization of psychology and political implications

As we see, Thaler and Sunstein's *Nudge* is based on a broad intellectual tradition in which the conception of human beings as bounded rational creatures, strongly influenced by their social environment, and the way in which choices are presented is more and more endorsed. This growing attention for the unconscious and irrational aspects of human behaviour seems to be represented by the enormous amount of non-fiction bestsellers that is concerned with this topic.³ What explains this increased interest?

Even though the unconscious, irrational aspects of human behaviour have been studied for many centuries, during the past decades policy has mainly focused on rationalism. This is especially clear in the influence of neoliberalism on policy. Even though one of the 'defining features of early neoliberal conceptions was to put a check on unfettered markets and mar-

³ See among the amazon non-fiction bestsellers of the last few years: *Blink. The Power of Thinking Without Thinking* (Malcolm Gladwell, 2005), *Predictably Irrational. The Hidden Forces That Shape Our Decisions*. (Dan Ariely, 2009); *Identity Economics: how our identities shape our work, wages and well-being*. (G. A. Akerlof and R.E. Kranton, 2010); *Thinking, Fast and Slow* (Kahneman, 2011); *The Power Of Habit* (Charles Duhigg, 2012).

ket power' (Hartwich, 2009), neoliberalism has come to be understood as market fundamentalism (Peters, 2012), accepting the market as the main directory for society as a whole. Neoliberalism 'constructs itself as the lone bearer of rationalism' (Springer 2011:1), implicitly recognizing the market as rational. Today's crises are seen as a sign that neoliberalism is failing as a system: the market does not regulate itself, it does not function in a completely rational manner. Even those who defend the market as a rational system (Rubinstein, 2000) emphasize there are numerous factors that have to be considered. Even the housing market experts did not foresee that their 'irrational exuberance' (Holt, 2009) would lead to the bursting of the housing bubble. Markets have to be regulated as well, implying that we cannot count completely on their supposed rationality, be it because of the structure of the market or because of the actors on this market, who are bounded rational. A paradigm shift is occurring in the view of markets, policy, rationalism and human behaviour: 'From time to time in human history there occur events of a truly seismic significance, events that mark a turning point between one epoch and the next, when one orthodoxy is overthrown and another takes its place...we are now living in such a time.' (Rudd, 2009)

Since the start of the crisis, the bestsellers mentioned earlier have gained in popularity. Generally these books present the knowledge of the scientific roots discussed in chapter 2 in a more popular way. Nudge appears to be just such a bestseller: it illustrates how human beings often do not act as rational as supposed and that most decisions are made using the unconscious, automatic system. Kahneman claimed his book mainly aims towards the enrichment of the conversations around the 'proverbial office water-cooler' (Kahneman 2012:3). The authors of Nudge, however, go a step further and claim that all this knowledge about how people's minds work and how they tend to behave is connected to a responsibility: as soon as you are in the position of a choice architect, you cannot simply ignore the available knowledge: '...the issue is not "to nudge or no to nudge"; it is how to nudge well.'⁴ This is a forceful argument, for if no neutral context of choice is ever achievable, the creators of these contexts better be aware of the effects their designs will have. At the same time the idea that insights from behavioural sciences are consciously applied in a political context is controversial for many people because of the undefined area in between nudging and manipulation (Goodwin 2012).

The Dutch council for government policy (de Wetenschappelijk Raad voor Regeringsbeleid) responded to Sunstein and Thaler's call by investigating what possibilities nudging could offer for policymakers. *De menselijke beslisser* (2009) presents the current state of psychological knowledge concerning the way people make decisions and which factors influence decision making. On the basis of these papers the conclusion is drawn that besides from the direct choice architecture – the specific design of a choice situation – material and physical traits of an environment and social norms, are of great influence on the behaviour of individuals. The editors of the book therefore pitch the broader term 'psychological guiding', which aims to take into consideration the choice architecture as well as the broader scope of material and social influences on behaviour (Tiemeijer et al, 2009: 293). In *Hoe mensen keuzes maken. De psychologie van het beslissen* (Tiemeijer, 2011) an attempt is made to translate this knowledge in policy making.

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Citation on the cover of the Penguin (2008) publication. By Matthew Taylor, Daily Telegraph

3. Principles to apply in choice architecture and instruments

In the following part different principles and ‘nudges’ are described that could offer policy-makers tools to optimize the effect of their policies aimed at people’s (limited rational) behaviour. Of course, no magic formula exists: every policy field requires a different approach, as they have to cope with different types of behaviour, different people and different values. To get a clear view on the behaviourally relevant aspects of the policy situation, the following questions should be kept in mind (Tiemeijer, 2011:95):

1. What are the motives behind the particular behaviour? Which values and which goals (economical, ecological, social, moral, etc.) play a role for the subject of the policy? And how much weight is assigned to these values and goals?
2. To what extent do people differ from each other with respect to these values and goals? To what extent can these differences serve as a basis for a typology of different ‘kinds’ of people?

If a change of the choice architecture is considered desirable and possible, it is helpful to determine what type of behaviour is in play. Does it regard mainly automatic or more reflective behaviour? Is the behaviour dominantly conscious or unconscious? What are the specific biases and tendencies that might play a role? What possible tools can be taken into consideration in order to change the behaviour in question? Whatever the answer to these questions, it is crucial to remember that choice architecture is always present. There is no such thing as a neutral choice. That said, it remains important that ‘to count as a mere nudge, the interventions must be easy and cheap to avoid’ (Thaler & Sunstein, 2009:6).

Biases, blunders and rational constraints

Below we describe the systematic biases and limited rational reactions people have. For each of them we aim to provide some nudges that could be used by policymakers to diminish their negative effects.

Thaler and Sunstein explain in their work that certain situations and conditions lend themselves for nudging, influencing the decision-making process through choice architecture. Bluntly summed up the following qualifications make for a ‘choice architect friendly’ situation (Thaler & Sunstein, 2009:162): Complex decisions that are made once so the decision-maker does not get much practice, decisions of which the outcomes will have consequences in the future, so the costs and benefits are unevenly distributed over time; due to this uneven distribution there is no ‘feedback-friendly’ structure.

As has been mentioned before, the automatic system reacts more intuitively and quicker than the reflective system would in many instances. Besides this, the reflective system cannot always fully do its job. This would imply the subject to be fully informed about a certain problem. For example, taking out a mortgage. The mortgage forms part of a complex market in which many different forces and developments play important roles. Even though one might have the best intentions, it is very possible that a lack of information may lead to making a decision that is not opportune even though an effort has been made. Both our automatic and our reflective systems are incomplete. The idea of choice architecture is to ‘complete’ these systems and help make good decisions.

Based on the theories of Kahneman, Thaler and Sunstein and an extensive literature search, drawing from the different findings of OIRA and BIT (especially the MINDSPACE report (Dolan et al, 2010), the academic foundation of BIT), and grounded on our own experiences with policy making, we have composed an overview of the different biases and possible nudges:

Points of reference

We use *points of reference* in order to make other decisions. As Kahneman (2012:119) explains: ‘people consider a particular value for an unknown quantity before estimating that quantity.’ If for example people are told to guess the population of city x, their guess of city x will vary much, since most people compare it to their own city. You start with what you know, an anchor, which is your own city, and size up or down accordingly (Thaler & Sunstein, 2009:25). Even though this seems to make sense, the size of your own city of course has nothing to do with the actual size of the other city. An example of *point of reference* is that of *fooled-by-search*, where people estimate the value of their own home depending solely on the price increase on the market, instead of on *all* the points of reference which include many more factors, for example the prices of other houses, inflation, the overall situation of the financial market, et cetera.

- a. **Anchors:** are the points of reference that we use. In the example above, the amount of citizens of your own city is the anchor. By adapting anchors, and thus by adapting the points of reference, actors can be nudged towards a different decision. For example, a charity that funds an after-school programme for children in a neighbourhood could benefit from the *anchor nudge*, if the options for donation were adapted from: €5, €10, €20, €50, €100, or ‘other amount’ to: €25, €50, €100, €125, €150, or ‘other amount’. The second group of options will nudge people to donate more than they originally would have, even though they still have the easy option of donating less.

Availability

We have an inadequate overview of the availability, or *probability*, of certain things happening. An example Thaler and Sunstein (2009:27) use is that of homicide and suicide. People believe that homicide costs more lives than suicide because it is more available to us, we hear of it more in the news – suicide however, kills more people than homicide does.

- a. Options must be nudged back in the direction of true probabilities. If we look at the type of insurance policies people sign up for, a realistic overview of what types of accidents are realistic in that neighbourhood for example would be very helpful. For a 24-year old who does not own a home and lives in Amsterdam, it is not useful to be insured against earthquakes, because there are no earth quakes in Amsterdam and because the subject is not a home-owner. However, due to recent developments in The Netherlands earthquakes have become a liability in certain areas of the province of Groningen (Boon, 2013). The subject, after hearing much about earthquakes in the news, is quite susceptible to thinking that this could happen to him/her as well. A useful nudge would be **RECAP** (Record, Evaluate, and Compare Alternative Prices). Thaler and Sunstein apply this way of price comparison to improve consumer knowledge. An extension hereof could be for example a map on which risk factors of certain accidents are presented so that consumers of insurance policies can be well-informed.

Representativeness

This bias has much to do with *generalizations*. Certain characteristics seem more representative for A than for B. This representativeness also has to do with us seeing patterns where there are none (Thaler & Sunstein, 2012:30): ‘we often see patterns because we construct our informal tests only after looking at the evidence’: coincidences become more important for us since we often ‘confuse random fluctuations with causal patterns’.

- a. **RECAP:** Even though generalizations and an inadequate overview of probability are not exactly the same **RECAP**, mapping out the probability of certain events/cases will nudge actors away from their generalizations too.
- b. **Default option:** A good example for this is social security in the US. Thaler and Sunstein

explain that George W. Bush introduced a plan called Plan D that cleared half-a-trillion dollars for prescription drug coverage. The problem of this plan was that the default option was a random allocation of medicine to the individuals. This can be understood as a generalization, where patterns of medicine use are seen as representative – if you take one type of medicine you are supposed to be using the rest as well. An example of a better default option could be that of an absolute minimum of medicines instead of a package, after which individuals could add different types of medicine. So an ‘incomplete’ default option where there is still room for additional medication instead of assuming a certain package for individuals.

Optimism and overconfidence

We are often *unrealistic* about our abilities, capacities, chances and odds. Many smokers for example believe that they have a smaller chance of getting lung cancer than other smokers (Thaler & Sunstein, 2009:30), even though they are fully aware of the statistics concerning the matter.

- a. **RECAP:** RECAP: as is the case with the availability bias, the mapping of risk factors could prove very helpful in cases of optimism and overconfidence.
- b. Furthermore, if people are *reminded of a bad event*, they might not be so optimistic. If people are investing in stocks, it would be helpful for them to know the statistics of people losing money while doing exactly that. However, note that mere knowledge of the statistics does not prevent people from being too optimistic; the timing of the reminder of risks might be of crucial importance here.
- c. According to Thaler and Sunstein (2009:99) ‘the best way to help humans improve their performance is to provide *feedback*’. If for example cameras would all come with a function that an alert pops up when a picture is not focused – many people would take another picture on the spot. The small screen of most digital cameras does not always accurately show the quality of the picture, and a ‘smart’ camera could avoid disappointments that come with looking at pictures at a later moment and realizing that they ‘weren’t as good as you’d expected’.

Gains and losses

People are often driven by *loss aversion*: losing something makes people un-proportionately unhappy when compared to the emotions people experience when they win something. ‘Loss aversion helps produce inertia, meaning a strong desire to stick with your current holdings’ (Thaler & Sunstein, 2009:37). An element of this is *behavioural entrapment*: where the subject is not willing to change his or her course. Equally, we have an aversion for regret – ‘what if I had not sold my stocks, I would have been a millionaire by now...’

- a. Loss aversion operates as a kind of cognitive nudge, pressing us not to make changes or undertake certain actions. Even though it has its bad sides as well, it could definitely be useful in itself as well in the case of gambling or lottery where it would not be helpful for the individual to undertake action (i.e. gamble or buy more lottery tickets), but the *reverse*: staying away from both due to loss aversion.
- b. **Framing:** If we are aware that people shy away from certain actions due to loss aversion, it also explains why people refuse selling their house when their mortgage is an unmanageable financial burden – the idea that they will be losing money weighs heavier than the reality that the situation will only become less manageable. An alternative here is not telling people that they must minimize their losses and sell now, but that by selling now they will have more money to invest into another house. The way in which the information is presented is different, not the bottom-line of the message, which is: you should sell your house.
- c. **Incentives:** certain motivations will also help people make a decision in spite of their loss

aversion. You might be driving a car that is not safe any more, but are not willing to lose money on a new purchase: you will not be able to get anything if you sell your car. If the car dealership offers you a discount on a new car if you trade in your old car (even if it is not worth that much money any more) you might decide to get a new car after all.

Status quo bias

People have the tendency to stick with what they have/know (Samuelson et al, 1988). This means that once a decision is made, this is often maintained even though circumstances will inevitably change. E.g. marriage: after you get married you should ideally change your insurance policy, since different benefits will apply; yet people often fail to do so. In policy this has other direct implications since all policy has a *default option*, in which case the subject of the policy does not even make an initial decision. That means there are many people who unknowingly opt in for the default option. Which they then stick with due to the status quo bias.

- a. *Default option*: when choice is complicated and difficult a sensible default might be appreciated.
- b. *Required choosing*: In certain situations a default option does not safeguard people's liberty. In the case of organ donation for example. Many more people state that they would want to be organ donors than that there are actual organ donors. The state wants to encourage organ donation, as it will improve health care. In many countries people have to sign up to become donors. It would be possible for governments to install an 'opt-out' for organ donation. That is, people are automatically organ donors, unless they specifically opt-out. This however, would be a misuse of choice architecture, as we know that individuals will have difficulties taking the extra step and opting out. In this case, a yes-no situation, it is more respecting towards the 'liberal' element of libertarian paternalism to require people to choose when they for example sign up for their drivers licence. People can decide just as easily to not become organ donors, but they have to make a decision.
- c. *Structure complex choices*: if we have difficulties making decisions, we are more likely to accept the status quo. Consequently, if these decisions are made easier by structuring the complex choices, we will be inclined towards changing the status quo. If Fred works in city A but lives in city B he will spend much time commuting. He drives a car, which has negative consequences on two accounts: first of all pollution and secondly traffic congestion during peak hours. He would be willing to take public transportation but he would have to take two buses and a train, and both the cities have different public transportation companies, he has a city card which would get him a discount in one city in the morning, he would need three different types of subscriptions – in short, it would be too much of a hassle to figure it out. If his employer would provide a short schematic overview of public transportation options, including the prices and how much he would get reimbursed, Fred might rethink sitting in traffic each day and start coming to work by public transportation instead of by car.

Presentation

The way in which any issue is *presented* has a large effect on how you perceive the issue. For example, if you are told that a specific new type of medicine has 80% success rate, the quality of the medicine is perceived differently than when you are told that that same medicine has a 20% chance of failure.

- a. *Framing* 'is a form of nudging since people tend to be somewhat mindless, passive decision makers' (Thaler & Sunstein, 2009:40). We accept the information as it is handed to us, and regrettably this often means the subjective interpretations that are connected to his information: is the glass half full or half empty? By framing information in a certain way, people will interpret the information provided differently.

- b. **Structure complex choices:** the example of Fred's commute presented above may have seemed complex to him in the beginning, but by structuring the information he had (maybe even in a simple schematic overview) he will interpret the information as more simple and foreseeable.

Temptations

Even though many people want to quit smoking January on 1st, many people do not succeed. This is an example of the difficulty of resisting temptations. People have difficulties fulfilling their own expectations. Besides this, mindless choices also have a large influence on people's day-to-day activities and habitual activities ('habitual' is mindless, we no longer think about what we are doing, we just do) are more prominent than if we were driven by mindful decision-making.

- a. **Reversal of loss aversion:** a way of motivating people to stay strong is to use 'their loss aversion' against them. The example Sunstein and Thaler present is spot-on (2009:50): 'John Romalis and Dean Karlan, two economists, adopted an ingenious arrangement for weight loss. When John and Dean were in graduate school in economics, they noticed they were putting on weight, especially during the period when they were on the job market and being wined and dined by potential employers. They made a pact. Each agreed to lose thirty pounds over a period of nine months. If either failed, he had to pay the other \$10.000,-. The bet was a big success; both met their target.'
- b. **Feedback:** continuing with the example of weight loss, it is often difficult for people to motivate themselves to go outside and exercise. There are now many smartphone apps which offer the opportunity to become part of an exercise community. Your exercise is measured and you receive feedback on how you have been doing. Similarly, if you fail to go out and exercise, your community will tell you it is time to get going again.
- c. **Priming:** By creating a situation in which people are reminded of certain values or goals, these values and goals can be activated. Voting in a classroom for instance, stimulates voting in favour of education-improvements (Berger et al, 2008) and in the same way the picture of a salad could activate the goal of dieting.

Following the herd

We tend to do what people around us do. We follow social norms and rules. We sometimes break social norms and rules, this often happens communally though, think of the failed smoking ban in cafés in The Netherlands. We rather follow what is considered *normal*, not what is *desirable* (Berger et al, 2008). What social psychology has shown is that in case of conflict between prescriptive and descriptive norms, the latter are likely to beat the former. So, a sign that prescribes to throw your trash on the ground instead of in the bins, will only be effective if the park actually looks clean. Throwing your waste in waste bins loses its status as social norm if the park is cluttered with garbage.

And the stronger people identify themselves with a certain social group, the stronger the mechanism of conformation works.

- a. **Feedback:** If we are aware of what other people are doing we are more likely to perform well. On our energy bills for example, we could also be given the average energy use of each household in our neighbourhood. If we are above this average we receive a 'sad smiley', and the other way around a 'happy smiley'. It has been proven that energy use significantly goes down in the case of a 'sad smiley' (Nolan et al, 2008). A less positive effect is that the people who receive the 'happy smiley' tend to start using more energy (Schultz et al, 2007). A way to solve this would be to only provide people with 'bad averages' information.
- b. **Peer pressure:** If we believe the social norm subscribes different behaviour we tend to

change our behaviour towards the social norm. An example can be seen in the plastic bags dog-owners carry around to clean up after their dogs. Even though there is a fine for not doing so (Unknown III, 2013), Thaler and Sunstein (2009:58) argue that this has happened ‘even though the risk of being fined for unclean dog walking is essentially zero’. Clean dog walking then, is the result of peer-pressure within social norms.

- c. **Priming:** In the UK in 2009-2010 over 6 million patients that had made appointments with the National Health Services failed to turn up, which is 8% of the entire service capacity (Unknown I, 2013). To lower the number of these ‘Did Not Attends’, several behavioural approaches were combined (Unknown II, 2013). One of them was priming the patients by asking them to verbally repeat the time and date of their appointment to staff; and by using a normative message that indicated the number of patients who usually turned up promptly to their appointments (this last approach is an example of *peer pressure*).

Conclusion

In this working paper numerous new policy tools have been provided, as based on the theory of Thaler and Sunstein which was inspired by different scientific disciplines. These tools can have great affects on the choices people make, and should therefore be handled with care. If we acknowledge that human choices are often unconscious, we also acknowledge the huge responsibility of the policy maker. There is no simple demarcation between acceptable nudges and unacceptable manipulation. Therefore at the base of all policy, while applying the principles of nudge to choice architecture, are the following questions: If my nudge is successful, will it improve the life of the subject, by making his/her life; longer, better or healthier? Am I designing this nudge with the idea of 'upgrading' the subjects' reaction system from the automatic system (*Homer*) to the reflective system (*Mr Spock*)? In other words, am I nudging towards the rational decision individuals claim they want to be making but are failing to do so? An important way of safeguarding against bad choice architecture, i.e. choice architecture that no longer balances out libertarian paternalism but is solely paternalistic, is by securing the freedom to choose.

The backbone of Thaler and Sunstein's nudges is that there is no such thing as a 'neutral choice architecture' – all choices made are influenced by how and when the options are presented. This is why nudges are so important for policy makers: they can fulfil different 'roles' in policy making, they can make up for partially (ir-)rational decisions people are making. We have distinguished nine different biased reactions people can have to different situations and eleven different nudges. In the tables below you will find an overview of both.

	Biases	What do we do?
1.	Points of reference	The information we already have (e.g. population numbers) influences how we judge other situations, even if our former and new knowledge are not connected in any way.
2.	Availability	We suppose the possibility of something happening based on the availability of examples that come to mind.
3.	Representativeness	We tend to construct patterns, confusing random fluctuations with causality.
4.	Optimism and over-confidence	We overestimate our own capacities and are unrealistically optimistic about our chances.
5.	Gains and Losses	We hate losses disproportionately when compared to how much we like winning. Bluntly stated, losing something upsets us twice as much as gaining the same thing makes you happy.
6.	Status Quo bias	People have a general tendency to cling to their current situations.
7.	Presentation	We are influenced by how options are presented to us: when, by whom, what words are used?
8.	Temptations	It is hard for people to fulfil their own expectations. We underestimate how difficult it is to resist.
9.	Following the herd	We are easily influenced by what other people say and do.

	Nudge	What does it do?
1.	Anchors	Change a point of reference or anchor; or make it more prominent or explicit.
2.	Default option	Make a default of the option which leads to the most desirable outcome for most people.
3.	Feedback	Give information about people's behavior by means of direct feedback; if this information includes a comparison to social norms or to what the desired behavior would be, this can be even more effective.
4.	Framing	Change the way an option is framed, that is, the way it is presented as something (that is, as a loss, as a gain, or as a continuum/stability).
5.	Incentives	Stimulate people by positive or negative incentives.
6.	Priming	Make those characteristics of an environment more prominent which can remind people of certain goals or values.
7.	RECAP: Record – Evaluate – Compare Alternative Prices	Give insight in relevant details about the costs of people's behavior. By means of such specifications, people can evaluate and reconsider their choices.
8.	Required choosing	Obligate or stimulate people to make a deliberate, conscious choice.
9.	Reminders	Remind people of the risks or values of a certain choice.
10.	Reversal of Loss Aversion	Make use of loss aversion to motivate people to do something.
11.	Structure complex choices	Make a choice simpler, by reducing options or by taking care of complex aspects of a decision.

How can we use these tools to improve policy? In our introduction we gave a description of the *donkey standing still* – the donkey that does not move, even if we are directing it towards fresh and clean drinking water, a safer path or a vet. *How to help people make decision that will make their lives easier, better, and longer?* The biases and nudges presented offer the opportunity to create an analytical framework that can be applied to this end. Such analysis requires a systematic run through the following three steps:

1. What **biases** are applicable to the behaviour this policy is attempting to influence? What bounded rationality can we find in the policy subjects' behaviour?
2. What **nudges** may apply to the specific policy?
 - a. What nudges could be applied in order to **stimulate positive** behaviour?
 - b. What nudges could correct or **reverse the negative** consequences of the biases in question 1?

For all policy (proposals) these three questions should be answered. The outcome will be an overview of the current biases in play in the policy and connected an overview of the possible nudges that may positively affect the outcome of policy – either in a direct positive stimulus or by correcting a current bias. That may help to design policies that provide better results. Thaler and Sunstein's theory is no replacement of the current instruments but complements traditional instruments. The systematic application of the theoretical concepts of nudges and biases may help policymakers to achieve better results within their existing or new policy-arrangements. The Netherlands currently does not know a specific nudge-unit or a team dedicated to applying the principles of nudging in the practice of policy. This paper may be a first step to putting these ideas into practice, for instance in a series of pilot projects. We invite policy-makers to pick up this practical challenge with us and take that next step.

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