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Power, science and the economic subject

The case of behavioural economics

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Abstract

The aim of this research is to examine the link between scientific analysis and power relations in economics. More specifically, this paper focuses on the position of the subject in economic thought and theory from classical political economy to contemporary economics, outlining the interaction of economics and other disciplines, psychology in particular. The main part critically assesses the field of behavioural economics, a purported alternative to neoclassical economics. Behavioural economics, drawing from fields such as cognitive psychology claims 'novel' knowledge on economic behaviour, proposing a re-construction of the field of social action. The paper's theoretical framework is based on the work of Michel Foucault on science, power and the subject. Concepts such as *governmentality*, *discipline*, *subjection* and *biopolitics* are employed to analyse the *functionality* of behavioural economics, both in terms of knowledge formation and in terms of the reproduction of power relations. The core argument is that behavioural economics is a mode of power, part of the broader governance of the economic subject and the population. Accordingly, the paper presents and examines specific strategies, techniques, and operations of governing.

Περίληψη

Ο στόχος αυτής της έρευνας είναι να εξετάσει τη σχέση μεταξύ της επιστημονικής ανάλυσης και των σχέσεων εξουσίας στην οικονομική επιστήμη. Πιο συγκεκριμένα, η παρούσα εργασία εστιάζει στη θέση του υποκειμένου στην οικονομική σκέψη και θεωρία, από την κλασική πολιτική οικονομία έως τη σύγχρονη οικονομική, σκιαγραφώντας την αλληλεπίδραση της οικονομικής με άλλους επιστημονικούς κλάδους, ειδικότερα με την ψυχολογία. Το κύριο μέρος της εργασίας αξιολογεί κριτικά τον κλάδο των συμπεριφορικών οικονομικών, τα οποία αυτο-παρουσιάζονται ως μία εναλλακτική στη νεοκλασική οικονομική. Τα συμπεριφορικά οικονομικά, αντλώντας από τομείς όπως η γνωστική ψυχολογία, ισχυρίζονται 'νέα' γνώση σχετικά με την οικονομική συμπεριφορά και, στη βάση αυτής της γνώσης, προτείνουν την ανακατασκευή του πεδίου της κοινωνικής δράσης. Το θεωρητικό πλαίσιο της εργασίας βασίζεται στο έργο του Michel Foucault για την επιστήμη, την εξουσία και το υποκείμενο. Έννοιες όπως η *κυβερνολογία*, η *πειθαρχία*, η *υποκειμενοποίηση* και η *βιοπολιτική* χρησιμοποιούνται για μία ανάλυση της *λειτουργικότητας* των συμπεριφορικών οικονομικών, τόσο από την άποψη του σχηματισμού γνώσης όσο και σχετικά με την αναπαραγωγή σχέσεων εξουσίας. Το βασικό επιχείρημα είναι ότι τα συμπεριφορικά οικονομικά είναι ένας τρόπος αναπαραγωγής εξουσίας, μέρος της ευρύτερης διακυβέρνησης του οικονομικού υποκειμένου και του πληθυσμού. Σε αυτό το πλαίσιο, η εργασία παρουσιάζει και αναλύει συγκεκριμένες στρατηγικές, τεχνικές και διεργασίες διακυβέρνησης.

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Introduction: From science to power/knowledge

Comte's popular precept "savoir pour prévoir, prévoir pour pouvoir"[1] is often considered as a representation of the ('power-neutral') endeavour of positive science. A common interpretation is that the first part of the sequence refers to the process of scientific research, whereas the second part refers to the application of scientific results (e.g., informing policy). However, in the author's view, both are part of a broader process of (re)producing power/knowledge relations, demonstrating the inextricability of power and knowledge.[2] This statement is even more powerful when it comes to the social sciences, such as economics, where the objects of knowledge—largely being apparatuses comprised of social entities and social institutions—are 'more-than-natural': they are the source and product of a multiplicity of cultural, moral, class, etc., relations. Surely, that power is coeval with knowledge is not an original statement when considered in an abstract level. Yet, employing that statement in its particularity and singularity, can show how contemporary scientific developments involve the emergence of complex power technologies which seek to utilise scientific knowledge on the social subject, organising the broader field of (social) action in specific ways.

The birth of the scientific process 'to know in order to predict' took place simultaneously in all categories of being; from lifeless-objects to living entities such as plants and animals; from observing and predicting the movement of planets to observing and predicting the movement of prey, to observing and predicting the movement of the social subject within a community. However, the endeavour of science was most retarded with regard to the human subject: the first modes of government lacked the 'proper' scientific tools and thus were formed heavily on the basis of art. Contemporary science, however, brings to

1 Commonly translated "to know in order to predict, to predict in order to control". Note, however, that 'pouvoir' can be more broadly translated as 'exercise power'.

2 For the purposes of this paper, several concepts are employed as invented or re-conceptualised by Michel Foucault. With regard to power, Foucault departs from definitions which regard it as either a mere imposition of will or a transferable right or a possession by 'the powerful'. Power is a (social) relation, or, better, an assemblage of relations among and within social subjects. It is not a feature of one or more individuals but a mode of action upon action permeating the social body. As Foucault (1987, 122) states, mentioning the word 'power' in his work is a shortcut for referring to power relations which involve the direction of behaviour . The concept of power is employed in this paper in the latter sense (unless stated otherwise). With regard to knowledge, Foucault makes a distinction between two French terms translated as knowledge: *savoir* and *connaissance*. He defines the former as a process whereby the subject is modified through the work of knowing; *savoir* thus "enables one both to modify the subject and to construct the object" (Foucault 2001a, 256). *Connaissance* is defined as "the work that makes it possible to multiply the knowable objects, to manifest their intelligibility, to understand their rationality, while maintaining the fixity of the inquiring subject" (ibid.). Accordingly, knowledge (*savoir)* is part of an inextricable link with power relations and the constitution of the subject. This link is termed power/knowledge (*pouvoir-savoir*) and it will be further discussed and exemplified in the analysis of behavioural economics.

the forefront a quasi-systematic analysis of human behaviour, ranging from the individual to the population, which enables the invention of new technologies of governance.

In the present paper, knowledge processes are examined as of their position in the domain of economic science, theory and practice. The analysis focuses on the historical transformation of the economic subject, as well as on particular modalities and technologies of power that govern economic behaviour. To that end, an overview of the subject within the history of economic thought and science, from classical political economy to economics, is presented. This overview sets the historical background for a critical assessment (presented in Chapters 2 and 3) of how the subject has been placed and examined as a scientific object of power/knowledge. Commonalities and divergences from behavioural economics, a contemporary approach to the economic subject and behaviour, are identified. This approach claims 'novel' knowledge on the economic subject, suggesting policies which enact diverse modifications throughout the social environment and the subject itself. In the main part of this paper, behavioural economics is examined as an instance of power/knowledge and as a mode of power, rather than merely a scientifico-theoretical endeavour of 'discovery'. A crucial underlying argument is that economics as a scientific practice is inherently *political:* political not merely in the sense of moving from an 'objective' science which discovers true-until-disproven facts to a domain of competing ideologies and political agendas, but as a broader mode of power characterised by overdetermination between (economic) theory, method and practice, forming various ways of governing the (economic) subject.

In the first chapter, a brief history of the economic subject demonstrates several points concerning the study of economic behaviour throughout economic thought. It outlines the interrelation of political economy (later economics) with other disciplines, specifically psychology, as well as with the paradigm of behavioural economics. In this context, the aim is to show how political economy, originally an interdisciplinary scientific field, was 'purified' into economics, while a counter-movement based on psychology and social behaviour sought to (re)introduce certain social aspects of the economic subject. The main argument is that such processes indicate the historical synergy of power and knowledge, where science progresses not in 'the road of truth'—of discovery, new inventions and better explanations—but in the 'road of strategy'—of assimilating the tactics and techniques which are suitable for specific ends. Therefore, economics functions hegemonically: it both co-opts other currents under its own mode of science but it also allows other scientific discourses,

such as psychology, to become part of the traditionally economic domain.[3]

In the second chapter, the emphasis is placed on the functionality of behavioural economics with regard to (economic) conduct, and, in particular, on its knowledge-formation processes. It includes an examination of the ways in which behavioural economics functions as a mode of power/knowledge; how it processes knowledge on the subject and the social environment, eventually affecting the economy and social life more generally. It is shown how this mode includes a utilisation of knowledge formations into producing techniques, designing tactics, inventing mechanisms and installing devices which aim to *direct* (economic) behaviour in a specific ('optimal') manner.

In the third chapter, the power processes and effects of behavioural economics are assessed using Foucault's concept of *governmentality*, and other concepts and processes which he developed throughout his *oeuvre* on power, knowledge and the subject. It is argued that behavioural economics is an active part of the governance of economic conduct in particular ways, with particular strategies and to particular aims. Several instances, techniques and outcomes of such governance are discussed. More specifically, it is argued that the functionality of behavioural economics has several common points with the mode of *discipline* as outlined by Foucault. More than that, the behavioural apparatus promotes the exercise of disciplinary power in a manner that extends it and, in cases, goes beyond its traditional boundaries of application. In the second section, Foucault's concepts of *subjection* and *subjectivisation* are employed to examine certain ways in which subjects and subjectivities are constituted and governed. Lastly, the third section puts forward a discussion of the concept of *biopolitics.* It is shown how behavioural economics, besides a mode of discipline, is part of the biopolitical management of the population. It involves a series of strategies and practices which move their focus from disciplining individual bodies to targeting and administering life processes, the *bios* of the population.

3 The former process of co-optation has been termed economics imperialism whereas the latter, 'strategically inclusive' process has been termed Inverse Imperialism (see footnote 34).

1. A brief history of the economic subject

> But theories are only made to die in the war of time. Like military units, they must be sent into battle at the right moment; and whatever their merits or insufficiencies, they can only be used if they are on hand when they're needed. They have to be replaced because they are constantly being rendered obsolete – by their decisive victories even more than by their partial defeats. Moreover, no vital eras were ever engendered by a theory; they began with a game, or a conflict, or a journey.
> —Guy Debord, *In Girum Imus Nocte et Consumimur Igni* ([1985] 1991)

1.1. Psychology and classical political economy: From interdisciplinarity to positivism

Behavioural economics often appears in the mainstream discourse as a 'novel' approach in economics. It is presented as originating from developments in economic psychology and decision theory of the early 20th century, gaining significant ground during the latter's last four decades, and reaching a peak in the first decade of the 21st century. However, not only the use of psychological knowledge has a long-standing history in economic theory, but also old concepts and categories with respect to the behavioural aspects of thinking, judging and acting (further discussed in Section 2.1.) have been employed largely unaltered by contemporary behavioural economists.[4]

At least since classical political economy, the varying affective and cognitive processes characterising economic conduct have been the object of economic study. Influential thinkers of the time detected several behavioural patterns—many of them being reintroduced by contemporary behavioural economists—within economic activity. For instance, David Hume considered the preference of the present over the future—termed 'present-bias' or 'myopia' in behavioural economics—a 'fatal error in human conduct' (McAuley 2010, 4). Yet, the most creative 'behavioural' classical political economist seems to be Adam Smith. As Ashraf et al. (2005) show, Smith's work had already grappled with a

4 The study of psychological insights and intuition has been prevalent in economic thought, from the Classicals to Bentham, to early Neoclassicals such as Fisher and Jevons. However, the latter perspective was largely replaced by an approach that developed mathematical tools and models for economic analysis in domains such as consumer theory and general equilibrium. Behavioural economics is broadly considered as a counter-force to this approach. Furthermore, economists who are not conventionally placed within the behavioural economics tradition have also pointed out the importance of the empirical aspects of behaviour. Keynes, for example, took into account behavioural and cognitive processes such as the 'money illusion' – the tendency to think in nominal instead of real terms—when considering unemployment. He viewed the social subject as being fundamentally affected by emotions, instincts, etc., introducing the *animal spirits* which haunt decision-making (and rational choice theory):

> Most, probably, of our decisions to do something positive [...] can only be taken as the result of animal spirits – a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities (Keynes 2018, 141).

large number of psychological traits—many of them fundamental rather than secondary—which contemporary behavioural economists claim to have empirically observed, accordingly formulating their theories. Only a few of such traits are: loss aversion[5], overconfidence, self-control issues, altruism and fairness in transactions.[6] [7]

At the classical historical juncture in political economy, economics and psychology were not regarded as two distinct scientific fields—in the sense that some contemporary economists regard them thus advocating for a 'cross-disciplinary' approach. Their dichotomy into two fields which—assuming they are compatible in terms of scientific analysis—only interact externally, broadly took place between the early and the late 19th century, following the emergence of both economics and psychology as separate disciplines.[8] Primarily, this was instigated by two interrelated processes: the positivist movement in the epistemology of social sciences largely stemming from the work of Auguste Comte[9] and the methodology and epistemology of J. S. Mill which deeply affected the broader premises of political economy—among other fields of study.

Possibly over-generalising, the aim of Comte was to establish sociology as a science, arguing for a broader use of the scientific method. Based on the latter, social phenomena and relevant processes are reduced to specific laws and examined accordingly, as with physical phenomena. As a consequence, the use of not-scientifically-proven psychological processes

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5 Approximately 200 years after Smith, the claim that people are more averse to losing rather than gaining something of equivalent value became one of the core tenets of Khaneman's and Tversky's Prospect Theory (discussed in more detail in Section 2.1.).

6 Given the abundance of similarities and overlaps between classical and behavioural economics literature, such findings could have been part of a 're-inventing the wheel' critique. However, the main purpose of this section, and paper in general, is to show how long-established discourses and techniques of 'knowing' particular functions of behaviour can, consciously or not, be 'brought to life'—albeit in a different historical context. How they are reworked and refined, resulting in a dynamic re-arrangement of a scientific field such as economics and in the emergence of a new mode of power.

7 Next to the historical argument presented here, these findings highlight a common practice of *cherry-picking* from Smith's work, stemming from a particular political agenda. Neoliberals and free-market proponents have long cherished the 'rational, self-interested individual' or the miraculous effects of the 'invisible hand'. Smith, however, in treatises such as *The Theory of Moral Sentiments* (1759) has extensively argued that human relations are guided by social approval/disapproval and sentiments such as sympathy and fellow-feeling. Moreover, as Sugden (2002) argues, certain aspects and sentiments, such as fellow-feeling, are incompatible with a rational choice framework. Smith, besides a market theory, establishes a theory of human sociality. In the latter, a system of social relations may be intertwined with the 'economic' subsistence of human beings, yet it does not originate in economic reason or instrumental benefits; it is the outcome of psychological processes founded upon innate natural tendencies (ibid., 84-86).

8 Indeed, discourses related to 'the use of psychology in economics' consist of historically specific utterances which can only be intelligible within a particular period of scientific chronology. For classical political economists, for example, most part of the current discourse on economics and psychology would be a tautology since the two fields were conceived as integrated and only analytically, rather than substantially, distinct. Economics and psychology emerged as (distinct) 'sciences' only after a series of epistemological and methodological adjustments during the late 19th century.

9 Especially his multi-volume *Course on Positive Philosophy* (1830–1842) which was latter revised in his text *A General View of Positivism* (1848).

and mechanisms, considered part of 'metaphysical' knowledge, becomes superfluous when it comes to the analysis of the social world.[10] [11]

Mill was highly influenced by Comte, their epistemology of social sciences having both similarities and crucial differentiations. Contra Comte, Mill, from a methodologically individualistic standpoint,[12] placed psychology—the science of the laws of the mind of 'the individual man'—at the basis of social sciences such as political economy. Furthermore, he distinguished the fundamental sciences from the more complex social sciences, both in terms of method and epistemic format.

Mill's epistemic schema displays a hierarchical three-tier structure of 'laws'. The base-tier includes the fundamental laws of human nature,[13] such as the laws of the mind which are the subject matter of psychology. The mid-tier includes the quasi-laws of the human character, the subject matter of ethology, which are formed via an understanding of the fundamental principles of the base-tier. The final tier, determined by the combined result of the other two, includes the tendencies which govern more complex social phenomena—the economic phenomena being the subject matter of political economy. Given this hierarchy and since the final level does not refer to strict, empirical laws, the appropriate method for political economy is deduction rather than induction: economic phenomena can be explained by deducing from fundamental laws.

For Mill, the primary tendency underlying economic behaviour is the 'desire for wealth'. The latter is an economic contextualisation of the fundamental psychological principle which stipulates that 'a greater gain is proffered to a smaller'. Subsequently, the class of social phenomena which are causally determined by the 'desire for wealth' are categorised as 'economic'. Moreover, the process of deduction is combined with two

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10 Comte's thesis that sociology is the science of the laws governing social life is itself part of a system he claimed to have discovered, the 'law of the three stages'. According to the latter, human intellect and the sciences follow a three-stage historical pattern of development: from the theological stage where everything is explained through an appeal to the divine; to the metaphysical stage where the world is explained through abstractions such as essence and final cause; to the modern positive stage where the world is explained through empirical discovery of laws governing (social) entities. Following this pattern, the more abstract and simple—rather than concrete and complex—the principles and phenomena in a field of knowledge are, the better they are systematised in scientific terms. Therefore, Comte classifies sciences in terms of their development in chronological order: from mathematics to astronomy, physics, chemistry, biology and finally sociology (see, Fletcher and Barnes 2020).

11 Moreover, it is important—and highly relevant to the broader context of this paper—to emphasise that in Comte's framework, as with Pareto (discussed below; see footnote 25), the scientist as a knowing-subject occupies a powerful role and position in relation to other social subjects.

12 "Men are not, when brought together, converted into another kind of substance, with different properties [...] Human beings in society have no properties but those which are derived from, and may be resolved into, the laws of the nature of individual man." (Mill [1843] 2009, 1066).

13 At the same time, for Mill, human nature was not a necessarily everlasting or universal structure; it was malleable and contingent upon social conditions (Macleod 2018).

methodological processes: first, the isolation of economic phenomena via abstraction from other non-economic motives (e.g., the motives which stem from sentiments such as Smith's sympathy); and, second, the process of controlling for secondary economic 'counter-motives'.[14] As a result, political economy, the science which explains and predicts economic phenomena, is established.[15]

Within Mill's framework, political economy is *inexact* and *separate* from other social sciences (Hausman 1981). First, it is inexact since it has to do with abstractions and tendencies of human behaviour—not laws in the strict sense. In parallel with tidology, relevant phenomena can be observed and predicted only by approximation and in a general scale. On average, such approximations are adequately representative of reality; however, there are divergences and errors since the totality and complexity of relevant causes cannot be discovered. Second, political economy is separate from other social sciences in the twofold manner of being *unified*—all 'major' economic phenomena can be explained and predicted within the theory, whereas auxiliary hypotheses allow for the inclusion of emerging phenomena—and *complete*—its explanatory and predictive power can not be improved by drawing from other sciences (ibid., 376-377).[16]

All in all, Mill's polyvalent and diversified work functioned as a central node in the multi-directional movement of economics. His partially-positivist and law-based epistemology promoted an approach to economics as a science, whereas his method of deduction and abstraction[17] proved to be a diachronic influence in economic methodology—for instance, he promoted, both explicitly and implicitly, the use of *ceteris paribus*, which was later popularised by Alfred Marshall and is still broadly used in economic theory. At the same time, his emphasis upon the fundamental role of psychological principles and his insistence upon the interrelation between social sciences promoted an approach which considers economic behaviour being part of the social reality as a whole. As Zouboulakis

14 Mill pinpoints two such 'counter-motives' in his essay *On the Definition of Political Economy; and on the Method of Investigation Proper to It*: the 'aversion to labour' and the 'desire of the present enjoyment of costly indulgences'. He further states that:

> Political Economy considers mankind as occupied solely in acquiring and consuming wealth; and aims at showing what is the course of action into which mankind, living in a state of society, would be impelled, if that motive, except in the degree in which it is checked by the two perpetual counter-motives alcove adverted to, were absolute ruler of all their actions (Mill [1844] 2000, 97).

15 "By reasoning from that one law of human nature, and from the principal outward circumstances [...] which operate upon the human mind through that law, we may be enabled to explain and predict this portion of the phenomena of society, so far as they depend on that class of circumstances only [...] A department of science may thus be constructed, which has received the name of Political Economy" (Mill [1843] 2009, 1092).

16 It is important to point out that, for Mill, economics is separate from psychology in its scientific aspects with regard to the specific analysis of economic phenomena. However, when it comes to the overall causes of economic phenomena, they are far from separate from broader social causes; in addition to that, they are causally inferior to psychological ones.

17 First used as a general methodological principle by David Ricardo.

(2005) points out, in Mill's account, economic rationality is 'historically bounded'. Moving from the abstract economic-scientific to the empirical level, Mill considers economic rationality as structured through an intermixture of social processes: rather than being the product of universal laws or an immutable human nature, it is produced in a particular context, shaped by culture, social institutions and varying tendencies.

Mill's pervasive influence can be spotted in the work of early neoclassical economists during the late 19th century,[18] to the first decades of the 20th century in Pareto's work and the Pareto-inspired movement, as well as in the movement of economic psychology. The following section presents a discussion of the latter two developments, particularly focusing on the (re)*construction* of the prevalent type of economic subject, h*omo economicus*.

1.2. From positivism to interdisciplinarity? *Homo economicus* in the 20th century

The 20th century was marked both by continuity—convergence of past currents into shaping economic theory and practice as a whole—and discontinuity—e.g., establishment of the distinct field of economics as a 'pure science' vis-a-vis political economy. Even though such processes can be analysed separately, they are interlinked and concurrently active in forming the contemporary field of economics. For instance, the post WWII theoretical hegemony of neoclassical economics followed from a series of discursive battles concerning method (*Methodenstreits*), the structure of value (objective vs subjective), the value-price relation (marginalism), and a host of other developments in the history of economic theory. At the same time, the neoclassical hegemony was both contradicted and complemented by knowledge formations in different disciplines and fields of study, including psychology.

In the study of economic behaviour and decision-making, the aforementioned situation can be captured by a 'double-movement' of two parts: on the one hand, a 'Paretian' movement drawing heavily on rational choice theory, and, on the other hand, a movement

18 In this case, the popular triad of early neoclassical theorists consists of William Stanley Jevons, Francis Ysidro Edgeworth and Maffeo Pantaleoni, their key texts being *Theory of Political Economy* (1871), *Mathematical Psychics* (1881) and *Pure Economics* (1889), respectively. Some of the main features of this tradition were hedonism (maximisation of pleasure and minimisation of pain), self-interest, the use of mechanical analogies to describe human behaviour, and the use of introspection as a legitimate object of science. A commonly employed principle was the law of diminishing marginal utility—as commodity consumption increases, the increment of pleasure produced by an increment of consumption decreases. Overall they argued for a psychology-based approach to economics where, contra Mill, the two fields are not distinct. Accordingly, the main purpose of the economist—who is privileged in the sense of being able to observe choices and preferences under different circumstances—is "to develop an analysis of pleasure which would explain the main features of human wants" (Bruni and Sugden 2007, 153).

based on psychology and empirical aspects of (economic) behaviour.[19] The broader functionality of this double-movement is often mis-recognised since relevant research mostly focuses on contradiction, viewing one movement as merely opposing the other. However, this contradiction is one part of a composite process. The latter also includes operations which render such movements complementary when it comes to the shaping of economic reality. At a general level, this proposition can be readily supported by considering the developments in economic practice from the mid-20th century up until now—economic policies, firm strategies and the overall behaviour of economic population were not merely observed and predicted, but governed in a specific way using scientific tools and methods (further discussed in Chapter 3). Furthermore, it can be supported on the basis of the fundamental assertion that treating the economic subject as distinct from its sociality might be possible only at an analytical-theoretical level but not at the actual-substantive level. In what follows, the two movements, focusing on some of the core theoretical elements and implications of each, are briefly discussed.

The Paretian movement

Vilfredo Pareto, influenced by the positivist tradition, Mill and early Neoclassicals, formed his approach to political economy as a science during the turn of the 20th century. He promoted a separation of the economic from the social, advancing the *metamorphosis* of political economy to pure economics. Following in Comte's footsteps, he envisaged political economy as a science in the class of natural sciences, void of metaphysical concepts and based on accumulating facts via empirical observation.[20] Facts become the foundation of economic theory, whereas psychological data and reasoning are equivocal and thus not

19 The Polanyian concept of the 'double movement' is employed to emphasise certain processes and functions, independently of the degree of convergence with Polanyi's initial usage. Three main characteristics are pointed out. First, the impossibility of substantially dis-embedding economic relations from other social relations, and, in particular, economic relations from power and knowledge relations. For example, behavioural knowledge on the economic subject is interrelated with processes of prediction and control. Second, the conflictual-dialectical process that constructs the economic subject: far from being an innate characteristic of human nature or a consequence of pure reason, 'market rationality' is the outcome of diverse socio-historical processes, involving external and internal, opposing and complementary forces. For example, setting up effective market strategies involves intricate power relations which promote both 'profit-maximising' and 'caring for employees' types of behaviour. Third, from a history of economic science standpoint, economics is not solely determined by a post WWII monopoly of Neoclassical economics where 'economic truths' are discovered using rigid and sound mathematical models (see, Milonakis 2017). The neoclassical hegemony is contingent upon a broader historical process of power-adaptation: it could not exist and function as such in absence of the various counter-tendencies within economic theory, as well as without utilising the power/knowledge effects and developments in other disciplines such as psychology.

20 At the same time, Pareto explicitly criticised Comte's positivism as still bound to metaphysics, harmful to science by extending to practice rather than remaining in the domain of theoretical inquiry, and unable to acknowledge its methodological limits such as the incompatibility between the logico-experimental method and belief systems (Femia 2006, 16–19).

‘scientific’.[21] A typical example of Pareto’s methodological approach is his asserted empirical discovery of the points which constitute individuals’ indifference curves—a process both generating predictive power and being independent from a measurement of utility or pleasure.[22] For Pareto, all the main conclusions of the then-existing economic theory could be derived from such ‘naked facts’.[23] Accordingly, the use of mathematics enables the establishment of empirical facts as the basis of the theory of economics which “thus acquires the rigor of rational mechanics; it deduces its conclusions from experience, without bringing in any metaphysical entity” (Pareto [1906] 2014, 79).

Pareto’s reworking of political economy becomes possible through a tactical-theoretical ‘move’: he proclaims ‘pure economics’ as the legitimate scientific domain of economics, while eschewing the need to take into account psychological and sociological findings to ‘applied economics’, the domain of economic practice where knowledge is applied.[24] With regard to methodology, the appropriate method for the pure economics domain is the logico-experimental method. The latter excludes the ontological domain and promotes a certain empirical epistemology of the social. A scientific analysis of sensations is thus both needless and ineffable; the focal point becomes the accumulation of ‘objective’ knowledge about social phenomena.[25]

Pareto sought to establish the logico-experimental method, while rendering ‘logical

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21 Pareto’s ‘elimination of psychology from economics’ was not on the grounds of a disrelation between the two—on the contrary, he regarded psychology as the foundational social science. His objection was that psychology was ineffectual since it was not a positive science yet:

> The foundation of political economy and, in general, of every social science, is evidently psychology. A day may come when we shall be able to deduce the laws of social science from the principles of psychology, in the same way that some day, perhaps, the principles of the constitution of matter will give us, by deduction, all the laws of physics and chemistry (Pareto [1906] 2014, 20).

Following the developments in psychophysics and experimental psychology in the late 19th century, Pareto’s thesis was assuming the form of a prophecy. After the emergence and advancement of cognitive neuroscience during the late 20th century, this ‘prophecy’ was considered fulfilled by many—including behavioural economists (e.g., Richard Thaler’s *Misbehaving* (2015) book opens with a part of Pareto’s above quote) and, later, neuroeconomists. This thesis is thus often common ground among the two movements.

22 Accordingly, Walras’ framework of marginal utility, for example, becomes redundant.

23 In a 1899 letter to the mathematician Herman Laurent, Pareto states: “I am not interested in the reason why man is indifferent between [one thing and another]: I notice the pure and naked fact” (Bruni 2013, 51).

24 This was not an ‘original’ move. Walras also distinguished among ‘pure’, ‘applied’ and ‘social’, attributing truth, usefulness and justice, respectively, to each domain (see e.g., Jaffé 1983).

25 For Pareto (Pareto [1916a] 1935, 76–77), ‘objective knowledge’ is the knowledge of a phenomenon “as it is in reality”, whereas ‘subjective knowledge’ is knowledge which “presents itself to the mind of this or that human being”. He hastens to add that this classification does not indicate a difference in the nature of knowledge since “all human knowledge is subjective”; the difference lies in “the greater or lesser fund of factual knowledge that we ourselves have”. Again (see footnote 11), the power of the scientists, interrelated with the exclusiveness of their knowledge-position—as a unique class of ‘producers’ of accumulated factual knowledge—is demonstrated. As discussed below, this point is also promoted through Pareto’s distinction between ‘logical’ and ‘non-logical’ action.

action' (often reworded as 'rational choice') as the subject matter of pure political economy. A fundamental step in this direction was the distinction between 'logical' and 'non-logical' action. Logical action is characterised by a kind of 'instrumental rationality': the subjective purpose of the action and the objective ('scientifically valid') end are *identical* (and thus compatible with experimental reality).[26] To the contrary, in 'non-logical' action, the subjective purpose and the objective end do not coincide.[27] According to Pareto, although social conduct consists mostly of non-logical action, pure political economy only pertains to logical action.

Finally, Pareto further limits the relevant domain of pure economics by designating and categorising the 'economic' logical actions. The latter are identified using two criteria (Bruni 2013, 52-53): first, actions must have been adequately repeated so that 'subjective facts' (beliefs) converge into 'objective facts' (reality); and, second, they must follow an instrumental rationality where the ultimate end is, in principle, the satisfaction of tastes. Through such waves of abstraction, pure economics, the economic domain of logical action and instrumental reason, the birthplace of *homo economicus*, is formed.[28]

Overall, Pareto's work advanced a specific regime of scientific discourse which paved the way for an 'empirico-scientific' approach to economic phenomena.[29] Contra Mill, he

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26 Moreover, for Pareto, 'logical' action is 'rational' in the sense that its means and ends are interlinked via reason, with rationality being validated both by the performing subject and the observing-knowing scientist: "actions that logically conjoin means to ends not only from the standpoint of the subject performing them, but from the standpoint of other persons who have a more extensive knowledge" (Pareto [1916a] 1935, 77).

27 Logical action is therefore not used as an antonym of 'illogical action'. It is a label-concept which signifies the particular type of actions which bear 'experimental truths' and are derived from reasoning based on objectively true premises. Pareto (ibid., 86) gives as an example the action 'wage-cutting' by an entrepreneur which is 'non-logical' under conditions of free competition and 'logical' under a monopoly. The same action takes place, yet the subjective purpose ('reduce costs of production to increase revenue') only coincides with the objective end in the second case—in the first case it also reduces selling prices thus there is no producer surplus.

28 Commenting on the utility of his approach, Pareto ([1916b] 1935, 1407) notes that "the study of exchange in pure economics is like the study that is made in every course in physics of a body falling in a vacuum-similar in its merits and in its defects, in its usefulness and its uselessness.". Pure economics deploys abstractions, tests hypotheses in ideal conditions and discovers particular perspectives on reality, as do all natural sciences. Its importance in understanding concrete reality cannot be judged by comparing directly the abstract—the process of *synthesis* is necessary. In this line of thought, *homo economicus* is to be examined as one among qualitatively different parts of the 'real man':

> The concrete body comprises the chemical body, the mechanical body, the geometrical body, etc.; the real man comprises the *homo economicus*, the *homo ethicus*, the *homo religiosus*, etc. In short, considering these different bodies, these different men, amounts to considering the different properties of this real body, of this real man, and tends only to cut into slices the matter to be investigated (Pareto [1906] 2014, 9).

29 In terms of power/knowledge relations, summarising the above discussion, Pareto's approach promoted a twofold 'veridical isolation'. On the one hand, subjects outside logico-experimental (or rational) category do not have the capacity to know and thus can only 'trust' the proofs of reality produced by scientists: "As regards persuasion, proofs are convincing only to minds trained to logico-experimental thinking" (Pareto [1916a] 1935, 23). In addition to that, the authority of sentiments, passions, beliefs, etc., has no efficacy on the logico-experimental domain. On the other hand, the proofs discovered in the logico-experimental domain of experience cannot affect the domain of faith. The latter domain thus has distinct causal powers, rather than being subordinated to the former.

treated economics as an exact science. Contra early neoclassicals, he furthered the separation of psychology from economics, considering the former as an 'empirically immature' science, and proclaiming the elimination of 'every psychological analysis' in his approach (Bruni 2013, 49-50). The 'purified body' of political economy, having been liberated from practical, metaphysical and normative frameworks, can be refined in line with natural sciences. Psychology, being far from such scientific processes, can only prove corruptive to the domain of pure economics.[30]

The Paretian *oeuvre* can be viewed as part of a broader 'purificatory' process which transfers the economic subject in the domain of the abstract. There it is purged not merely of psychological, but of most social features and relations—indeed, most relations lest they be mechanical. This process took off during the 1930s and 1940s and increasingly deepened for most of the remaining 20th century.[31] Economists such as John Hicks, Roy Allen and Paul Samuelson further promoted the elimination of psychology. This was achieved by abandoning some of Pareto's criteria such as 'repeated action'; by 'assuming away' certain empirical and mathematical conundrums that he faced;[32] and by overlooking explicitly-stated limitations of his approach (Bruni and Sugden 2007, 146, 157, 160). On top of that, criticising Pareto for overly-restricting the domain of economics, mainstream economists argued for a broader application of his method and epistemology, both on 'economic' and on human conduct in general.[33]

The results of the Paretian movement are incorporated in deep and long-lasting changes in economic theory, method and practice. Models built on the principle of rational choice were considered as conforming to aspects of economic behaviour such as risk, uncertainty, expectations and preferences. They became predominant in game theory, public choice theory, new institutional theories, law and economics, and various colonised fields of

30 In a 1897 letter to Adrien Naville, Pareto writes: "It is an empirical fact that the natural sciences have progressed only when they have taken secondary principles as their point of departure, instead of trying to discover the essence of things. […] Pure political economy has therefore a great interest in relying as little as possible on the domain of psychology" (Busino 1964, 226).

31 It can be argued that the purification process was a necessary step towards the deeper 'formalisation' and 'mathematisation' of economic behaviour and of economics *in toto* (for an inclusive discussion of the latter, see, Milonakis 2017).

32 For instance, the problem of integrability—when more than two goods are involved, the observed marginal rates of substitution cannot be integrated with certainty into indifference curves since the rule governing consumer's choice-behaviour cannot be empirically shown to be based on an ordinal scale of end states—was assumed away using the axiom of transitivity of preferences which enabled comparison in pairs and strict ranking (for a discussion of the integrability problem, see, Mirowski 1991, 360-372). The tactical project of *axiomatics* flourished in positivist economics in the latter part of the 20th century.

33 For example, so-called 'neo-Keynesians', such as Hicks, 'tamed' Keynes' *animal spirits*—confined them in the short-run period and quantified them—selectively formalising interpretations of his theory.

social theory and practice which were traditionally considered ‘non-economic’.[34] Nonetheless, the rise of *homo economicus* in the kingdom of abstract theory was met by an opposing and, at the same time, complementary movement. The latter sought to ‘trace’ the concrete and real aspects of the economic subject, in an attempt to restore the social link with the empirical world.

The movement of economic psychology

In the beginning of the 20th century, while the study of concrete behaviour was being ostracised from the domain of pure economics, a second movement with an antithetical direction of strategy—what can be termed the movement of economic psychology—was setting off. The latter can be viewed as part of a broader, critical movement in economic theory and practice which questioned many of the then prevalent hypotheses and ‘truths’ in economics.[35] At the root of the economic psychology movement lies a critique of rational choice theory and *homo economicus*. This critique mostly originates in sociological and psychological studies.

The work of the sociologist, criminologist, and social psychologist Gabriel Tarde *Psychologie Economique* (1902) is broadly considered as the foundational text of economic psychology. It precipitated several developments on the broader field of economic behaviour, yet it remains mostly undiscovered by many researchers and theorists, including behavioural economists (Ajdukovic et al. 2018). For Tarde, psychology cannot be separated from economics given that economic behaviour is an integral part of the broader social interaction of human beings. *Homo economicus* is an arbitrary construction for the purposes of presenting socio-economic results in a ‘geometric’ fashion; a construction which can be

34 This colonisation has been termed ‘economics imperialism’ in the relevant literature (see e.g., Fine 2000; Fine and Milonakis 2009).

35 The Great Depression of 1929, combined with the destructive effects of World War II, resulted in a decisive situation: the former empowered a wave of criticism towards mainstream economic theory while the latter prompted an economic restructuring through governmental means. As state power burgeoned in most domains, the harmonious world of self-regulating markets seemed more utopian than ever. In economics, a number of developments marked deep theoretical and epistemic changes. In the 1930s, the introduction of Keynes' theory, along with Joan Robinson’s theory of monopsony and Edward Chamberlin’s monopolistic competition, advanced a sharp criticism of 'perfect competition'. Furthermore, an ‘empirical turn’ in economics was launched, opposing marginal theory. Empirical studies, such as those of Hall and Hitch (1939) and Lester (1946), claimed that the use of marginal analysis in decision-making are disputed by empirical data. In terms of epistemology and method, approaches such as the logical deductivism of Lionel Robbins along with conceptualisations of knowledge as *a priori* to experience, such as von Mises’ praxeology, were opposed by empiricists, such as Terence Hutchison, who argued for an inductive and more positivist approach (see, Milonakis and Fine 2009). Finally, during the same period, the field of experimental economics was emerging. In a pivotal 1931 article, the psychologist of the psychophysics tradition, L.L. Thurstone (1931) argued to have experimentally derived an individual’s indifference curve. Several years later, in a seminal paper, Chamberlin (1948) introduced what is regarded as the first market experiment. Vernon Smith, drawing from Chamberlin’s work, further established the methodology of experimental economics.

defended neither on the grounds of pertaining merely to a formal rationality nor as an abstract simplification for specific market actions.[36] On the contrary, Tarde argues for a 'turn to reality' in economic inquiry, explaining actual social behaviour by an examination of actual desires, decisions, decision-makers and their behaviour.

The latter turn was underway in the first half of the 20th century, yet it explicitly appeared in economic psychology literature in the 1960s. This current is commonly called 'old behavioural economics'—distinguishing it from the new behavioural economics current on which contemporary economics is mostly founded—and involved researchers undertaking cross-disciplinary activities mostly in US and UK institutions.[37] Psychological knowledge, methods and techniques were introduced in the study of economic behaviour, for theoretical and applied purposes. This significantly influenced practices of decision-making and behaviour administration (management) in the theoretical context of organisation theory and theories of individual choice. Soon, the movement spread to macroeconomics, microeconomics, public choice theory and finance, among others.

Although there are theoretical divergences, the economic psychology movement opposed certain conventional economic hypotheses and processes such as utility maximisation, perfect information, rational choice and limitless calculation. It thus promoted an alternative apparatus to (empirically) observe, explain and predict economic behaviour and relevant phenomena. The latter was made possible by the introduction of new methods and technologies of 'knowing' the economic subject, different parameters governing 'economic' thought and action, novel strategies directing economic behaviour. In what follows, some of the methods and main works of old behavioural economists are briefly discussed. This discussion sets a background for the assessment of contemporary forms of behavioural economics in Chapter 2.

36 "This Homo economicus, who follows, methodically and exclusively, his egoistical interests, abstracting from all sentiment, faith or conviction, is not just an incomplete being, he implies a contradiction. Who is the man whose most cherished interest is not precisely to avoid rupture with his beliefs or his pride, his heart or his faith?" (Tarde, 1902, 85, quoted in Ajdukovic et al. 2018, 6).

37 Sent (2004, 740–43) classifies old behavioural economists into four groups: researchers at the Carnegie Institution, such as Richard Cyert and Herbert Simon, focusing on issues of bounded rationality and simulations, mostly in firm behaviour; researchers at Michigan, such as George Katona, focusing on consumer behaviour and macroeconomic issues; researchers at Oxford, such as P. W. S. Andrews and D. M. Lamberton, employing case studies on issues of uncertainty and coordination; and researchers at Stirling, such as Brian Loasby and Peter Earl, working on economic eclecticism and integration. Overall, old behavioural economics is considered a heterodox approach, contrary to new behavioural economics (critically assessed in Chapters 2 and 3). The latter mainly originates in the 1970s, in works which incorporate developments in cognitive psychology into economics.

The breakthroughs in computer science and artificial intelligence were key factors in the 20th century incorporation of psychology into the science of economic conduct. During the 1960s, the tool of (computer) simulation was introduced in economic literature. A foundational entry was the proposed bibliography on simulation by Martin Shubik—a then economist of General Motors.[38] [39] According to Morgan (2004), simulation produces "evidence"[40] via combining the elements of *model*, *game*, *experiment* and *computer*. At the time, simulation was an unknown process in economics, since not only the emergent combination of the four elements, but also each individual element was largely *terra incognita* in economic research. Towards the end of the 20th century, however, it gained legitimacy as a scientific method and became standard practice in fields such as experimental economics and econometrics.

Apart from methods such as simulation, the economic body and behaviour became exposed to a broader (quantitatively and qualitatively) range of scientific tools and *gazes*. Economic psychologists emphasised how the economic subject is affected by a number of factors which are not traditionally considered 'economic'. A focus on social, rather than mechanical, processes renders the conventional economic modelling of behaviour flawed, questioning its theoretical postulations of equilibrium and stability. At the same time, psychological findings on emotions, attitudes, habitual action, etc. become indispensable for a study of choice and action in economics. The latter statement was notably advanced by the Gestalt psychologist George Katona who also pointed out an 'inverse' situation, namely that the study of economic behaviour was largely missing from psychology.

In his book *Psychological Analysis of Economic Behavior* (1951), Katona argues that economic measurements of investment decisions (capital amount, expenditure plans, current liquid assets, profits, etc.) should be complemented by relevant psychological variables such as expectations regarding sales and profit, opinions on business trends, attitudes towards the present and future technological situation, and others. He concludes that the objective of such empirical studies would be "to determine what *functional relations* prevail in different

38 The link between the theories, methods, machines and technologies of science and those of war—from artificial intelligence and simulations, to the Turing machine of World War II and game theory of the Cold War—is once again made manifest. For instance, as observed in Shubik's bibliography, a large number of the suggested papers was research done for the RAND corporation. As Shubik (1960, 736) notes, a host of relevant research on the subject was not included, due to being classified as internal company documents and military papers.

39 Morgan (2004, 340) considers another three foundational papers also published in 1960: Shubik' S*imulation of the Industry and The Firm;* Guy Orcutt's, *Simulation of Economic Systems*, reporting his work on microsimulation; and Geoffrey P. E. Clarkson's and Herbert A. Simon's, *Simulation of Individual and Group Behavior*, where they argue that simulation can, at least partially, reproduce the output of various forms of economic behaviour such as investing.

40 The quote marks indicate a specific form of evidence which imitates the evidence of empirically collected raw data.

circumstances" (ibid., 251, added italics). In *The Powerful Consumer* (1960, 22), Katona proposes an influential distinction between ability-to-buy and willingness-to-buy in consumer behaviour. The former refers to 'objective' determining factors, such as income, possessions and access to credit, whereas the latter to 'subjective' factors—Katona calls this part the 'contribution of the "person"'—such as mood and attitudes towards personal finance and the economy as a whole. Katona's approach focuses on consumer behaviour, seeking to better explain fluctuations of demand and corresponding economic outcomes at the macro level.

Along with the emotional states permeating the body of the economic subject, part of the economic psychology movement was a study of the capacity and modality of thought. This current was coexistent with the cognitive movement of the 1950s, which included an interdisciplinary study of mental systems as processors of sensory input. According to the latter, instead of a 'pure rationality'—e.g., cognition on the basis of machine-like functions, such as instant calculation, and infinite capacities, based on perfect knowledge and always striving for optimality—a series of limitations and structured patterns characterise human thought. One of the pioneers in this field, Herbert Simon, was also among the most prominent figures of behavioural economics.[41]

Simon (1955) calls for a *revision* of h*omo economicus*: he argues for the *replacement* of the universal rationality presupposed in the classical economic model with a more 'realistic' rationality, so-called bounded rationality:

> Broadly stated, the task is to replace the global rationality of economic man with a kind of rational behavior that is compatible with the access to information and the computational capacities that are actually possessed by organisms, including man, in the kinds of environments in which such organisms exist (ibid., 99).

Simon's h*omo economicus* possesses a distinct mental processing system. Upon making a decision, diverse functions and command-like processes are activated. Among the main functions are valuation, searching, mapping, and satisficing. Valuation refers to the

41 A discussion of Simon's far-reaching *oeuvre* in decision-making, organisation theory and complex systems, to name a few, is beyond the scope of this paper. It is, however, interesting to draw a parallel with contemporary behavioural economics. Simon's tradition in behavioural economics is considered by many as the 'radical' one, later overlooked or misused by new behavioural economists (see e.g., Sent 2004, 743). In 2001, Richard Thaler, probably the most influential contemporary behavioural economist, was reassuring researchers in the field by stating that behavioural economics were 'de-radicalised': "many young economists have been worried that studying these topics is a risky career path; they now have recognition that behavioral economics is no longer considered radical" (Uchitelle 2001). Here arises a typical conundrum which haunts the broader field of signification through adjectives; one which can be represented in the question 'radical for whom and for what purposes?'. For pure economists, for example, even a hint of sociality in the economic domain would be considered an intruding extremity, messing with the pristine performance of (their) science.

assignment of pay-offs to different outcomes and is prior to the decision-making process; the pay-offs assigned are ‘simple’, often binary, for example, (1, 0), where ‘1’ corresponds to ‘satisfactory’ (thus acceptable) and ‘0’ to ‘unsatisfactory’. Searching, akin to a ‘run command’, commences a loop where the potential choice-alternatives and relevant outcomes are tracked. Mapping refers to structuring information and storing it for future recall; mapping can be ‘refined’ through *information-gathering* which is a sequential process that evaluates alternatives—as in exploring chess variations. Satisficing refers to the condition which terminates the loop: searching and refining are time-consuming and costly thus cannot continue *ad infinitum*; the decision-making process stops, when certain pay-off requirements have been satisfied.

For Simon, the above model of mental processing is dynamic in its relation with psychological parameters, time and the choice-environment. He thus argues (ibid., 111-113) that a given psychological state can affect the aspiration level (the level at which an outcome is considered satisfactory) of the individual. For instance, founding it difficult to discover satisfactory alternatives will result in a drop in the aspiration level. Moreover, both aspiration levels and the attributed pay-offs depend on the history of the system, such as the choices made in the past. Finally, in considering the role of the choice-environment, Simon (1956) argues that its properties further simplify the framework of decision-making: the number of alternative paths is limited, the abundance in needed goods is finite, and the environmental clues supporting the organism’s survival are specific. One of his most significant conclusions is that “blocks of the organism's time can be allocated to activities related to individual needs (separate means-end chains) without creating any problem of overall allocation or coordination or the need for any general "utility function"” (ibid., 136).

To conclude, Simon sets a new direction in economic discourse, largely by employing a quasi-computer programming language when approaching mental processes and decision-making. As one of the most prominent figures of the ‘empirical turn’ of behavioural economics, he advocates a *revision* of *homo economicus* by substituting his ‘universal’ and ‘rational’ aspects with ‘concrete’ and ‘boundedly rational’ ones. However, as it is argued in the next two chapters, the call for *revision* took a specific political form in contemporary behavioural economics: its core functionality pertains to the *governing* of the subject through dynamic power/knowledge relations. The modification of an ‘ideal type’ of the economic subject or the contrasting among an ‘ideal-type’ and a ‘real-type’ is but a part of such a process.

Simon’s *oeuvre*—independently of how, ‘falsely’ or ‘correctly’, it has been later

interpreted by behavioural economists—is part of a broader discourse which has historically operated as an *apparatus* of knowledge (*savoir*) in political economy: it fostered the emergence of diverse tactics, techniques, mechanisms and devices of power. As a scientific discourse at the micro-theoretical level, it opposed a specific way of 'predicting economic movement'—indicating something that many economists often conveniently forget, namely that economic indicators might be epiphenomenally expressed as numbers, but are fundamentally about social relations.[42] At the macro-theoretical level, it complemented and upgraded, in a greater or lesser degree, the scientific toolbox of economic theory.

In the following chapter, the functionality of behavioural economics, as a more recent manifestation of the economic psychology movement, is examined with regard to its implications for economic theory and practice. It is demonstrated that the apparatus of behavioural knowledge (*savoir*) which became prominent during the late 20th and early 21st centuries promoted a technology of power which *utilises* such knowledge in order to *direct* human conduct. The latter process includes the invention of behavioural techniques and tactics, mechanisms and devices—a broader power framework which was instituted in the early 21st century onward. Behavioural economics is viewed not merely as an approach to economics or a theoretical basis to suggest policies; it is an assemblage of power and knowledge relations.

42 In a critique of Milton Friedman's methodology, Simon contrasts the 'principle of unreality'—the proposition that what matters is the validity of conclusions rather than the 'reality' of the premises—with his 'principle of continuity of approximation' which states that "if the conditions of the real world approximate sufficiently well the assumptions of an ideal type, the derivations from these assumptions will be approximately correct" (quoted in Hausman 2008, 181). He adds that the unreality of assumptions is a 'necessary evil'—necessary since the scientist has 'finite computing capacity'—which is rendered tolerable by his principle of continuity.

2. Behavioural economics as power/knowledge

Knowledge is not made for understanding; it is made for cutting.
—Michel Foucault, *Nietzsche, Genealogy, History* (1977)

There's no need to fear or hope, but only to look for new weapons.
—Gilles Deleuze, *Postscript on the Societies of Control* (1992)

Economic psychology is contemporarily characterised as a cross-disciplinary field which does not belong to a particular branch of a science but rather encompasses many theories, diverse issues and scientists from different backgrounds. Lea (2015) outlines three main premises of economic psychology:

> (1) the economy powerfully influences individuals' lives, at the psychological level of feelings, thoughts, and behavior, (2) individuals' feelings, thoughts, and behavior are what make up economic life, and (3) there are many problems, both academic and practical, to which economics and psychology can both contribute despite their very different approaches and explanatory styles.

Cross-disciplinarity, however, does not entail 'power-neutral' relations among sciences. Earl (2005, 910–11) points to the 'adjective-noun' order—economic psychology and psychological economics—arguing that it can indicate both a relationship of subordination as well as a relationship of mutual reinforcement. As aforementioned, such movements are interlinked with an multiplicity of power/knowledge processes and relations, inherent in scientific endeavours. Therefore, this cross-disciplinary field in its totality is herein considered as a scientific field which utilises an array of discursive and non-discursive practices, knowledge formations, techniques and technologies in order to *know* and *govern* human conduct.

The purpose of this paper is not to classify behavioural economics under a particular category—radical vs non-radical, old vs new, part of the neoclassical paradigm or not, etc. The aim is to analyse the broader functionality of behavioural economics as an integral part of economic theory and practice. Considering the latter two as indivisible when it comes to their role in shaping social *praxis*, a more specific aim of the research is to identify such links as part of modes of governance. A first attempt towards this direction, presented below, is to examine the formation, positioning and application of diverse behavioural techniques and devices. Behavioural economics is approached as a power/knowledge apparatus. It constructs suitably modified power-technologies which permeate the field of social action.

2.1. Constructing the behavioural *homo economicus*

Contemporary behavioural economics departs from the conventional type of h*omo economicus* and the corresponding hypotheses about economic behaviour.[43] By importing concepts and knowledge formations from cognitive and behavioural psychology—and, more recently, from fields such as neuroeconomics[44]—a 'real-type' of h*omo economicus* is constructed.[45] In this proclaimed empirical turn, many of the core conventional economic assumptions are overturned: preferences are not stable over time, place and emotional state; time matters in a variety of ways; decision-making is contingent upon the ways options are presented evaluated besides the 'calculated payoffs',[46] among others. A primary proposition of behavioural economics is that decision-making is characterised by deliberation (or 'internal search') costs: acquiring information, comparing and deciding among alternative options is a time-consuming process which would converge to infinity in lack of certain (behavioural) mechanisms and shortcuts.

As a result, the *anatomy* of the behavioural *homo economicus* differs in core features and functions. The thought-process is characterised both by limitations—for example, in calculating possible alternatives and outcomes—and by different qualities, as in the way of comparing and deciding upon. Both the modality of mental processing and the 'mind structure' are hence 'known' via an empirical approach to thought and behaviour: instead of a 'lightning calculator of pleasures and pains', heuristics (rules of thumb) coordinate decision-

43 For many scholars, departing from this point is a 'realistic' means to reach it. As discussed below, most behavioural economists regard the conventional type of *homo economicus* as the 'end-goal'. Behavioural economics seeks to identify the 'bounds' of the 'average human' (bounded rationality, willpower and self-interest) which are viewed as *restrictions toward* rational behaviour; behavioural patterns are to be utilised so that the subject is *directed* toward 'the rational'.

44 Moving to the biological and chemical aspects of the brain, neuroeconomists seek to discover the source and the networks of cognitive processes, inclinations, encodings and desires. Camerer (2006, 28–29) argues that economics has moved from a Pareto-inspired 'avoidance of the essence' to a situation of exceptional technological development which can track the depths of the brain. He claims that "the goal is to establish the neural circuitry underlying economic decisions, for the eventual purpose of making better predictions" (see also, Camerer 2007). Common neurological methods and techniques such as EMG, fMRI and TMS are employed to—literary— inquire into economic behaviour.

45 Mainstream behavioural economists classify 'real' people into two categories: one which includes 'average' behaviour, and one which approximates the rational behaviour of h*omo economicus*. The former refers to the 'average layperson' and the later to experts and professionals, their examples being economists, billiard players, investors and businesspersons. The two categories are termed in various, opposing ways: 'Humans vs Econs' (Thaler and Sunstein 2008) or 'rational actors' vs 'idiots' (Camerer et al. 2003) and 'phools' (Akerlof and Shiller 2015). Besides the dangerous connotations and segregating effects of such classifications, this literature overlooks the social formation of subject-positions and relations (in terms of sex, race, etc., and especially in terms of class),attributing, at least implicitly, such behavioural outcomes to a fixed (ahistorical and asocial) 'essence'.

46 For example, objective probabilities are replaced by subjective decision weights.

making; instead of a 'purely rational mind', thought is divided in heterogeneous modes.[47] Moreover, mental processes interact with cognitive processes, emotional flows and value systems, which also interact with each other. Starting with cognitive processes, the three categories are examined below.

Heuristics and the analysis of cognitive processes

In general, heuristics refer to a modality of mental processing, a way of identifying and processing information in order to decide. As an umbrella term, it refers to different strategies or rules of thumb which are employed for perceiving, judging, believing, deciding upon a situation. One example of a heuristic strategy is Herbert Simon's satisficing, outlined in the previous chapter. Other examples include: the representativeness heuristic—creating a category prototype for a number of events and interlinking their cause and effects as if they are one event—the availability heuristic—evaluating a situation according to instances that immediately come to mind—and anchoring—setting a reference point or level in order to compare evaluations; for instance, setting a level up to which the price of a good is regarded 'satisfactory' or 'fair'. Heuristics are also related to more simplified processes of information-management such as Thaler's mental accounting which refers to the categorising and budgeting money into cost-groups, assigning different priorities for each group. Overall, heuristics pertain to decision-making for a specific (practical) purpose and in a specific context. Hence, average 'real' humans employ heuristic principles to estimate probabilities, instead of, for example, Bayes' rule.

Heuristics interact with a number of cognitive inclinations—predispositions of the subject's mental attitude towards a particular situation or outcome. A number of commonly-observed inclinations by Kahneman and Tversky are part of prospect theory, a fundamental theory in behavioural economics which is contrasted with expected utility theory. The core assertions of prospect theory are three. First, humans tend to value loss higher rather than gain even if the two are equivalent in terms of monetary value—a tendency termed *loss aversion*. Second, and interlinked with the latter, humans are risk-seeking on a choice that leads to avoiding loss. Third, humans are risk-averse on a choice that leads to gains, preferring low expected utility and higher certainty. Another cognitive inclination

47 The most popular is the two-systems model of Kahneman and Tversky (see e.g., Kahneman 2003) popularised in Kahneman's best-selling 2011 book *Thinking Fast and Slow*. The automatic system is fast, effortless, parallel, automatic, associative, slow-learning and emotional; it mostly refers to automatic operations of perception. The reflective system is slow, effortful, serial, controlled, rule-governed, flexible, and neutral; it mostly refers to deliberate operations of reasoning. As discussed below (pages 26-27), the two systems contradict each other, as the reflective aims to monitor and discipline the automatic system.

‘discovered’ by prospect theory is the non-linear sensitivity to probability: low-probability events are assigned high weights, whereas events of higher probability are assigned low weights.

Cognitive inclinations are the source of various psychological effects, such as the endowment effect. The latter maintains that, in a trading situation, goods which are part of an individual’s initial endowment are valued higher than goods of equivalent monetary value. One of the most popular experiments is the coffee mugs experiment (see for example, Kahneman et al. 1990). Among students trading mugs, those initially endowed with mugs (free gifts) were relatively reluctant to sell them to students with money, leading to a ratio of willingness-to-accept to willingness-to-pay of 2:1—whereas standard economic theory predicts that it will converge to 1:1. According to behavioural economists, the outcome is explained by loss aversion since trading away the endowed mug is treated as a loss and valued higher than the standard gain generated through trade. Similarly, Thaler argues that humans value out-of-pocket costs higher than opportunity costs of the same monetary value because the latter are considered forgone gains.

A second prevalent category of cognitive effects are the *framing effects (*utilised in framing techniques as discussed in Section 2.2.). Framing effects are effects mediated by the given structure and presentation of a problem or a set of choices—rather than the raw ‘utility’ of each choice—which can significantly affect the final decision. For example, when comparing risky choices, subjects often do not ‘cancel out’ equally likely outcomes, violating the independence axiom—an observation popularised as the *Allais paradox*, also used in prospect theory. Moreover, requirements of coherence and consistence are systematically violated: a mere change of frame can produce different results. For instance, presenting gambles in pairs instead of pricing them separately often leads to a reversal of preferences (for a discussion, see Tversky and Kahneman 1981). In general, even when two or more statements are logically equivalent, if the problem is structured differently, decision-making is affected.[48]

The combination of heuristics and cognitive inclinations often leads to ‘systematic errors’ in perception and judgement, the so-called *cognitive biases*.[49] Diverse biases ensue from heuristic principles such as those described above. The representativeness heuristic can lead to extension neglect: when extending a category, the change in value is attributed to

48 This is another departure from rational choice theory since framing exemplifies the multiple ways that preferences are externally affected. The selection of what will (not) be presented and in which way, in combination with intuitive processes and heuristics such as accessibility, plays an important role.

49 The cognitive biases are exploited by the behavioural apparatus to *direct* behaviour (see Section 2.2.)

extensional rather than prototype attributes, thus the latter, which are representative of reality, are not 'updated'. The availability heuristic can lead to overweighting a particular body of evidence which might be the most memorable or intense. When anchoring in a particular reference point, information is evaluated comparatively, leading to slow or insufficient adjustment in value assessment. Behavioural economists also profess the ability to locate (and exploit) common fallacies such as the gambler's fallacy, the regression fallacy and the sunk cost fallacy in an economic context.[50]

Emotional flows: Willpower vs (social) affectivity

In constructing the behavioural *homo economicus*, cognitive processes are coupled with sentiments, emotions, urges, and a host of emotional flows which permeate and *direct* the (economic) body. Behavioural economics draws upon psychological knowledge on emotional states and interactions, aiming to incorporate them in an economic context. However, the field of emotions is too broad, subjective and ambiguous to be treated in a systematic manner. Behavioural economists, in an analytical manoeuvre to avoid this hindrance, divide emotional flows into two main categories: self-control issues and social influences. This move allows for an instrumental treatment of emotional flows, circumventing a deeper understanding of emotions. The main result is that it paves the way to a multiplicity of techniques and mechanisms that can potentially manage such flows.

On the one hand, in the same way that cognitive capacities bound rationality, emotional flows are bounding for the willpower of 'real' humans. For instance, the observed desire for immediate gratification leads to a myopic attitude when deciding, largely overlooking long-term effects.[51] This and analogous situations foster internal conflict and self-control issues which the behavioural economist attempts to manage. The planner-doer model is a common formulation of this problem. Self-control is perceived as a relation among a controller and a controllee, internalised by the individual thus producing a 'split': the planner-self and the doer-self (or selves). The former, a product of the reflective system, is

50 In a brief discussion of relevant surveys, Rabin (1998, 32–33) concludes that 'experts and specialists' might on average moderate errors; nevertheless, in some cases they can be more susceptible to biases, such as confirmation bias and overconfidence, relatively to 'laypersons'. From a critical standpoint, Gigerenzer (2018) argues that there is a persistence of the 'bias bias', the tendency of behavioural economists to spot systematic error when there is none.

51 Immediate gratification is closely linked with hyperbolic discounting. Contra exponential discounting which assumes a constant discount factor, the latter claims that the subject's valuations on recent delay periods fall more rapidly relatively to future delay periods. Preferences are thus dynamically inconsistent. This effect, along with the planner-doer model described below, is considered by many as empirically and biologically founded; both are common in neuroeconomics research (for delay discounting, see e.g., McClure et al. 2004; and McClure et al. 2007; for the 'dual self' model in neuroeconomics, see, Fudenberg and Levine 2006).

far-sighted and stable in preferences; the latter, blind servant of the automatic System, is myopic and impulsive.[52] The former is rigid and considers long-term welfare; the latter is ephemeral—a self that varies in each time-period—and acts mindlessly according to prompts and stimuli. In such a conflictual situation, the doer(s) must be disciplined in order to establish self-control. A suggested solution by behavioural economists is to set up rules (to be internalised) that anticipate impulsive behaviour.[53]

On the other hand, behavioural economists acknowledge that the volition of the subject and its direction is not only a matter of internal conflict but also of external, social interaction. A multiplicity of 'social' flows enact extra forces which influence human conduct. Therefore, an individual's belief, in the general sense, is affected by the corresponding prevalent 'social' belief, as well as by inter-subjective belief in the second order: "interpreting other peoples' motives depend on what we believe *their beliefs* about the consequences of their actions are" (Rabin 1998, 23).[54] Moreover, Thaler and Sunstein (2008, 56-58), on the basis of popular socio-psychological experiments and findings in neuroeconomics, argue that social conformity is a universal feature of human behaviour. For example, Asch's and Sherif's experiments indicate that people 'see according to what (they believe) others see'—according to neuroeconomists, they often not only 'see' in the metaphorical sense, but actually see.[55] As a result, 'individual' judgments and decisions tend to converge to the group norm, especially when such activity is exposed rather than anonymous.

Value systems regulating decision-making

A third fundamental aspect of the behavioural *homo economicus*, assessed by behavioural economics, is that decision-making is regulated according to manifold value systems. Next to the cognitive domain of mental processes and the affective domain of emotional flows, the evaluative domain of value systems is taken into consideration—

52 Thaler (2015, 42) exemplifies this internal split using two popular television figures: "You can think of the Planner as speaking for your Reflective System, or the Mr. Spock lurking within you, and the Doer as heavily influenced by the Automatic System, or everyone's Homer Simpson". It may not be easy for the average person to cultivate their 'Mr. Spock', but—with the guidance of behavioural economics—their 'Homer Simpsons' can be disciplined, contributing to the overall government of the self.

53 Simplistic examples of such behavioural rules are 'do not keep dessert in the house as long as you are on a diet' (see, Conlisk 1996, 677) or 'remove the bowl of cashews from the table as long as dinner is not ready' (see, Thaler 2018).

54 Accordingly, in an economic context, an investor's decision is not merely based on an evaluation of a given asset. It is also based on the inter-temporal fluctuation of other investors' valuations of the asset, the latter being based on other investors' future valuations, and so on (see e.g., Thaler 2015, 203-206).

55 In a relevant footnote, Thaler and Sunstein (2008, 256) point out that: "conforming answers are associated with changes in the perceptual features of the brain rather than with changes in the prefrontal cortex,which is associated with conscious decision making".

interacting with the other two. Value systems ingrain in thought and decision-making a 'care about the other and the environment', diverging from action solely based on crude self-interest—a main feature of the neoclassical *homo economicus*.[56] Altruism, reciprocity, fairness, inequality, and like concepts enter the behavioural economics vocabulary. Under these circumstances, people donate to charity not necessarily to serve their economic interests, they care about others' payoffs not necessarily as part of a strategic movement that seeks to maximise future personal payoffs, and they appeal for 'fair' asset distributions not necessarily for the distribution that benefits them personally.

Value systems can overturn common strategies and measures of evaluating life. For example, from personal wealth being an end in-itself, to wealth being the means to a different end such as collective happiness. At another level, value systems can lead to adverse effects in terms of established practices, for instance, when actions considered 'unethical' or 'unfair' are carried out. Such effects are common in cases of pecuniary treatment. In behavioural economic theory, the 'crowding-out effect of intrinsic motivation' states that "introducing a reward into a situation where people already have a high interest in an activity results in a decrease in their intrinsic motivation" (Frey and Benz 2004, 74; see, Frey 1997, for a broader discussion of the relevant theory and applications). The latter approach demonstrates that the *price effect* is only one among a series of contradictory and complementary forces which determine economic outcomes. For example, workers' value systems matter in terms of productivity and overall behaviour: a rise in wages might decrease performance if it is considered 'unfair', personally or collectively. Likewise, in governmental policy, financial incentives can prove detrimental. For example, volunteers who contribute to the provision of public goods might be discouraged by state funding (McAuley 2010, 16).

In general, an empirical (or partly-empirical) approach to economic phenomena, highlighting the fundamental role of cognitive processes and inclinations, emotional and social influence, and the role of value systems in decision-making, promotes an alternative framework of (economic) choice and behaviour in economics. More importantly, however, as discussed below and in the following chapter, it enables the emergence of a *sui generis* technology and *architecture* of power, consisting of novel tactics, techniques, mechanisms and devices targeting (economic) behaviour.

56 Again, behavioural economists who envision h*omo economicus* as the ultimately achieved ideal- and real-type, speak of 'bounded' self-interest or selfishness. For them, acting according to intersubjective value systems is a deviation from the Rational, the 'natural order' of behaviour.

2.2. Utilising behavioural knowledge: The design of a power architecture

The ‘discovery’ and utilisation of behavioural knowledge (*savoir*) is the first (active) part of a process of promoting a different mode of power in economic theory and practice: assemblages of a multiplicity of behavioural tactics, techniques mechanisms and devices which advance a novel technology of control. In such a mode, knowledge formations based on heuristics, cognitive processes, emotional flows and social values are utilised in order to target behaviour and *guide* it. Aspects and modalities of the subject’s conduct, such as those described in the previous section, are processed into a dynamic (re)construction of the field of potential action. Provided that behaviour is based on rules of thumb and that those rules are not formal but empirical, an array of ‘action upon (behavioural) action’ becomes possible. Consequently, new, as well as already-existing, forms of power and corresponding technologies are enhanced in intensity, internal complexity and far-reaching capacity.

The discourse of behavioural economics effectively transfers such knowledge from psychology to the domain of economics and, at the same time, combines it with aspects of economic analysis, (re)producing specific power/knowledge relations. Moreover, it maintains consistent links with economic planning and practice such as public policy. In contemporary behavioural economics, the most popular category of power techniques is the *nudge*, while the subject who designs nudges is called a *choice architect*. In what follows, connections between behavioural knowledge and power are drawn, introducing the most prevalent techniques along with their functions and effects, as an outline of the nudge framework.

Behavioural techniques, mechanisms and devices

Framing. Framing refers to actions which structure and arrange the choice-environment. This can be done in a largely discursive context, e.g., the arrangement of options in a food menu, or a non-discursive context, e.g., the arrangement of different types of foods in a store. The choice-environment is divided into several subfields which become the object of ‘behavioural modification’ and expertise. Four main subfields can be categorised as: *aesthetics*, setting up the ‘artistic’ appearance of options which primarily interacts with sense-experience; *complexity*, the selected quantity and quality of the conveyed information; *sequence*, the chronological and topological ordering of options; *contrast*, the positioning of an option relative to others. Framing, as a general category, includes a broad range of behavioural techniques.

A common framing technique is, what can be termed, ‘truth management’: employing

the ‘appropriate’ or ‘compatible’ *facts* (statistical data, trends, stylised facts, percentages, etc.) to produce a desired outcome. Instead of inventing and propagating falsities, the direction of conduct is performed through *ad hoc statements*. For instance, a set of options might be accompanied with a message of the kind ‘that is what most people choose’, utilising social flows such as social conformity.[57]

A second framing (*contrast*) technique is the adding of a ‘superfluous’ option—an option which does not provide extra information but contextualises the remaining options in a different way. In an often-used example in the literature, *The Economist* offered three possible options for subscribing to its newspaper: $59 for web-only content, $125 for print-only content, $125 for both web and print content. Ariely (2008, 1–6) shows that removing the middle, ‘superfluous’, option results in a lower percentage of subjects choosing the third one—and, as a consequence, lower revenues for *The Economist*.

Overall, the behavioural approach to cognitive effects and inclinations entails specific designs of framing choice and decision-making. For example, loss aversion enables a particular framing of (logically equivalent) options: in order to make a choice more possible (‘alluring’), its loss-avoiding aspects are overemphasised, while undermining such aspects of the remaining options. Likewise, the effect of preference reversal through framing allows for a number of economic actors, e.g. pricing institutions, to suitably set up the procedure of choosing.

The most powerful mechanism of framing is the *default option*. The default option is the pre-chosen or ‘suggested’ option among the total of options presented to the subject. Utilising the default effect, the default option enables the choice architect to direct subjects towards pre-set courses of action or plans. A common variation of the default option is automatic enrolment. In this case, one is passively (automatically) enrolled in a plan and has to actively choose to opt-out. For example, it is commonly argued that due to hyperbolic discounting, or the ‘impatience’ of subjects, participation rates in saving plans are lower than anticipated; automatically enrolling workers to saving plans lowers the ‘psychic’ costs of joining, and can dramatically increase saving rates (Mullainathan and Thaler 2015, 441; for a relevant discussion and surveys, see Benartzi and Thaler 2007). Besides increasing the enrolment rates, default options can be further utilised in directing towards particular economic outcomes such as a rate of return or contribution in a plan—this is exemplified in the much-publicised ‘save more tomorrow’ plan (see, Thaler and Benartzi 2004).

57 “Standard recommendation from the Cialdini bible: if you want people to comply with some norm or rule, it is a good strategy to inform them (if true) that most other people comply” (Thaler 2015, 321).

At a second-order level, framing techniques are used for managing the (economic) subject as of its broader predispositions and practices. Hence, after 'directing through design',where the choice architect promotes certain aspects of the plan regarded as profitable, optimal, prudent or rational, the subject passively accepts and internalises such choices and directions at the level of identity and subjectivity. This can be termed 'designing through direction'. For example, choice architects frame the subject's investment portfolio, constructing it in a specific way to lead toward specific investment options. This promotes specific forms of conduct (e.g., 'prudent' investment choices) as well as constitutes the subject in a specific manner (e.g., (re)producing 'routine investors'). Therefore, the utilisation of framing techniques and mechanisms such as default options enacts a twofold functionality: it directs (economic) behaviour and it augments processes of *subjectivisation*.[58]

Anchoring. Anchoring techniques utilise the anchoring effect. In a social environment characterised by anchoring processes, the choice architect's strategies are adapted accordingly. Since subjects compare existing values with internalised reference points, the tactical move is to focus on this internalisation process and create the 'proper' reference points to direct behaviour. At the same time, the anchoring effect entails that choice architects can *regrade* reference points and levels, indirectly directing preferences. The latter process can also bring about an enhancement of more simplified forms of power such as *short-side power*.[59] For example, an oligopolist can incorporate anchoring techniques in marketing strategies, shaping the reference levels of a product category for the broader population during a time-period.

Self-controlling and social influencing. As aforementioned, self-control can be attained by inventing and internalising behavioural rules. In the planner-doer model, the individual is conceptualised as a microcosm of a corporation which, contrary to the neoclassical 'black-box', is comprised of contradicting selves and is thus rife with internal conflict and 'control problems'.[60] The latter are confronted either with behavioural self-rules or with behavioural devices which promote 'prudent' and economical (saving, exercise, healthy diet, etc.) rather than impulsive and wasteful (myopic spending, smoking, eating junk-food , etc.) actions.

58 The above points are addressed in more detail in the second section of the following chapter.

59 Short-side power is defined as the power of economic actors positioned in the favourable side of the market, exploiting supply and demand imbalances.

60 "This conflict creates a *control problem* of the same variety as those present in any organization. Since the planner's preferences are consistent over time it does make sense for him to adopt rules to govern the doers' behavior" (Thaler 1980, 55).

Therefore, apart from promoting self-discipline practices via the internalisation of specially designed rules, behavioural economics contributes to the introduction and development of technologies pertaining to the biopolitical management of the population.[61]

The above behavioural processes are enhanced via techniques of social influence which primarily utilise the *sui generis* qualities of information and communication in a social context, as well as social flows such as peer pressure. For instance, commenting on the universal behavioural trait of 'following the herd', Thaler and Sunstein (2008, 58-59) argue that "many groups fall prey to what is known as "collective conservatism": the tendency of groups to stick to established patterns even as new needs arise" which leads to the problem of 'pluralistic ignorance': "ignorance, on the part of all or most, about what other people think". They conclude that "many social practices persist for this reason, and a small shock, or nudge, can dislodge them".

Utilising social values. After acknowledging the active role of value systems, a different approach to economic conduct and the multiple forces which affect economic outcomes becomes possible. Behavioural knowledge on social values and relevant effects engenders a different mapping of the economic field of action. As a result, besides promoting the broader creation and expansion of markets, it improves the 'economics' of market administration: it detects where and whether a process, incentive or punishment will prove beneficial or detrimental to a behavioural framework, adjusting accordingly the strategic plan.[62] For instance, aiming to avoid the crowding-out effects of monetary incentives, more productive performance and self-discipline can be achieved through social incentives or broader projects such as the cultivation of a 'company culture'.

Priming. Priming is a technique where subtle information and cues which seem irrelevant to the subject are used in order to guide judgment and overall behaviour. Most of the times it involves sensual stimuli (visual, aural, olfactory, tactile, etc.) or rituals (e.g., oath-taking) which target the automatic system of decision-making. It is a behavioural technique which underlies and complements the other techniques.

61 Addressed in the third section of the following chapter.

62 In a popular crowding-out case study, Gneezy & Rustichini (2000) show how the introduction of fines for late pickups in a day-care centre lead to adverse effects, increasing the incidence. They argue that the monetary fine was less 'costly', in social terms, for the parents: their guilt had acquired an exchange value they were more than willing to pay.

Nudge: Main characteristics and functions

Nudge is mostly used as a broad concept which refers to the above techniques or incorporates some combination of them. It was popularised in the beginning of the 21st century by Thaler and Sunstein to describe the behavioural mechanisms used in choice architecture. Its use has since been extended from theoretical discourse to applications in governmental policies and firms, in diverse organisations throughout the public and private sector.[63] The common definition of a nudge is "any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives." (Thaler and Sunstein 2008, 6). The nudge is the main tool of a new modality of political interference which behavioural economists call 'libertarian paternalism'.[64] Laibson and List (2015, 388) summarise succinctly the main 'novelties' of nudging and relevant techniques: "Behavioral economists like such interventions because they are scalable, inexpensive, highly successful in changing behavior, and also freedom-preserving".

The latter statement along with the definition already display some of the basic characteristics and functions of nudges: 1) they can be created and applied with low, in cases close to zero, economic cost; 2) they are scalable; 3) they are highly efficient; 4) they alter behaviour in *predictable* ways; 5) they do not interfere with economic incentives *per se*; 6) they 'preserve freedom', avoiding bans and coercion.

In what follows, such functions of behavioural techniques and processes along with the broader functionality of behavioural economics is critically examined. The analysis of the first two chapters is expanded upon, forming a critical discussion of the behavioural apparatus. It is demonstrated how behavioural economics is a mode of power which encompasses a series of different ways of governing the economic subject, both at the individual level and at the level of the population.

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63 In a 2014 global survey, Whitehead et al. (2014, 7) state that:

> "51 countries have central state-led policy initiatives that have been influenced by the new behavioural sciences. In addition, we found evidence of public initiatives that had been influenced by the new behavioural sciences (but were not centrally orchestrated) in a total of 135 states".

64 In terms of freedom and power, the most common legitimation criterion for creating nudges, as employed by behavioural economists, is the 'as judged by themselves' criterion: nudges make subjects better-off, *as judged by themselves*. A second common argument is that nudges and choice architecture already and necessarily exist, thus one cannot criticise them in the abstract, only in their specific forms and outcomes. Both comments hinge upon a legalistic and individualistic approach to power: the exercise of power and the reproduction of power relations are not simply predicated upon the 'judgment' of a subject nor they require a *tabula rasa* condition as the original source. Power (as a social relation) constitutes complex networks of forces which are reproduced through both inward and outward social interactions. A comprehensive assessment of the nudge as of its power effects requires placing it within the broader context of social processes, strata and dimensions of knowledge and action.

3. The governmentality of behavioural economics

> Through a whole series of interventions, which are often very subtle, we are able, in effect, to conduct the conduct of others, or to conduct oneself, in such a way that the conduct of others does not have the harmful effects that we fear. It is this vast field of governmentality that I wanted to study.
> —Michel Foucault, Interview with André Berten, May 1981 (2014)

In the present chapter it is argued that behavioural economics is not merely a theoretical or empirical approach to economics, simply offering alternative ways of conceptualising the behaviour of economic subjects. It is a mode of power and, as such, it involves power technologies, techniques, mechanisms and devices, all interacting to form a thorough political *program*. The latter is defined as an ensemble of political materialities shaping social reality (institutions, behaviour, discourses, etc.) in a calculated and reasoned manner. A history and genealogy of the subject and power show how such programs are rooted in concrete practices and corporealities.[65] In this respect, behavioural economics are part of, incorporate, and instantiate a particular (market) *governmentality*.

Governmentality is a concept developed by Foucault during the late 1970s and early 1980s. As a general category it embraces the different forms, rationalities, and ways of governing in the broader sense. In its specific character, however, it establishes a different understanding of how power operates. Lemke (2001) emphasises two main points on governmentality. First, the concept is an illustration of the reciprocal relationship between power and knowledge; it links governing and modes of thought (*gouverner* and *mentalité*) to underscore that an analysis of power relations necessitates an analysis of the political rationality they incorporate and reproduce.[66] Second, it is an attempt to 'free' the concept of government from its strictly political meaning—e.g., as the rule of a king or the administration by a state. Government is rather defined as the 'conduct of conduct' (*conduire des conduites)* pertaining to all aspects of

65 "The rational schemas of the prison, the hospital, or the asylum are not general principles that can be rediscovered only through the historian's retrospective interpretation. They are explicit programs; we are dealing with sets of calculated, reasoned prescriptions in terms of which institutions are meant to be recognized, spaces arranged, behaviors regulated. If they have an ideality, it is that of a programming left in abeyance, not that of a general but hidden meaning." (Foucault 2001b, 231).

66 "On the one hand, […] government defines a discursive field in which exercising power is 'rationalized'. This occurs, among other things, by the delineation of concepts, the specification of objects and borders, the provision of arguments and justifications, etc. In this manner, government enables a problem to be addressed and offers certain strategies for solving/handling the problem. On the other hand, it also structures specific forms of *intervention* […] This is understood to include agencies, procedures, institutions, legal forms, etc., that are intended to enable us to govern the objects and subjects of a political rationality" (ibid., 191).

life and stemming from political as well as scientific, philosophical, ethical, etc., sources.[67] It comprises of a broad spectrum of modes of governance ranging from 'governing others' to 'governing the self'.[68]

The conduct of conduct schema does not involve merely the governance of humans, their relations and interactions. It is an overall apparatus which shapes social reality in its totality. Next to human relations, it functions to establish a 'right disposition of things' thus having as its object a 'complex of men and things': "a more comprehensive reality that includes the material environment and the specific arrangements and technical networks that relate the human and the non-human" (Lemke 2013, 48). This is integral to Foucault's main functionality of power: the structuring of the field of possible action. All the above are conjoined in a governmental framework which weighs the political and economic 'cost' of different forms of governance, aspiring to a 'wise' (optimising) management of assemblages of varying relations (individuals, populations, technologies, social artefacts, and others).

It readily becomes apparent how behavioural economics fit to the aforementioned features of governmentality. First, behavioural economics assumes a form of *social cartography*, promoting processes of spatial governance. The social environment, e.g. the choice-environment, is rendered not only compatible but also effective with respect to particular forms of interaction with subjects. Through social mapping, both materialities and socialities are processed, structuring the given field of action in a particular way. Choice architects, for example, utilise cognitive processes, emotional flows and value systems to 'decide upon deciding': they select and design the potential options that are ultimately (not) presented to the subject. Most importantly, however, behavioural knowledge is utilised in affecting the 'most possible' course of action; the 'how possible' precedes the 'what is possible'. Overall, subjects are not only governed within a structured field of action, but also *rendered governable* in various ways.

This chapter outlines a critical analysis of the variety of ways through which behavioural economics form a complex governmentality, promoting a market rationality closely linked with contemporary neoliberal practices. In the first section, the behavioural apparatus is compared with the framework of *discipline* as analysed by Foucault. It is argued that behavioural techniques can be viewed as instantiations of disciplinary power and some of its main functions: promoting the economy of power, extending and intensifying power relations

67 "In addition to control/management by the state or the administration, 'government' also signified problems of self-control, guidance for the family and for children, management of the household, directing the soul, etc." (ibid.).

68 The governing of the self refers to processes of subjection and subjectivisation discussed in Section 3.2. below.

and the overall development of technologies and institutions of power in a way that ensures utility and docility. In the second section, the constitution of the subject—processes of subjection and subjectivisation—within behavioural economics discourse and practice is examined. An assessment at the level of subjectivity indicates that subjects are not merely governed by external structures of (non)coercion, but also through the relation between the individual and the self—a relation which is among the focal targets of behavioural techniques. In the third section, it is argued that behavioural economics, besides disciplinary power, is part of the biopolitical management of the population. It fosters a mode of governance which moves from individualising practices to totalising ones, from individual bodies to populations, targeting life processes which are intrinsic elements of the latter.

3.1. Behavioural economics as *discipline*

As implied in the previous chapter and will be further exemplified below, behavioural economics is part of the broader apparatus of *discipline* (in the Foucauldian sense). Several processes and practices stemming from the behavioural mode of power share are fundamentally common to the disciplinary modality of power. More than that, it is argued that the disciplinary techniques incorporated into behavioural economics are developed and adjusted accordingly to the relevant power milieu. Foucault specifies the modality of disciplinary power as being characterised by a 'tactics of power' which has three key functions:

> firstly, to obtain the exercise of power at the lowest possible cost (economically, by the low expenditure it involves; politically, by its discretion, its low exteriorization, its relative invisibility, the little resistance it arouses); secondly, to bring the effects of this social power to their maximum intensity and to extend them as far as possible, without either failure or interval; thirdly, to link this "economic" growth of power with the output of the apparatuses (educational, military, industrial or medical) within which it is exercised; in short, to increase both the docility and the utility of all the elements of the system. (Foucault [1975] 1995, 218)

In what follows, it is argued that behavioural economics encompasses as well as improves such tactics of power. The first tactic of disciplinary power quoted above is the promotion of the 'economy of power'.

Promoting the economy of power

The economy of power pertains to the costs that come with the formulation and exercise of power. The costs are not merely monetary, but fundamentally strategic. They are born out of processes with respect to the (re)production of power relations; for example, securing them from negating acts, maintaining and developing their material (pre)conditions. The cost is roughly divided into two categories: economic cost and political cost.[69]

With regard to economic cost, a main part of the 'boasting' by behavioural economists is that one of the main characteristics and advantages of behavioural techniques is the very low economic cost—in some cases close to zero—especially at the level of their application.[70] At the field of public policy, behavioural techniques such as framing can have low to zero additional fiscal cost to governments. This is considered a major advantage in shaping contemporary policy tools. Such proclamations of negligible economic costs are often generalised to support the use of behavioural techniques merely in economic or simply monetary terms.

The latter direction is interrelated with 'economic-pragmatic' approaches to nudging which effectively neutralise its political dimension. For example, Chetty (2015, 27–28) claims that in cases of model uncertainty, nudging maximises expected welfare, in contradistinction to (costly) tax incentives and subsidies. The broader rationale behind this is that if the economic subject is a 'rational optimiser' the nudge will have no impact since the subject will acknowledge its functionality and bypass it. On the other hand, if the economic subject is 'less-than-rational', the nudge will work by correcting the 'behavioural mistakes' made by the subject. The employment of behavioural techniques is thus a 'win-win' choice in such cases. Based on the above, Chetty argues that justifying the use of nudges should be done from a 'pragmatic' instead of a 'philosophical'—and, as it is implied, political—approach such as libertarian paternalism. This epistemological move serves to further *depoliticise* the technology of behavioural economics, presenting it as an additional direction within a socially-sterile framework of policy rather than a broader apparatus of power.

69 The economic and political cost are not considered as two distinct domains, since they are interrelated and inter-defined—governing is an expensive enterprise and prone to resistance, whereas governing 'efficiently' a profitable one. They are herein distinguished for analytical purposes.

70 Naturally, and as it has been exemplified in the analysis above, behavioural economists, as 'economists proper', posit at the epicentre of their work a cost analysis as well as analyses of different forms of cost.

Besides the domain of economic cost and its implications, the economy of power of behavioural economics is demonstrated at diverse levels of the political. In that respect, the economy of power functions on the basis of power tactics which are contingent upon *quietness*. The latter is yet another proclaimed characteristic of behavioural economics: being discreet, subtle and relatively invisible are proclaimed as core features of behavioural techniques which, as with the low economic cost, are frequently considered key advantages in constructing social architectures. The feature of quietness will not be further discussed here, given that it has been mentioned above and its functionality is quite straightforward. It is, however, interesting to consider its—seemingly paradoxical since it frequently operates along parallel lines—counterpart: transparency.

Power mystification: Obscuring through transparency

Transparency is one of the highly debated issues when discussing the application of behavioural techniques. Critics argue that not only such techniques are illegitimate—since the individual is manipulated while being unaware of the situation—but also that, in many cases, choice architecture is incompatible with transparency: many forms of nudging have to take place 'in the dark' since informing the subject about the underlying rationale and the intended outcome of nudging will bypass the exploitation of psychological quirks and behavioural biases thus rendering it ineffective (see e.g., Bovens 2009; Grüne-Yanoff 2012, 637). From that it follows that the behavioural apparatus is 'by nature' non-transparent and thus undemocratic. The main demand stemming from the above criticism is a call for an open, informative and explicitly set-up behavioural economics; one which distinguishes 'transparent' from 'non-transparent' nudges (see e.g., Hansen and Jespersen 2013; Ivanković and Engelen 2019). Even critics from a radical perspective embrace this demand (see e.g., Hagen 2016, 21).[71]

The mainstream proponents of behavioural economics have responded to the criticism of non-transparency by accepting the main premise of the critics' position: 'ethical' nudges can and must be transparent. A popular first response took place in Thaler and Sunstein's *Nudge* book where they propose a rather abstract and simplistic transparency framework. Their solution is based on an interpretation of Rawl's 'publicity principle' according to which

71 Meanwhile, for neoclassical economists, transparency will not work since it is yet another 'intervention' in the auto-corrective process of the market. For example, McChesney (2013) adopts Vernon Smith's position that when the 'rationally bounded' individuals trade in a market environment, they will ultimately produce the same effects (wealth maximisation) as would a 'cognitively rational' actor under complete information. He consequently claims: "Ironically, providing subjects with more information may reduce markets' effectiveness, when for example more information leads subjects to use strategies to increase their own gains and so slow market achievement of equilibrium" (ibid., 65).

the government is 'banned' "from selecting a policy that it would not be able or willing to defend publicly to its own citizens" (Thaler and Sunstein 2008, 244). They argue that, following this principle, choice architects will be led into implementing transparent nudges since they will be 'prohibited from lying'—thus treating citizens with respect—and avoid being publicly embarrassed.

In a later reply to this topic, Thaler (2015, 329) attempts to specify the definition of transparency arguing that it "means that nothing is hidden, and that eventually the results of all studies will be released to the general public". He claims that there is no need for explicit disclosure of nudging and further adds that nudges are often self-evident as of their purpose, thus being 'inherently transparent' (ibid., 330). Finally, in a more recent analysis, Sunstein (2019) assesses in more detail the meaning and need for transparency, arguing that it is an essential requirement in choice architecture by government officials and private actors. More importantly, he cites studies which show that, in certain cases, nudges can be effective even if there is disclosure of the exact intention and rationale behind them (ibid., 81).[72]

Based on the above responses, two broader directions through which Sunstein and Thaler attempt to tackle the problem of non-transparency can be identified. The first can be described as 'an appeal to benevolent authority': an appeal addressed to the benevolent character of the subject in the position of power (the choice architect as a public or private actor) called upon to take action (plan a policy, implement company nudges, etc.) 'as-if' behavioural techniques were transparent. The choice architect supposedly acts according to the publicity principle.[73]

The second direction involves the explicit disclosure of the rationale of such techniques, either by providing information on-site and parallel to the nudge[74] or by informing the public in a broader way—for instance, adding a section at the official site of a government, disclosing the empirical justification and the rationale behind public policy. That would, allegedly, render the nudging of citizens more transparent and legitimate.

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72 Naturally, in a subsequent chapter of his book, Sunstein approaches transparency itself—its inner functionality and potentiality—as a way of nudging, and indeed a powerful one (see, ibid., 183-199).

73 Nevertheless, some behavioural economists, including Sunstein, acknowledge that this does not always hold, proposing an alternative 'Hayekian' approach: "If we are deeply skeptical of the good faith and competence of public officials, we will want to minimize official nudges and we will prefer choice architecture that comes from invisible hands and spontaneous orders" (ibid., 123).

74 An example of an on-site disclaimer—one which was disclosed parallel to a default option technique where subjects were presented with already-made options and had to opt-out from the disfavoured ones—is the following:

> As you may or may not know, research suggests that you are MORE likely to agree to a request (like whether to share information) when the request is made in an opt-out format (like this one) rather than an opt-in format. The Meter chose to make the sign-up process an OPT-OUT format. This way, you are "nudged" toward agreeing to share your information with others (Steffel et al. 2016, 49).

By approaching the above thesis through the theoretical framework laid out in this paper, it is argued that the discourse on transparency and its significance, instead exemplifies how behavioural techniques are deeply obscure and reflects how power relations are further reproduced throughout the behavioural apparatus.

First, accepting the empirical evidence that, in certain cases, behavioural techniques are effective even after the rationale and intentions behind them are disclosed is adequate, the crucial question is: what does this entail?

Behavioural economists infer that not-choosing-otherwise, even after disclosing, reveals the 'true' preferences and desires of the subject—who is now aware of the situation—deducing that there is no manipulation involved. On the contrary, it is herein argued that, given the broader power-knowledge framework in which such processes take place, the latter 'choice-insistence' is rather an exemplary of the *effectiveness*, in terms of power, of behavioural techniques. The discourse on transparency, instead of illustrating a neutralisation of power effects, reinforces the position that power relations are so deeply entrenched within the interacting subjects that even an explicit declaration of the underlying rationale will not curb their functioning. Interrelated with the latter is another core feature of discipline, the creation of a condition where resistance is minimised—a point which will be further discussed below.

Second, the call for transparency is supposed to counter the argument that nudges are by construction incompatible with transparency; that they can operate only under conditions of ignorance. However, what is made manifest while disclosing is, at best, the intentions and the desired outcome of nudging. This disclosure is framed at the domain of symbols and signification. Based on the main thesis of this paper, power is not an issue of intentions or merely a game of signs; it is a relation which permeates subjects in both discursive and non-discursive ways. Exposing power relations is a matter of analysing its *functionality*; not a matter of declaration or announcement. In this respect, behavioural techniques are essentially non-transparent. The subject targeted by such techniques is unaware of their deeper assumptions, inner workings and broader effects—upon the individual, the environment and the society as a whole. In addition to that, transparency has no effect when it comes *after* processes targeted at the level of subjectivity, (re)constructing subjects to fit to this mode of power (further discussed in Section 3.2.).

Therefore, drawing from the above arguments, there is a more rigid level where power relations are shaped and activated; a level which is more fundamental than the level of transparency. The shaping of behaviour is a complex process which involves discourses,

knowledges, institutionalised practices, etc. Such processes cannot be captured or deconstructed simply through a series of signs and warning utterances. Rendering more transparent the intentions and rationale of the subjects in positions of power in order to avoid domination, manipulation, etc., is a theoretical and practical *impasse*. As Foucault (1987, 129), contra the Habermasian approach of eliminating power through transparent communication, argues:

> The problem is not of trying to dissolve [power relations] in the utopia of a perfectly transparent communication, but to give one's self the rules of law, the techniques of management, and also the ethics, the *ethos*, the practice of self, which would allow these games of power to be played with a minimum of domination.

The point is to understand the functioning of the prevalent networks of power relations and act to change them. The objective is an emancipatory process which fosters the reconstruction of social reality; not a universal regime of transparency and 'truth' which will leave the productive (power) apparatuses—both at the level of the individual and the social—intact.

Overall, the proclaimed transparency of behavioural techniques can be approached as a process of *mystification* of power relations—mystification not as a process taking place at an isolated sphere of 'pure' ideology and consciousness, but as shaping (through obscuring) the concrete level of power relations, reproducing and further establishing them. Restricting power at the level of signification is a tactical move which precludes a comprehensive social understanding of the broader power framework. A move which serves to curb social reflection and resistance.

In what follows, a basic way in which nudging functions, also having points of contact with the disciplinary modality of power, is assessed: the *indirect direction* of the subject. As a behavioural strategy, the latter process simultaneously promotes the economy of power.

Indirectly directing: From coercion to guidance

Behavioural mechanisms and techniques, such as nudges, do not ban or coerce; they do not enact laws, suppress desires or 'forcefully' impose a particular course of action. Instead, they *steer* and *direct*: they utilise norms, sway the flow of desire and enable the body to move and choose 'freely'—albeit in a pre-constructed and pre-conditioned way and field of action. As a corollary, intimidating practices such as fining, taxing, prohibiting and confiscating are replaced by 'subtle nudges'—an array of behavioural techniques and devices which *indirectly direct* behaviour.

A core argument made by behavioural economists—while being in their 'libertarian mode'—is that the freedom of choice of the individual is not affected by processes of nudging. Therefore, their project lauds the protection of a fundamental liberal value of the modern subject. Behavioural economists, implicitly or explicitly, compare nudging with the navigability of devices, such as the GPS, which they view as a power-neutral, informing and useful tools, simply making life easier. For example, Sunstein (2019, 60) states that

> It is true that some nudges are properly described as a form of "soft paternalism," because they steer people in a certain direction. But even when this is so, nudges are specifically designed to preserve full freedom of choice. A GPS device steers people in a certain direction, but people are at liberty to select their own route instead.[75]

Later in his book, Sunstein claims that "[as] the GPS example suggests, many nudges have the goal of *increasing navigability*—of making it easier for people to get to their preferred destination" (ibid., 118). He deduces that this 'pure' function of making life 'more simple and navigable' removes an array of ethical objections, such as offending the subject's dignity (ibid., 126-128). Therefore, even though he admits that the subject's (direction of) behaviour is manipulated, such an interference is justified on the basis of being *soft* and *freedom-preserving*[76].[77]

The above comparison and broader position can be criticised from many perspectives. For the purpose of this paper three points are discussed: a more general point on technology and power, and two points on 'softness' and freedom-preserving.

First, the comparison and parallelisation of the navigability of a GPS with that of a nudge is unsound since it conflates (a) technology as a technical apparatus with (a) technology as an apparatus of power-knowledge. This is achieved by treating the GPS as of its technical aspects while the nudge is discussed with regard to its economic, political and broader social aspects. A GPS, in its technicality, merely receives, processes and transmits information—it does not incorporate behavioural knowledge (*savoir*) based on the driver's

75 The quote from Sunstein continues: "And it is important to emphasize that some kind of social environment (or "choice architecture"), influencing people's choices, is always in place. Nudges are as old as human history. New nudges typically replace pre-existing ones; they do not introduce nudging where it did not exist before". The rationale implied is interesting since it can be read as a contradiction within the mainstream logic of behavioural economics. In this case, a regime of unfreedom is presupposed, thus every act will be within this regime. From that it is deduced that nudging cannot be characterised as limiting freedom. This position has been criticised above (see footnote 64).

76 Sunstein also describes the proclaimed quality of the nudge to preserve freedom of choice as 'being means-oriented', since "it does not attempt to question or alter people's ends. Like a GPS device, it respects those ends" (ibid., 121).

77 A similar analysis is made by Sunstein in his earlier book *The Ethics of Influence* where he explicitly states that "Default rules may or may not be highly visible, but they nudge. They often operate like a GPS device, and they can even help to shape our preferences and our values" (Sunstein 2016, 23).

behaviour, utilising inclinations and 'biases' in order to navigate her towards a specific end. Most fundamentally, it does not structure the field of possible action. The GPS is power-neutral when viewed exclusively at the technical level; however, when approached as a device which is posited in a broader *milieu* of power relations, it automatically assumes power functions.

The nudge-GPS comparison would be accurate in the case of approaching the GPS device beyond its technicality, as an ensemble of power/knowledge. The GPS technology becomes a technology of power when it involves, for instance, the integration of algorithms and feedback mechanisms which are connected with a behavioural database into the software of the GPS device. The GPS could then be specifically constructed to navigate the subject towards the 'rational' road. This is an example of the two-way relation between the science of materials and the science of human conduct; in this form, it is more apt to liken it with behavioural economics and its techniques.

Second, regarding the *softness* characterising nudges, the analysis by behavioural economists is problematic in its analytic inferences. The quality of softness reflects their broader claim that there is indeed a form of paternalism ('libertarian paternalism') in nudging, but one which assumes a degenerated form when it comes to its effects upon the subject: it is a justified intervention since it is undertaken by 'gently steering' rather than forcefully coercing. Behavioural techniques are broadly considered as examples of 'soft', instead of 'hard', power.[78] For example, Marinetto and Andrews (2011) posit behavioural economics at the tail of a broader historical change in governance since the late 1920s where propaganda and advertisement became hegemonic tools. The point, however, lies in what the quality of 'being soft' entails.

The inaccuracy in the above behavioural economics argument lies in approaching these two forms of power out of their context—not only the broader historical, but also the specific power context in which they take place. As a result, 'soft' power is conceptualised as a form of power which *in its effectiveness* involves less coercion, when, in actuality, it is non-coercive merely in its display and character; when it comes to its functionality, it can be more coercive than forms of hard power. The latter analytical blunder is common among behavioural economists. Bypassing that blunder enables the proponents of the behavioural apparatus to argue that behavioural techniques are less paternalistic and intrusive. However, a core thesis of the present paper, also demonstrated in detail throughout Foucault's *oeuvre*, is

78 The question of 'soft' vs 'hard' power is a broader category in the discussion on power—especially in international relations theory. Soft power is a concept commonly attributed to Joseph Nye who coined it in the late 1980s (see e.g., Nye 1990; Nye 2004).

that the exact opposite may hold. In modern forms of power and it terms of funcitonality, often ‘the soft is the new hard’ and *vice versa*: the network of power relations functions much more effectively in a seemingly less or non-interventional environment.

Finally, Sunstein repeats a common argument by behavioural economists, namely that nudging wholly preserves freedom of choice. This serves as an additional justification and legitimisation of ‘soft paternalism’. Nevertheless, the freedom-preserving position is deeply problematic since it rests on combining an ‘economistic’ (highly reductive) with a ‘liberal’ (biased and superficial) conception of freedom.

The economistic treatment of freedom is apparent in the way the choice framework is described within the majority of behavioural economics literature. Options are presented as different products in a market among which the subject is called to choose, a choice stemming from free will. The desired option is that of the highest utility—the one which the rational actor would always choose. The ‘novelty’ of behavioural economics lies in the acknowledgement that the rational actor is partly a utopia and partly ‘under construction’. Accordingly, they propose a *non-interventional intervention*, seeking to make this regime of rational choice an actuality. This economistic position is combined with a ‘liberal’ conception of freedom which defines the latter as a situation involving a plurality of choices and a lack of external constraints. Here, the ‘novelty’ of behavioural economics lies in the acknowledgement that there are also internal constraints which, when surpassed, will allow for the desired state of freedom to be actualised.

The above conceptualisation entails a usage of the concept of freedom which is highly reductive and analytically biased—especially for a theoretical paradigm which is self-proclaimed interdisciplinary. It postulates a superficial account of freedom akin to the mainstream account of power by mainstream economists: one that is largely ahistorical and class-blind, overlooking the social roots of the economic subject as well as the systemic conflict inherent in the social milieu within which the subject acts. In this respect, behavioural economics embrace the position of voluntary action which is merely affected externally, placing the freedom of the subject in the context of making choices.[79]

79 A characteristic statement by Hayek ([1944] 2001, 96) is that “[our] freedom of choice in a competitive society rests on the fact that, if one person refuses to satisfy our wishes we can turn to another. But if we face a monopolist we are at his mercy”. In this narrative, freedom, akin to power, is considered as an asset held by subjects mainly in the supply side; hence the ultimate solution is plurality and competition. There are many responses to this position. One among them is Marx’s example of the ‘free labourer’ who meets at the marketplace with the owner of money. The labourer is ‘free’ to sell his labour-power in an exchange among equals before the law, as well as ‘free’ from owning any means of production—and thus the ability to realise his labour-power (see e.g., Marx [1867] 1976, 280, 874). This deconstructs freedom in its specificity—as it is employed politically and in its particularity—rather than as a universal condition to be achieved. The concept of freedom is further discussed below.

To summarise, behavioural economists such as Thaler and Sunstein, not only acknowledge that they specialise in inventing the most effective ways of directing behaviour but, furthermore, they applaud it as being a non-coercive and even non-interventionist way of setting up the socio-economic environment. Even though they often admit its interference with the subjects' behaviour, the interference is regarded as *soft* and *freedom-preserving*. This seemingly paradoxical situation is presented as power-neutral. On the contrary, it has been argued that it is a tactical move which obscures the power relations involved in the *indirectionality of directing*. Behavioural economics direct (economic) conduct in indirect (and thus more effective) ways—e.g., by structuring the field of possible action. This indirectness is both a feature of the behavioural-disciplinary modality of power as well as an example of effectively promoting the economy of power.

Extending and intensifying power: From the panopticon to the omniopticon

Several parallels can be drawn when comparing the processes incorporated in Bentham's panopticon[80] with processes in the behavioural apparatus in terms of their functionality. There is a subject up for behavioural correction—in the case of the panopticon, deviant behaviour; in the case of the behavioural apparatus, 'less-than-rational' behaviour. An architecture is structured on the basis of a specific arrangement—in the case of the panopticon, towers and cells; in the case of the behavioural apparatus, the constructions of choice architecture. A power device is posited at the epicentre—in the case of the panopticon, the opaque central tower; in the case of the behavioural apparatus, the nudge. In both cases the device shapes behaviour not only in a discrete, non-coercive way, but even in complete absence of a subject exercising power. A main result is the internalisation of rules, practices and power relations by the 'undisciplined' subjects.

Therefore, behavioural economics assumes the general from of the disciplinary framework and the functionality of its architecture. At the same time, however, it moves

80 Bentham's Panopticon is used by Foucault in *Discipline and Punish* ([1975] 1995) as a prominent instance of disciplinary power and its functionality. Bentham's project was originally conceived as a novel architectural structure which would render the prison system more effective in arranging and controlling criminals. In this architecture, a block of buildings forms a ring area wherein the warden's tower is situated at a central position and the cells alongside the periphery. All buildings are equipped with windows yet with antithetical effects: the windows of the central tower enable the warden to observe towards every direction, whereas the windows of the cells allow light to pass through, enabling the prisoner to see the tower but not the content of it. The combined effect of this arrangement is that the warden can observe the silhouette of the prisoner, whereas the prisoner not only is unable to observe the warden or another prisoner, but also is constantly confronted with the possibility of the existence of a warden. Foucault argues that an all-encompassing power is reflected at the warden's *gaze* which assumes a more potent role than that of merely overseeing the prisoner's actions: it disciplines the prisoner's behaviour who eventually acts as if she is being observed. The disciplinary *gaze* is internalised as the delinquent subject is being exposed to maximum visibility and the uncertainty of the exercise of power.

beyond its locality and achieves a more generalised application. Although, as argued above, behavioural technology differs from GPS technology in several respects, there is a common aspect: the omnipresence that is inherent both in its functioning aspects and its application throughout broader spaces and aspects of life. Through behavioural techniques and mechanisms, power relations are expanded to permeate a multiplicity of fields and roles. The behavioural apparatus, akin to the disciplinary modality of power, extends and intensifies the effects of social power, yet in a more complex and 'historically adaptive' manner. In what follows, some of the ways in which such an extension and intensification takes place are discussed.

The behavioural apparatus extends the regimes of power in a far-reaching manner, instantiating as well as moving beyond the domain of discipline as demarcated by Foucault. The exercise of power spreads throughout different institutions and formal apparatuses—from the state and the firm, to the prison, the school, the hospital, and so on—and from such apparatuses to every-day life. Hence, power also functions *extra-institutionally.* Power techniques and mechanisms permeate everyday routines, objects, temporalities and locations: from means of transportation, roads, pavements and toilets to ethical options and saving plans, web-surfing and leisure-time, among others.

The above extension of power relations exemplifies the link between disciplinary power and biopolitics within behavioural economics (also discussed in Section 3.3.). According to Foucault, discipline structures space as it "addresses the essential problem of a hierarchical and functional distribution of elements", whereas biopolitical security mechanisms function to "plan a milieu in terms of events or series of events or possible elements, of series that will have to be regulated within a multivalent and transformable network" (Foucault 2009, 20). In this respect, behavioural economics move beyond single architectures to the modification of urban space as a whole.

Furthermore, the extension of power relations through the behavioural apparatus permeates the domain of subjects and the diverse networks of social relations—it extends to bodies, movements, obligations and capacities. Choice architecture as a scheme is targeting a multiplicity of roles and subject-positions, both as active designers and passive consumers. From the behavioural economist to the state official and the CEO, to the school teacher and the employee. "Anyone can become a choice architect" is the motto of behavioural

economists.[81] Nevertheless, this does not necessarily entail that power becomes decentralised nor that it operates in a more symmetrical manner. The most prevailing and potent choice architects are individuals of a particular class and in established positions of power, structurally posited in specific modes of governance (government officials, businessmen, economists, directors in medical and educational institutions, and others).

Third, the extension of power spreads in terms of geography. Behavioural techniques have traditionally focused on western subjects of a specific class and status—described as WEIRD (Western, Educated, Industrialized, Rich, Democratic) by Heinrich et al. (2010; see, Tzotzes and Milonakis 2020). However, in more recent years, behavioural techniques have been gaining considerable ground in development economics, targeting the populations of the so-called 'Global South'.[82] The latter is regarded as consisting of 'impoverished individuals' not merely in monetary terms but in terms of rationality—individuals who deviate from the rational assumptions of *homo economicus*—and this is considered as a basic cause of the (re)production of poverty. The broader argument is that rendering the poor more rational will lead to welfare-enhancing economic activities such as capitalising on, rather than overlooking, investment opportunities (see e.g., Banerjee et al. 2011; Datta and Mullainathan 2014). The need for such interventions is publicly supported by formal global institutions. For example, the 2015 World Bank development report states that the poor are 'trapped' within impoverishment since their economic situation diminishes their willpower, exacerbating issues such as time-inconsistency and self-control, thus hindering their ability to make 'prudent' financial decisions (see e.g., World Bank 2015, 115).

The above instances of extending power relations are interrelated with the intensification of social power *around* and *within* the subject. As mentioned in the previous chapter commenting on behavioural knowledge processes, behavioural techniques permeate the sentiments, emotions, affections and urges of the subject, directing the economic body. In the power/knowledge approach to the desiring subject, a multiplicity of mechanisms and technologies manage the direction of psychological and affective states. When attempts to cultivate the rational self fail, behavioural economics intervene to discipline social conduct. Therefore, the behavioural apparatus promotes an overall government of desire and will—not merely imposing necessities, but internalising behavioural rules which chart a specific direction of conduct. It seeks to tame the individuals' uncleansed animal spirits to direct them

81 This gives a whole new meaning to Foucault's popular phrase "Power is everywhere; not because it embraces everything, but because it comes from everywhere" (Foucault 1978, 93).

82 The 2019 Nobel Prize in Economics was awarded to Abhijit Banerjee, Esther Duflo and Michael Kremer, development economists who employ experimental methods targeting social behaviour, "for their experimental approach to alleviating global poverty" (The Royal Swedish Academy of Sciences 2019).

towards the ‘optimal’ (e.g., more profitable) economic decision.

Next to affective states, behavioural economics utilises the specifics of social behaviour by processing the interaction between subjects and value systems. The latter are crucial for power modes of ‘less-coercion’ since they are, on the one hand, major sources of resistance within the subject, and, on the other hand, exploitable sources capable of establishing more intense and resistance-prone power relations for the choice architects. This has long been acknowledged by political economists. For example, John Stuart Mill comments on the moral capacities of the workers, such as trustworthiness, which, when cultivated, lead to efficiency and increased value: workers discipline themselves, and, as a result, monitoring and contracting costs decrease (Zouboulakis 2010, 217–18).[83]

In a like manner, the behavioural apparatus seeks to harness the potentiality of value systems so that the proper subjective conditions and social architectures are constructed. In this case, the existence of the Panopticon tower—as an external disciplinary artefact ensuring the reproduction of power relations—assumes a secondary role. The value system largely takes its place, inwardly cultivating the self of the economic subject. Discipline is absorbed further down into the burrows of the subject; as an intrinsic characteristic mediated by subjectivity, it assumes a positive-productive value while reproducing power relations.

The above examples are typical of how behavioural economics promote the extension and intensification of power relations. The behavioural apparatus is congruous with the disciplinary framework, yet in more complex ways and while embracing all aspects of the society. In the latter respect, behavioural economics shares common points with the regime of neoliberal governmentality, one which Foucault describes as “interven[ing] on society as such, in its fabric and depth”. An intervention which deeply establishes (at the level of subjectivity, population, and social practice) market institutions, carrying out the main objective of neoliberalism: “a general regulation of society by the market” (Foucault 2008, 145). This lecture by Foucault was conducted two years before an interview of Margaret Thatcher where she stated that:

> it isn't that I set out on economic policies; it's that I set out really to change the approach, and changing the economics is the means of changing that approach. If you change the approach you really are after the heart and soul of the nation. *Economics are the method; the object is to change the heart and soul* (Thatcher 1981, added italics).

83 This is example also illustrates another case of promoting the economy of power.

In this section it has been argued that behavioural economics can be viewed as an apparatus which promotes the disciplining of the subject, yet in more complex and revised ways. Moreover, certain aspects of the broader functionality of behavioural economics as a mode of governance were made manifest. As illustrated in the critical discussion, there are diverse and multifaceted ways in which the behavioural apparatus governs the (economic) subject: direction rather than coercion; discreetness rather than wastage; removing the conditions of emergence of resistance; intensification and extension in further domains of life, including the constitution of the subject and subjectivity. Expanding upon the latter, in the following section, the position of behavioural economics in processes of subjection and subjectivisation is assessed.

3.2. Behavioural economics and *subject(ivisat)ion*

For Foucault, power relations permeate not only the hierarchical and network structures of social interaction, but also the space within and throughout the subject. Power relations are immanent to the subject, since the (constitution of the) subject is part of the broader nexus of social processes. The constitution of the subject involves processes of designing, training, normalising, classifying the subject. Foucault calls the operations (historical, institutional, scientific) that pertain to the constitution of the subject *subjection—assujettissement* in French—a process which is further divided into a 'passive' and an 'active' process. The passive process refers to the constitution of the subject through external mechanisms of power—in this case there is the subject of the king, the subject of the state, the subject of the expert, etc. The active process refers to the constitution of the subjectivity of the subject, *subjectivisation*—Foucault's neologism in French is *subjectivation*[84].

Subjectivisation involves "procedures by which the subject is led to observe herself, analyze herself, interpret herself,and recognize herself as a domain of possible knowledge" (Stewart and Roy 2014, 1877).[85] It is not a purely internal process—an externalisation of that which is produced from an 'inside' source or a manifestation of the alleged *essence* of the

84 In relevant literature, *subjectivation* is translated in English in different ways: subjectivisation, subjectification or subjectivation. In this paper, the word 'subjectivisation' is chosen in order to accentuate its verbal form, 'to subjectivise', as well as that the direct object of the formative process is subjectivity.

85 In his last interview, Foucault defines subjectivisation as: "the process by which one obtains the constitution of a subject, or more exactly, of a subjectivity, which is obviously only one of the given possibilities for organising self-consciousness" (Kelly 2009, 87). For a concise discussion of the concept of subjectivisation, its definitions and relevant concepts, see, ibid., 87-95).

individual (the 'true self'). It is a field of *relations:* the relation of the subject with the self is mediated by specific knowledge formations and truths, forces and technologies. On the other hand, it is a field of *practices* within which such relations are reproduced, including the 'practice of the self' which pertains to the inward construction of the subjectivity.[86] Accordingly, the shaping of the body is viewed as a result of the combination of external and an internal relations of force. More fundamentally, subjectivisation shapes the inner capacities and the modality of the 'sites of production' within the subject: the specific forms of rationality, the system of producing and experiencing desire, the hierarchies of values and of valuation, among others.

Subjection and subjectivisation are concepts which are employed in diverse manners by scholars. For that reason, it is important to clarify certain propositions underlying the said concepts and make some comments on the way they will be used in analysing the behavioural apparatus, before moving to more specific examples of their application.

First, considering subjectivisation as the 'active' part does not entail a free-willed subject which is opposed to a passive force exercised by the powerful side. As in the broader constitution of the subject, the constitution of subjectivity functions in the double sense of making the individual a *subject* and, at the same time, an *object*. Whether subjectivity is rendered an object of knowledge, for example, by an external force or by the referent self is not the point here. The point is that the process of subjectivisation always implies a specific regime of power-knowledge within which the subject acts—a regime that is the broader result of power relations permeating the social body.

Therefore, subjectivisation encompasses effects of domination as well as relations of power, even in absence of an external mechanism of power and its direct influence. On the other hand, this does not imply that subjectivisation excludes freedom—unless freedom is approached in a superficial manner, as mentioned in the previous section. It is through subjectivisation that freedom (as a domain) is defined in its particularity (further discussed below). Along these lines, one part of the subjectivised subject pertains to the effect of institutionalised structures and power relations. Another part pertains to the effect of resistance and emancipation from such structures, transforming the already established ones and creating new ones—while those two parts are not strictly distinct. In short, subjectivisation comprises of different dimensions and, as Deleuze (1988, 101) points out,

86 An example of the latter case employed by Foucault when analysing Greek and Greco-Roman culture, is the formation of the ethical subject through the *care of the self*: a self-transforming practice, intentionally setting one's rules of conduct rather than merely adapting to social norms or following transcendental imperatives (see, Foucault [1985] 2012).

“Foucault's fundamental idea is that of a dimension of subjectivity derived from power and knowledge without being dependent on them”.

Second, and expanding upon the above point, subjectivisation, as part of subjection, is a process entangled within the broader network of power relations, institutions, and social structures—economic, scientific, pedagogical, educational, familial, etc.—in each social *milieu*. It interacts in a complex and circular way with such power relations and social formations, being neither reducible to nor exclusive of them. Therefore, the constitution of the (behavioural) subject, in its practical aspects, is understood as an operation and a broader effect of a multiplicity of forces: external and internal ones, which are, at the same time, integral and interlinked. In that respect, within the behavioural apparatus, subjectivisation interacts with other techniques of governance such as the *direction of the subject*.

Third, subjectivisation is understood as a procedure which goes beyond the ‘content’ of the subject (beliefs, ideas, structures, values, etc.). Instead of merely imposing an ideology—in terms of a ‘false consciousness’ interpellating the governed in order to secure consent—it shapes the *pores*, the *pathways*, the *processing mechanisms* of the subject. On the one hand, it affects the *modality of subjectivising*: it affects the subject’s mode of thought, sense, commodity production (‘how’), on top of affecting the products of thought, feeling, and labour (‘what’). On the other hand, it also affects the *conditions of existence* of the subjectivity: the reflective capacities and automatic processes, the conditions of verifying and accepting knowledge, the tactical positioning in embracing or resisting force, among others.

Finally, subjectivisation is not merely approached as an individualising process, but as a process that draws connections with the broader and emergent assemblages of such individuals. It is thus interlinked with biopolitical processes. Based on that, in the following section it is argued that, in a like manner, the behavioural project instils an active link between the individual and the population (as an assemblage of relations non-reducible to its parts). The behavioural apparatus combines an anatomy of the (economic) body and a biopolitics of the population, formulating the contemporary power regime.

The above points form the substrate of the broader argument of this section, namely that behavioural economics instils a governmentality where the subject is governed while being rendered governable in particular ways: rational, predictable, productive. Among the implications of this argument is that not only predictions on behaviour will be more accurate thus directing it more effectively, but also that, through subjectivisation, the subject ‘freely’ moves within the contours of ‘normal’, ‘rational’, ‘correct’, etc., conduct. As a result, the

subject is rendered *free in a specific way*; behaviour becomes compatible with particular forms of governmentality.

The making of the free subject in the behavioural regime of choice

In the previous section, it was argued that mainstream behavioural economists employ an economistic and 'liberal' conceptualisation of freedom in order to justify their techniques and interventions. This conceptualisation was criticised as reductive and superficial in understanding freedom as a relation and a preformed practice within a social *milieu*. Furthermore, in the first point on subjectivisation made above, it was mentioned that, while being an 'active' process wherein the subject relates to the self, it is far from a process of 'pure' self-determination and freedom. Additionally, as part of the broader operation of subjection, subjectivisation always arises as a domain open to external structures and the internalisation of power relations.

Expanding upon the above points, in the present section it is argued that behavioural economics as a power/knowledge apparatus shapes subjects (and subjectivities), rendering them 'free in a specific way'. To this end, a relational and nominalist account of freedom is employed. Freedom is perceived as a relation among subjects rather than a possession or characteristic of an individual. It is approached as a *particularity* rather than a *universality*—it incorporates specific functions in a specific context, rather than being an ideal or transcendent state. Moreover, in the domain of the subject, freedom is always considered in its intrinsic relation with power. Foucault's framework where "power is exercised only over free subjects, and only insofar as they are free" (Foucault 1982, 790) is herein employed. Power and freedom are complementary since power can only be exercised within a field of action characterised by freedom and it is always contingent upon the 'possibility of recalcitrance'—otherwise it would be domination, operating in a closed system of necessitation.

Behavioural economics establishes a *regime of choice*. A regime functioning in accordance with the neoliberal mode of governmentality which is prevalent in contemporary societies. At the core of the choice regime lie two fundamental operations interlinked with subjection. First, within that regime subjects are impelled by the 'obligation of choice'. As Rose (1999, 87) argues "modern individuals are not merely 'free to choose', but *obliged to be free*, to understand and enact their lives in terms of choice", choices become the interpretative and explanatory framework of the individuals' life and are thus "seen as realizations of the

attributes of the choosing person – expressions of personality – and reflect back upon the person who has made them". In other words, the choice framework becomes part of the means and conditions of existence of the subject: choice is not a realisation of the subject's freedom, freedom is a realisation of the choice regime.

The above is a broader feature of biopower whereby "subjects are not only governed by virtue of their being free, but are in fact governed through the instantiation of freedom as choice" (Mills 2018, 32). As an embodiment of biopower,[87] the behavioural mode of power reproduces such processes. Choice architecture and nudging operate not only to ensure that the obligation of being free is performed, but also to intensify and extend this obligation. Choice becomes an object of science, while options proliferate in numbers and variety, demand and desire, utility and effect. Multivalent devices of power are constructed accordingly. This gives rise to a social environment wherein subjects are obliged to be free-through-choosing in most domains of life. However, this 'obligation' would not be effective, or even possible, if the subject was not, first, *made free in a specific way*.

The latter process refers to a second fundamental characteristic of the behavioural choice regime, next to the obligation to be free, which involves a performative aspect. Besides the internalisation of choice to such a degree that it becomes part of subjectivity, the everyday act of choosing shapes subjectivity in numerous ways, including the way the subject acknowledges, maintains and practices freedom. Therefore, the subject is 'made free': it is not enslaved or liberated; it is produced as a free subject in a specific manner. Behavioural economics function along with processes of subjectivisation to form the freedom of the (economic) subject in its particularity. Behavioural economists, in their account of libertarian paternalism, touch upon an aspect of 'making free', yet in a superficial level, touting it as a demonstration of the libertarian nature of their project. Among the most characteristic examples is Thaler and Sunstein's (2008, 97, added italics) proclamation that:

> Public-spirited choice architects—those who run the daily newspaper, for example—know that it's good to nudge people in directions that they might not have specifically chosen in advance. *Structuring choice sometimes means helping people to learn, so they can later make better choices on their own*.

Disregarding the appeal to benevolent authority, this excerpt illustrates how among the purposes of the behavioural project is the subjectivisation of the 'less-than-rational' subjects

87 Biopower is herein used as a form of power which adjoins disciplinary power and biopolitics; "a power that exerts a positive influence on life, that endeavours to administer, optimize, and multiply it, subjecting it to precise controls and comprehensive regulations" (Foucault 1978, 137). It is further discussed in page 58.

in order to learn how to be free in a specific way ('make better choices on their own'). In what follows, a more general example of subjectivisation in behavioural economics is briefly discussed.

As mentioned in the preceding chapter, choice architecture promotes the direction of the subject's behaviour through the design of space in a particular way and, at the same time, it fosters a 'designing through direction'—it forms the discourse, form, patterns, availability, etc., of the choice-environment in such a manner that it affects the subjectivity of the individual.

One of the main preoccupations of behavioural economics has been assisting governments—especially that of UK and USA—with a pervasive problem of governance: retirement savings. Behavioural economists, having analysed the profile of the worker as a retirement investor, diagnose a 'reluctance' and a lack of calculation: workers regularly avoid the designation of a plan and the calculation of risk/return; they 'choose not to choose' when it comes to their retirement plans. This is a divergence from the neoclassical *homo economicus* and thus calls for behavioural intervention. The most common behavioural intervention is twofold: the default option content of the retirement plans is designed by the behavioural experts, while promoting the technique of automatic enrollment in such plans. Therefore, nudging contains not only a pre-constructed set of options but also promotes an 'indirect imperative' of undertaking such practices in the first place. The worker-future retiree is subjectivised as an investor, incorporating a particular regime of choice.

In their analysis of defined-contribution retirement plans, Langley and Leaver (2012) argue that such processes bring about a series of power effects. First, they entail the individualisation of responsibility. At a specific level, defined-contribution plans replace schemes of collective insurance, absolving employers from insurance-related benefits and payments and laying the responsibility of pension provision planning to the individual. In a broader level, the individual assumes the risk and bears the potential cost of the plan, a plan nonetheless calculated and designed by 'experts' rather than the referent individual. Second, and interlinked with the process of individualising responsibility, such behavioural techniques promote the depoliticisation of the field of pension provision. Questions and problematisations which are deeply political are presented as natural, predominantly by reducing them to their technical and monetary aspects.[88] Third, they foster a 'precarious

88 This has been discussed in this paper as a broader aspect of behavioural economics. Behavioural economists' method buries the political nature of policy-making under titles such as the 'empirical', 'pragmatic' or 'technical'.

subjectivisation'. Such plans and pre-designed portfolios are by construction incapable of managing the uncertainty and financial risks inherent in the economy, thus ensuring that the investor subject "remains constantly insecure and remade" (ibid., 481).

The above example is indicative of the broader operation of subjectivisation in behavioural economics. Based on the premises of the diagnosed 'financially illiterate' economic subject, the prescribed cure by behavioural experts is the nudge. However, the project goes deeper than the direction of behaviour; it shapes the (economic) subjectivity of the individual. Automatic enrollment, for example, creates an investment potentiality within the subject and molds it in a specific manner. As McMahon (2015, 16–17) claims: "the objects of governmentality of this behavioral economic rationality are less so individuals as such, and more so choices (opt-in versus opt-out), decisions (about savings strategies) and investments", automatic enrollment subjectivises the individual "as someone who must rationally manage an investment portfolio. [It] produces homo economicus and seeks to compel that subject to self-manage in the realm of the neoliberal finance economy".

Overall, the behavioural apparatus further entrenches the logic and the effects of the market within, throughout and around the (economic) subject. It can be viewed as part of the regime of neoliberal governmentality, as Foucault has analysed it, and, in this case, its American variant whereby all aspects of human life are considered to be human capital to be utilised, constructing the subject by the pattern of the 'entrepreneur of the self' (see, Foucault 2008, 226–33). In this model of subjectivity, subjects are made 'free' to determine themselves, to manage their life and future as self-responsible, rational and risk-managing actors. Next to the process of 'making free', the behavioural apparatus includes processes by which the behavioural subject is constituted in terms of rationality, predictability and productivity.

Rendering the subject rational, predictable and productive

As argued above, at the core of the behavioural mode of power lies the function of rendering the subject governable. One form of the latter process is the shaping of the practice of freedom. Another three key forms are rendering the subject rational, predictable and productive. It is shown that these forms are interlinked, coextensive and coefficient since a rational subject implies a predictable subject and, in turn, a more productive one.

The *rationalisation* of the economic subject—or the correction of 'less-than-rational' behaviour—is often an explicit aim of the behavioural economics project, as proclaimed by its proponents. It is important to note that most behavioural economists treat rational conduct

in a ‘transcendental economic’ manner—the rational is considered an indisputable ultimate state of reason which everyone would want to achieve, and this can be broadly brought about through the allocation of scarce resources in an optimal manner. This alludes to the broader definitions of economics as a science. In a lecture part of the series *The Birth of Biopolitics*—and alongside a rare reference to the behavioural techniques of his time—Foucault (2008, 269) describes Becker’s definition of rational conduct as “any conduct which is sensitive to modifications in the variables of the environment and which responds to this in a non-random way, in a systematic way”, adding, “economics can therefore be defined as the science of the systematic nature of responses to environmental variables”. Behavioural economics, as analysed in the present paper, is consistent with this definition.

Behavioural economics, whatever its theoretical proclamations may be, in practice impose a specific type of rationality.[89] In its behavioural form, rationalisation assumes a specific political content since, for instance, it is a process which contains the categorisation of certain practices or states (e.g. of investing to maximise profits) as ‘rational’ followed by the structuring of environments and subjectivities which will ‘correct’ any conduct that does not conform to the delineated category of the rational.[90] It imposes practices or systems of practices not only in a way that renders them non-random, but also towards a direction that is interwoven with a political and an epistemic program, a program of power/knowledge.

The behavioural mode of power thus embraces the totality of conduct, both ‘rational’ and ‘less-than-rational’, aiming at a broader domain of predictability within the framework of (a) market rationality. As an apparatus of power/knowledge, it renders the subject predictable: instead of merely recording economic behaviour and developing tools to make more accurate predictions, in a reversal of future and present time, the subject is constituted so that economic conduct is compatible with the predictions stemming from a particular market logic. *Homo economicus* is not produced as a rational actuality—a human being with rational capacities, etc.—but as a constructed subject, on the basis of a rationality stemming from the

89 As with freedom, Foucault considers rationality in nominalist terms. This enables a historically specific analysis of the power relations shaping the social milieu. As Macherey (2015, 18) puts it: “if one presents the intervention of norms in the social order by reducing it to a program of “rationalization” formulated with reference to the principle of a reason entirely constituted a priori in itself, one erases at once the historical and thus conjunctural character of this intervention”.

90 Mehta (2013) argues that such classifications of individuals serves to *pathologise* them: The boundedly rational individual is considered as the abnormal and deviant subject which has to be rehabilitated, whereas the rational individual “is constituted as a whole and healthy individual whose behaviour best serves both their own interests and the interests of society in the aggregate” (ibid., 1255). She concludes that libertarian paternalism in effect “acts to regulate behaviour, to bring it into conformity with the norm and thence to shore up the dominant discourse of academic economics with its focus on the virtues of markets” (ibid., 1258). This position can be extended to the example of the rationalisation of the poor, as discussed in the previous section.

effects of subjectivised conduct.[91] On a broader level, market rationalities are entrenched in the economic conduct to such an extent that the latter, in a sense, becomes the outcome rather than the object of prediction.

Finally, the subjects are rendered *productive*. As Foucault argues in *Discipline and Punish*, the body, as an object of subjection, not only is politically invested—in contrast to being a mere biological artefact—but this investment is inextricably linked with the body's economic use.[92] Hence, "the body becomes a useful force only if it is both a productive body and a subjected body." (ibid.). Productivity is herein understood as the social power (capacity and potential) to be put to work; as an aspect of labour-power and part of a social relation accordingly being compatible with a political body—not merely as a quantitative characteristic of a mechanical body, improving with the arithmetic increase of an input/output ratio. The labourer is rendered increasingly productive whilst processes of subjection and rationalisation harness this 'productive power'. As Macherey (2015, 10) argues: "Such is effectively the goal of the rationalization of labor, which, by subordinating it to norms, and by shifting these norms, intensifies labor's "productivity." […] the norm acts to transform the reality to which it applies, grasps it not as it is but as it could be if one were to develop its potential."

In the present section, it has been argued that among the most crucial functions of behavioural economics is that it renders subjects governable. This is undertaken through various means, including combinations of tactics of power such as directing the subject and processes of subjection. The behavioural mode of power not only encompasses 'updated' forms of governing the economic subjects, but it affects their conduct by reaching to the very depths of their subjectivity.

Subsequently, it has been shown how the behavioural apparatus operates to make the subject governable in specific ways: producing the free subject, the rational subject, the predictable subject and the productive subject. Behavioural techniques and devices form a synergy which is incorporated within conduct, shaping everyday (economic) life. The continuous reproduction of particular economic relations and roles (such as the 'rational

91 The effectiveness of processes of subjection and rationalisation is not necessarily contingent upon a totalising effect, nor even a majority of conformity among the population. The main aim of behavioural economists is to sustain an *aggregate* economic behaviour which conforms to a particular market rationality. For instance, Camerer and Fehr (2006) claim that, under certain conditions, a minority of rational 'Economic Men' will 'dominate the aggregate outcome of social behaviour', absorbing the effects of bounded rationality, and leading to an economy as predicted by 'traditional economic theory'.

92 "[It] is largely as a force of production that the body is invested with relations of power and domination; but, on the other hand, its constitution as labour power is possible only if it is caught up in a system of subjection" (Foucault [1975] 1995, 26).

investor') and their expansion in broader aspects of life, is advanced through 'non-interventional' techniques such as default options. Overall, this positions behavioural economics in a broader governmentality framework which prioritises a particular form of market as the predominant institution, making the subject in its image and likeness.

Besides its disciplinary character, behavioural economics assumes a more far-reaching functionality: it moves from the individual body and a particular domain of formal institutions to an aggregate exercise at the level of the population and to a far-reaching exercise throughout all aspects of life. It is part of a biopolitics of the population.

3.3. Behavioural economics as *biopolitics*

Hitherto, most of the focus has been on the modality of disciplinary power; a modality which, according to Foucault, begins to take place during the 17th century and is most prevalent throughout the 18th century. This modality involves the disciplining of the individual body through the internalisation of power/knowledge relations: the body, through the repetition and endorsement of particular practices and perceptual grids, is rendered productive (*useful*) and subjected (*docile*) in a complex two-way relation. Next to disciplinary power, Foucault postulates a second modality of power, biopolitics.

Foucault regards biopolitics as the predominant modality since the end of the 18th century. It pertains to the governance of humans as a species-being—rather than as individual bodies—a 'government of living beings'. It is a mode of power which *regulates* and *controls* the population as a *social body:* its object being biological processes such as rates of birth and death, longevity and health, etc., along with closely related processes, especially the production and circulation of wealth. Foucault terms the two poles of disciplinary power and biopolitics, *biopower.* He synopsises its functionality as 'making live and letting die'—in contrast to the sovereign motto of making death or letting live.

It is crucial to note that, for Foucault, biopower is not a transhistorical concept or a generalised perceptual framework through which power relations, in general, may be interpreted. It is analysed in its historical specificity and as a condition of possibility for the emergence and development of capitalism. In this regard, Foucault (1978, 141) claims that:

> The adjustment of the accumulation of men to that of capital, the joining of the growth of human groups to the expansion of productive forces and the differential

> allocation of profit, were made possible in part by the exercise of biopower in its many forms and modes of application. The investment of the body, its valorization, and the distributive management of its forces were at the time indispensable.

It is therefore a point of contact between productive forces and relations of production; one which indicates how the accumulation and valorisation of capital is indivisible from that of bodies and populations. It is an example *par excellence* of political economy: the reciprocal dance between power and production throughout history.[93]

In what follows, three core features of biopolitics which are common to a large extent with behavioural economics are discussed: the primacy of *life* as the object of power; the focus on the population as social body; and the move from normation to normalisation.

For Foucault, biopolitics is neither merely politics targeted at aspects of life nor simply the establishment of life processes at the basis of politics. It is the abstraction of life from its physical bearer, thus creating a domain of governance which transcends the individual. Biopolitics includes interventions in a domain where the aggregate and average encoding of values, norms and standards takes place. In a historical process, "'life' has become an independent, objective, and measurable factor, as well as a collective reality that can be epistemologically and practically separated from concrete living beings and the singularity of individual experience" (Lemke 2011, 5). The abstracted life is regarded as both the *Telos*—the reproduction of life is the *final cause* of governance—and its effect—life processes being (re)produced and formed through power relations. Biopolitics, contrary to disciplinary power, moves beyond the strictly institutional domain of social life; it regulates the life-continuum of populations through scientific strategies of prevention, education, consultation, therapeutics and forecasting.

As shown in the preceding analysis, life is a constitutional part of behavioural economics as a mode of governance. Rather than analysing merely economic (in the traditional sense) relations, processes and events, the control and administration of life processes is among the objects of its main strategy.[94] This is exemplified in a large segment of behavioural economics literature which takes up a number of 'non-economic' issues including diet, medicine, ethics and emotional states. Characteristically, Thaler and Sunstein's popular *Nudge* book is

93 As Foucault states commenting on the relation between technological development, division of labour, and disciplinary techniques "Each makes the other possible and necessary; each provides a model for the other" (Foucault [1975] 1995, 221).

94 An approach to behavioural economics as part of biopolitics does not imply that economic efficiency and surplus extraction ceases to be among the end-goals—only that the means to achieve such outcomes have been altered parallel to the historical dynamics of power. For example, increasing costs to improve the health of the worker can have substantial effects contributing to overall profitability.

subtitled ‘Improving decisions about health, wealth and happiness’. Therein, they state, for example, that “[c]hoice architects can preserve freedom of choice while also nudging people in directions that will improve their lives” (Thaler and Sunstein 2008, 252). Therefore, ‘improving life’—rather than merely maximising profits, making the rational consumption choice, minimising the risk of a portfolio, among others—stands as the ultimate aim. To that end, governments and experts are sanctioned—as if it goes without saying that they know and can act on behalf of the subjects involved—to intervene in a multiplicity of life-processes.

The second main feature of biopolitics is that it focuses on populations as the object of science and power. The population is not regarded as a result of the summation of its parts (individuals) but as a whole with emergent properties and characteristics, permeated by *sui generis* processes.[95] Therefore, the population stands as a collective entity, a ‘social body’, which is characterised by intrinsic phenomena, dynamics, processes and powers (as capacities). Original and variegated techniques of governance emerge in order to harness such powers, secure such processes, direct such dynamics and ensure such phenomena; in sum, *control* the population. These techniques operate at the basis of a governance which incorporates the knowledge of ‘proper’ (economic, rational, optimal) management. Consequently, among the main biopolitical strategies is to harness and improve the productive power of populations via regulatory mechanisms, overall *optimising* life.

Blencowe (2012), for instance, analyses in biopolitical terms the institutionalisation of social insurance in post-war Britain. She argues that such technologies created and create new relationships of economic interdependence as they “connect the capacities of bodies, responsibilise bodies, define the ‘truth’ or true worth of subjects and set-up fragmentations, sub-groups, that are understood hierarchically in terms of those definitions”. As a result, “[e]conomic productivity as an aspect of population life was *complexified*, coming to include collective risk and responsibility, in addition to collective productivity and (national) success or failure” (ibid., 148).

The above example can be directly connected with the example of the subjectivisation of retirement investors discussed in the previous section. Processes of choice architecture subjectivise individual bodies while operating as part of processes which promote the biopolitical management of the population. Behavioural economics fosters the broader administration of population life in conjunction with processes of subjection. As mentioned

95 “The new technology that is being established is addressed to a multiplicity of men, not to the extent that they are nothing more than their individual bodies, but to the extent that they form, on the contrary, a global mass that is affected by overall processes characteristic of birth , death, production, illness, and so on” (Foucault 2003, 242–43).

in the previous section, the apparent focus might be the individual yet the importance lies with the aggregate outcome: the desired outcome of behavioural interventions is generated through the rationalisation of social behaviour in general. In this particular sense and case, behavioural economists go beyond the methodological individualism of neoclassical economics; they acknowledge the exploitable capacities of the aggregate and seek to utilise them. Correspondingly, behavioural knowledge is not 'individualistic' but social in its direction. The behavioural experts in positions of power emerge in new forms—next to the doctor the social statistician, next to the psychoanalyst the social psychologist, next to the architect the social cartographer, next to the physiologist the social physicist. The utilisation of cognitive processes, emotional flows and value systems, encompasses the totality of the population and life.

Finally, a third key feature of biopolitics is that it embodies processes of normalisation. Normalisation is the third point which completes the biopolitical mode: life must flourish, the population—as the bearer of life processes—must be secured, and this is achieved through its normalisation. Foucault calls this apparatus the security apparatus (*dispositif*). Its main objective is to retain the existence of the population at the biological level along certain lines which are regarded optimal. It is an apparatus "by which the population exists, is preserved, subsists, and subsists at an optimal level" (Foucault 2009, 44).

In contradistinction to disciplinary systems where the subject is disciplined into a prescribed norm (*normation*), within security technologies the empirical norm is the point of departure. Hence, certain regulative norms are established as reference points around which various fluctuations and modifications take place, based on the varying context. In this respect, instead of having predetermined normative values upon which reality should be adjusted, within technologies of security reality is regarded as the norm. Reality is identified with the phenomena and variables characterising the population; it is assessed as a statistical distribution of events, including rates of diseases, births and deaths, life expectancy, diet and habitation, and others.

Overall, the historical predominance of power moves from legal regulations (a normativity which codifies norms) and discipline (a hierarchical differentiation which categorises bodies and internalises such norms) to an apparatus of security (technologies of regulation of life based on the empirical norm). Technologies of security, as part of the 'government of living beings', "do not draw an absolute borderline between the permitted and the prohibited; rather, they specify an optimal middle within a spectrum of variations" (Lemke 2011, 47).

In the behavioural mode of power, individuals are treated not merely as individualities, but as elements forming populations, thus enabling a move from normation to normalisation. The structuring of the field of possible action is done on the basis of the empirical and the normal. The whole power schema hinges upon the capacity of behavioural economics to combine interdisciplinary knowledge with economic analysis, mathematical modelling and statistics. As a result, the behavioural apparatus functions to secure the normal-rational at the level of population life—the rational is regarded as the normal, the (pre)condition of life. The 'Rational' is both the *Telos* of behavioural techniques and their organising principle: based on a distribution of rationality (normality) they function to optimise conduct at the level of the population.

Economic subjects are therefore governed as an emergent assemblage that operates on the basis of a 'fluid equilibrium': an open and dynamic network of processes which may oscillate to reach extreme points only to maintain a specific balance that will ensure a particular continuation (e.g., an increase in productivity levels). For instance, rather than prohibiting an overall damaging activity in the workplace or disciplining the employee to abstain from it, the employer may allow it—in certain cases and 'within reasonable limits'—as part of a broader economic strategy. Normalisation is therefore a broader process which connects individuating knowledge with the macro-knowledge on populations. This is achieved through practices of 'judgment normalisation' and by constructing norms as a field of possible knowledge: operations of classification, ranking, homogenisation parallel to individualisation, counterbalancing and optimising are achieved through the arrangement, demarcation and segregation of distributions (Rouse 1994, 100–101). The normal distribution and the deviation around a mean thus pertains to governable elements and, in the biopolitical level, to governable populations and apparatuses of power-knowledge.

Conclusion: Behavioural economics as a mode of science

In the above chapter, it was argued that behavioural economics is a political program, constituting a broader mode of power which involves the governing of selves and populations, structuring the field of possible (social) action and resulting in a specific 'complex of men and things'. Assessed in its power/knowledge framework, behavioural economics includes processes and technologies with diverse epistemic implications. It gives rise to a mode of science which, in its functionality, both retains a continuity and establishes discontinuities with neoclassical economics. The broader outcome is that it promotes a regime of (neoliberal) market governmentality.

Behavioural economics might have brought limited effects upon economics as a science (in the conventional sense) with respect to the scientific position of neoclassical economics. However, since it pertains to the study and administration of economic relations and processes, it has several implications for the broader scientific endeavour of analysing economic reality. In this regard, it constitutes a mode of science which both maintains (retains the fundamental assumptions and aims) and moves beyond neoclassical economics.

The latter mostly operates on the basis of 'precise' models of explanatory and predictive power which depend on specialised knowledge (*connaissance*) to process data, draw correlations and—explicitly or not—propose 'solutions'—a '*governance through numbers'*. The behavioural mode of science utilises the specific knowledge (*savoir*) on subjects and populations to invent new technologies of power and subjection and to pre-construct pathways of social action—a '*governance through the governed'*. On the one hand there is a subject-detached (at least *a priori*) scientific endeavour that seeks to improve the predictive power of economic models by processing trends and indicators. On the other hand there is a subject-constructing scientific project which shapes, *a priori*, the field of possible action, rendering the subjects more predictable and thus more easily or optimally governable.

The neoclassical mode of science is primarily based on scientifico-discursive mechanisms and 'positive statements' as it seeks the mathematical 'truths' which underlie the fluctuations of markets. Its difficulties largely pertain to irregularities in economic ('non-rational') behaviour and its main weakness is 'systemic-statistical', often called systemic risk. The behavioural mode of science is primarily based on behavioural mechanisms which focus on the 'real'—real behaviour and real humans. It utilises knowledge on the (economic) subject, (indirectly) directing and constructing the subject in terms of choices, strategies,

rationalities, among others, while (directly) constructing the socio-economic environment. The main weakness of the second mode—apart from the irregularity and ambiguity of behavioural patterns which it attempts to exploit—is the polyvalent and dynamic character of power/knowledge.

Subjected bodies are not merely passive receivers; they carry the capacity of critical reflection—from 'what (not) to choose' to 'why (not) choose'—throughout which knowledge attains performative properties (knowledge as *praxis*): 'knowing' is interrelated with 'resisting'. As a result, this mode of science, to ensure its existence, requires not only *intensity* and *renewal*—deepening and upgrading techniques, tactics and power devices—but also an overall *efficiency;* efficient governance necessitates processes which seek to minimise resistance. The capacity of reflection itself and the broader relation between the subject and the self is an open domain to be exploited by power/knowledge apparatuses.

At the same time, there are many common points between behavioural economics and neoclassical or 'traditional' economics with respect to their functions and approach. Regarding the latter, they share a fundamental ignorance of the systemic level. The root of social problems and possible solutions are relocated *en masse* to the level of the individual. For example, when it comes to analysing financial decisions, the role of the global financial system as a whole is neglected, while the 'solution-seeking' is pre-occupated with the (governing of the) financial subject. This is doubly problematic since, however deep the analysis may be, the behaviour of the subject cannot be understood in isolation from the systemic level. In addition to disregarding the systemic level, behavioural economics strip the subject of its class, gender, race, etc., position and relations, bypassing the power structures internalised within and reproduced (see, e.g., Tzotzes and Milonakis 2020). Lastly, many of the core assumptions on (desired) economic behaviour are common to the two modes. The behavioural mode acknowledges the utopia of rational choice as an automatically-produced economic actuality, yet it often operates on the basis of producing social behaviour along the lines of such a form of (hyper)rationality. This can be further demonstrated by approaching behavioural economics not simply as gathering and applying empirical data, but within the framework of power-knowledge.

With regard to their functionality, both modes, while bypassing the power dimension in their analysis, function to create new power relations and structures, next to the existing ones. Behavioural economics incorporates scientific processes which, among other things, invent new epistemic tools and technologies, processing different modalities of power and aiming at an overall *successful* governance. In terms of governmentality, the empirical is not

the target—it is the means through which a broader condition will be reached: the condition of governing (the population) (more) efficiently in political and economic terms. At a more general level, both modes are part of a broader process of historical (re)adaptation of power relations where economic subjects are constituted in order to conform to specific patterns—patterns compatible with a growth of productivity, prosperity, development and relevant social fields, the contents of which are defined in a particular way and the effects of which benefit particular classes and social (power) formations.

The behavioural mode of science thus combines knowledge formations from a plurality of scientific fields, while approaching the subject and the population in terms of their intrinsic characteristics, processes, relations and capacities. The point is to optimise the social utility of each aspect; a social optimisation which will promote a piercing mode of governance. Overall, behavioural economics advances the process of economics imperialism in new ways, combining traditional methods with 'deeper' processes such as subjectivisation, promoting specific forms of market governmentality. As Fine et al. (2016, 12) concisely point out in their analysis of the 2015 World Bank development report:

> The ultimate goal for policy then is to cultivate, through an appropriate institutional mix, the right combination of self-interest and other-regarding considerations. In response, individuals would learn to be, simultaneously, 'habitual social exchangers' and 'vigorous traders', meaning that markets could coexist with the social foundations on which they ultimately rely.

The present paper has critically examined the link between power and science in the domain of economics. The core argument is that power relations and knowledge relations are interlinked, shaping the broader field of economic and social *praxis*. A formalist or positivist approach to economics is not only inadequate but socially dangerous since it obscures the multifaceted ways in which the economic subject and population is affected. On the other hand, the promises of interdisciplinarity, made by paradigms such as behavioural economics, can be equally dangerous. Following Michel Foucault's history of science, power and the subject (an analysis always done in terms of the present), the focal point of a critical scientific endeavour is the functionality of each theory or paradigm, the broader framework of governmentality in which it will always be positioned. That is a necessary precondition for the defence of society; the principal assignment of the social scientist who seeks to produce an empowering and emancipatory work, rather than reproduce the existing power relations.

BIBLIOGRAPHY

Ajdukovic, Ivan, Sylvain Max, Rodolphe Perchot, and Eli Spiegelman. 2018. ‘The Economic Psychology of Gabriel Tarde: Something New for Behavioral Economics?’ *Journal of Behavioral Economics for Policy* 2 (1): 5–11.

Akerlof, George A., and Robert J. Shiller. 2015. *Phishing for Phools: The Economics of Manipulation and Deception*. Princeton Oxford: Princeton University Press.

Ariely, Dan. 2008. *Predictably Irrational*. New York: Harper Collins.

Ashraf, Nava, Colin Camerer, and George Loewenstein. 2005. ‘Adam Smith, Behavioral Economist’. *Journal of Economic Perspectives* 19 (3): 131–45.

Banerjee, Abhijit V., and Esther Duflo. 2011. *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*. New York: Public Affairs.

Benartzi, Shlomo, and Richard Thaler. 2007. ‘Heuristics and Biases in Retirement Savings Behavior’. *Journal of Economic Perspectives* 21 (3): 81–104.

Blencowe, Claire. 2012. *Biopolitical Experience Foucault, Power and Positive Critique*. New York: Palgrave Macmillan.

Bovens, Luc. 2009. ‘The Ethics of Nudge’. In *Preference Change*, edited by Till Grüne-Yanoff and S.O. Hansson, 42:207–19. Theory and Decision Library. Dordrecht: Springer.

Bruni, Luigino. 2013. ‘The Paretian Turn: The foundation of the theory of rational choice, and its discontents’. *Revue européenne des sciences sociales* 51 (2): 47–64. http://journals.openedition.org/ress/2510.

Bruni, Luigino, and Robert Sugden. 2007. ‘The Road Not Taken: How Psychology Was Removed from Economics, and How It Might Be Brought Back’. *The Economic Journal* 117 (516): 146–73.

Busino, Giovanni. 1964. ‘Note bibliographique sur le “Cours”’. *Cahiers Vilfredo Pareto* 2 (4): 223–32.

Camerer, Colin. 2006. ‘Behavioral Economics’. In *World Congress of the Econometric Society*. London.

———. 2007. ‘Neuroeconomics: Using Neuroscience to Make Economic Predictions’. *The Economic Journal* 117 (519): C26–42.

Camerer, Colin, and Ernst Fehr. 2006. ‘When Does" Economic Man" Dominate Social Behavior?’ *Science* 311 (5757): 47–52.

Camerer, Colin, Samuel Issacharoff, George Loewenstein, Ted O’Donoghue, and Matthew Rabin. 2003. ‘Regulation for Conservatives: Behavioral Economics and the Case for" Asymmetric Paternalism"’. *University of Pennsylvania Law Review* 151 (3): 1211–54.

Chamberlin, Edward H. 1948. ‘An Experimental Imperfect Market’. *Journal of Political Economy* 56 (2): 95–108.

Chetty, Raj. 2015. ‘Behavioral Economics and Public Policy: A Pragmatic Perspective’. *American Economic Review* 105 (5): 1–33.

Conlisk, John. 1996. ‘Why Bounded Rationality?’ *Journal of Economic Literature* 34 (2): 669–700.

Datta, Saugato, and Sendhil Mullainathan. 2014. ‘Behavioral Design: A New Approach to Development Policy’. *Review of Income and Wealth* 60 (1): 7–35.

Debord, Guy. (1985) 1991. *In Girum Imus Nocte et Consumimur Igni*. Edited by Donata Feroldi. London: Pelagian Press.

Deleuze, Gilles. 1988. *Foucault*. Edited by Seán Hand. Minneapolis: University of Minnesota Press.

———. 1992. ‘Postscript on the Societies of Control’. *October* 59: 3–7.

Earl, Peter E. 2005. ‘Economics and Psychology in the Twenty-First Century’. *Cambridge Journal of Economics* 29 (6): 909–26.
Femia, Joseph V. 2006. *Pareto and Political Theory*. New York: Routledge.
Fine, Ben. 2000. ‘Economics Imperialism and Intellectual Progress: The Present as History of Economic Thought?’ *History of Economics Review* 32 (1): 10–35.
Fine, Ben, Deborah Johnston, Ana C. Santos, and Elisa Van Waeyenberge. 2016. ‘Nudging or Fudging: The World Development Report 2015’. *Development and Change* 47 (4): 640–63.
Fine, Ben, and Dimitris Milonakis. 2009. *From Economics Imperialism to Freakonomics: The Shifting Boundaries between Economics and Other Social Sciences*. New York: Routledge.
Fletcher, Ronald, and Harry Elmer Barnes. 2020. ‘Auguste Comte’. In *Encyclopædia Britannica*. Encyclopædia Britannica, inc. https://www.britannica.com/biography/Auguste-Comte.
Foucault, Michel. 1977. ‘Nietzsche, Genealogy, History’. In *Language, Counter-Memory, Practice: Selected Essays and Interviews*, edited by D. F. Bouchard. Ithaca: Cornell University Press.
———. 1978. *The History of Sexuality. Volume 1: An Introduction*. Translated by Robert Harley. New York: Pantheon Books.
———. 1982. ‘The Subject and Power’. *Critical Inquiry* 8 (4): 777–95.
———. 1987. ‘The Ethic of Care for the Self as a Practice of Freedom: An Interview with Michel Foucault on January 20, 1984’. *Philosophy & Social Criticism* 12 (2–3): 112–13.
———. (1975) 1995. *Discipline and Punish: The Birth of the Prison*. Translated by Alan Sheridan. 2nd ed. New York: Vintage Books.
———. 2001a. ‘INTERVIEW WITH MICHEL FOUCAULT’. In *Essential Works of Foucault 1954 - 1984: Power*, edited by James D. Faubion. Vol. 3. New York: The New Press.
———. 2001b. ‘Questions of Method’. In *Essential Works of Foucault 1954–1984: Power*, edited by James D. Faubion. Vol. 3. New York: The New Press.
———. 2003. *‘Society Must Be Defended’: Lectures at the Collège de France, 1975-1976*. Edited by Mauro Bertani and Alessandro Fontana. Translated by David Macey. New York: Picador.
———. 2008. *The Birth of Biopolitics: Lectures at the Collège de France, 1978-1979*. Edited by Michel Senellart. Translated by Graham Burchell. New York: Palgrave Macmillan.
———. 2009. *Security, Territory, Population: Lectures at the Collège de France, 1977-78*. Edited by Michel Senellart. Translated by Graham Burchell. New York: Palgrave Macmillan.
———. (1985) 2012. *The History of Sexuality. Volume 2: The Use of Pleasure*. Vintage.
———. 2014. ‘Interview with André Berten’. In *Wrong-Doing, Truth-Telling: The Function of Avowal in Justice*, edited by Bernard E. Harcourt and Fabienne Brion, translated by Stephen W. Sawyer, 235–46. Chicago: The University of Chicago Press.
Frey, Bruno S. 1997. *Not Just for the Money*. Cheltenham, UK: Edward Elgar Publishing.
Frey, Bruno S, and Matthias Benz. 2004. ‘From Imperialism to Inspiration: A Survey of Economics and Psychology’. In *The Elgar Companion to Economics and Philosophy*, 61–83. Cheltenham, UK: Edward Elgar.
Fudenberg, Drew, and David K Levine. 2006. ‘A Dual-Self Model of Impulse Control’. *American Economic Review* 96 (5): 1449–76.
Gigerenzer, Gerd. 2018. ‘The Bias Bias in Behavioral Economics’. *Review of Behavioral Economics* 5 (3–4): 303–36.

Gneezy, Uri, and Aldo Rustichini. 2000. ‘A Fine Is a Price’. *The Journal of Legal Studies* 29 (1): 1–17.
Grüne-Yanoff, Till. 2012. ‘Old Wine in New Casks: Libertarian Paternalism Still Violates Liberal Principles’. *Social Choice and Welfare* 38 (4): 635–45.
Hagen, S. H. 2016. ‘“Nudging to Make the Best Choices for Themselves”: The Paradox of Behavioural Economics and Neoliberalism in the SBST 2015 Annual Report’. Bachelor Thesis, Utrecht: Universiteit Utrecht. http://dspace.library.uu.nl/handle/1874/336954.
Hall, Robert L, and Charles J Hitch. 1939. ‘Price Theory and Business Behaviour’. *Oxford Economic Papers* 2 (1): 12–45.
Hansen, Pelle Guldborg, and Andreas Maaløe Jespersen. 2013. ‘Nudge and the Manipulation of Choice: A Framework for the Responsible Use of the Nudge Approach to Behaviour Change in Public Policy’. *European Journal of Risk Regulation* 4 (1): 3–28.
Hausman, Daniel M. 1981. ‘John Stuart Mill’s Philosophy of Economics’. *Philosophy of Science* 48 (3): 363–85.
———. 2008. *The Philosophy of Economics; An Anthology*. New York: Cambridge University Press.
Hayek, Friedrich A. (1944) 2001. *The Road to Serfdom*. London: Routledge.
Henrich, Joseph, Steven J. Heine, and Ara Norenzayan. 2010. ‘The Weirdest People in the World?’ *Behavioral and Brain Sciences* 33 (2–3): 61–83.
Ivanković, Viktor, and Bart Engelen. 2019. ‘Nudging, Transparency, and Watchfulness’. *Social Theory and Practice* 45 (1): 43–73.
Jaffé, William. 1983. *William Jaffe’s Essays on Walras*. Edited by Donald A. Walker. Cambridge: Cambridge University Press.
Kahneman, Daniel. 2003. ‘Maps of Bounded Rationality: Psychology for Behavioral Economics’. *American Economic Review* 93 (5): 1449–75.
Kahneman, Daniel, Jack L Knetsch, and Richard Thaler. 1990. ‘Experimental Tests of the Endowment Effect and the Coase Theorem’. *Journal of Political Economy* 98 (6): 1325–48.
Katona, George. 1951. *Psychological Analysis of Economic Behavior*. New York: McGraw-Hill.
———. 1960. *The Powerful Consumer*. New York: McGraw-Hill.
Kelly, Mark GE. 2009. *The Political Philosophy of Michel Foucault*. New York: Routledge.
Keynes, John Maynard. (1936) 2018. *The General Theory of Employment, Interest, and Money*. Cambridge: Palgrave Macmillan.
Laibson, David, and John A List. 2015. ‘Principles of (Behavioral) Economics’. *American Economic Review* 105 (5): 385–90.
Langley, Paul, and Adam Leaver. 2012. ‘Remaking Retirement Investors: Behavioural Economics and Defined-Contribution Occupational Pensions’. *Journal of Cultural Economy* 5 (4): 473–88.
Lea, Stephen E.G. 2015. ‘Decision and Choice: Economic Psychology’. In *International Encyclopedia of the Social & Behavioral Sciences*, 886–91. Elsevier.
Lemke, Thomas. 2001. ‘“The Birth of Bio-Politics”: Michel Foucault’s Lecture at the Collège de France on Neo-Liberal Governmentality’. *Economy and Society* 30 (2): 190–207.
———. 2011. *Biopolitics: An Advanced Introduction*. Translated by Eric Frederick Trump. New York: NYU Press.
———. 2013. ‘Foucault, Politics and Failure’. In *Foucault, Biopolitics and Governmentality*, edited by Jakob Nilsson and Sven Olov Wallenstein, 35–52. Stockholm: Södertörn Philosophical Studies.

Lester, Richard A. 1946. ‘Shortcomings of Marginal Analysis for Wage-Employment Problems’. *The American Economic Review* 36 (1): 63–82.
Macherey, Pierre. 2015. ‘The Productive Subject’. *Viewpoint Magazine* 5 (5). https://viewpointmag.com/2015/10/31/the-productive-subject/.
Macleod, Christopher. 2018. ‘John Stuart Mill’. In *Stanford Encyclopedia of Philosophy*. The Stanford Encyclopedia of Philosophy. https://plato.stanford.edu/archives/fall2018/entries/mill/.
Marinetto, Michael John Paul, and Rhys William Andrews. 2011. ‘A Nudge and a Push and This Land Is Ours: Public Policy, Psycho-Economics and Behavioural Governance’. In *6th Organization Studies Workshop: Bringing Public Organization and Organizing Back In*. Paris, France.
Marx, Karl. (1867) 1976. *Capital: A Critique of Political Economy. Volume 1*. New York: Penguin Books.
McAuley, I. 2010. ‘When Does Behavioural Economics Really Matter?’ In *Australian Economic Forum*. Sydney. http://www.home.netspeed.com.au/mcau/academic/confs/bepolicy.pdf.
McChesney, Fred S. 2013. ‘Behavioral Economics: Old Wine in Irrelevant New Bottles?’ *Supreme Court Economic Review* 21 (1): 43–76.
McClure, Samuel M, Keith M Ericson, David I Laibson, George Loewenstein, and Jonathan D Cohen. 2007. ‘Time Discounting for Primary Rewards’. *Journal of Neuroscience* 27 (21): 5796–5804.
McClure, Samuel M, David I Laibson, George Loewenstein, and Jonathan D Cohen. 2004. ‘Separate Neural Systems Value Immediate and Delayed Monetary Rewards’. *Science* 306 (5695): 503–7.
McMahon, John. 2015. ‘Behavioral Economics as Neoliberalism: Producing and Governing Homo Economicus’. *Contemporary Political Theory* 14 (2): 137–58.
Mehta, Judith. 2013. ‘The Discourse of Bounded Rationality in Academic and Policy Arenas: Pathologising the Errant Consumer’. *Cambridge Journal of Economics* 37 (6): 1243–61.
Mill, John Stuart. (1844) 2000. *Essays on Some Unsettled Questions of Political Economy*. 2nd ed. Kitchener: Batoche Books.
———. (1843) 2009. *A System Of Logic, Ratiocinative And Inductive*. Urbana, Illinois: Project Gutenberg. https://www.gutenberg.org/files/27942/27942-pdf.pdf.
Mills, Catherine. 2018. *Biopolitics*. First edition. New York: Routledge.
Milonakis, Dimitris. 2017. ‘Formalising Economics: Social Change, Values, Mechanics and Mathematics in Economic Discourse’. *Cambridge Journal of Economics* 41 (5): 1367–90.
Milonakis, Dimitris, and Ben Fine. 2009. *From Political Economy to Economics: Method, the Social and the Historical in the Evolution of Economic Theory*. New York: Routledge.
Mirowski, Philip. 1991. *More Heat than Light: Economics as Social Physics, Physics as Nature’s Economics*. Reprint edition. New York: Cambridge University Press.
Morgan, Mary S. 2004. ‘Simulation: The Birth of a Technology to Create «evidence» in Economics’. *Revue d’histoire Des Sciences* 57 (2): 339–75.
Mullainathan, Sendhil, and Richard Thaler. 2015. ‘Behavioral Economics’. In *International Encyclopedia of the Social & Behavioral Sciences*, 437–42. Elsevier.
Nye Jr, Joseph S. 1990. *Bound to Lead: The Changing Nature of American Power*. New York: Basic books.
———. 2004. *Soft Power: The Means to Success in World Politics*. New York: Public Affairs.

Pareto, Vilfredo. (1916a) 1935. *The Mind and Society: A Treatise on General Sociology. Volume 1: Non-Logical Conduct*. Edited by Arthur Livingston. Vol. 1. 4 vols. New York: Harcourt, Brace and Co.
———. (1916b) 1935. *The Mind and Society: A Treatise on General Sociology. Volume 3: Theory of Derivations*. Edited by Arthur Livingston. Vol. 3. 4 vols. New York: Harcourt, Brace and Co.
———. (1906) 2014. *Manual of Political Economy: A Critical and Variorum Edition*. Oxford: Oxford University Press.
Rabin, Matthew. 1998. 'Psychology and Economics'. *Journal of Economic Literature* 36 (1): 11–46.
Rose, Nikolas. 1999. *Powers of Freedom: Reframing Political Thought*. Cambridge: Cambridge University Press.
Rouse, Joseph. 1994. 'Power/Knowledge'. In *The Cambridge Companion to Foucault*, edited by G. Gutting, 92–114. Cambridge: Cambridge University Press.
Sent, Esther-Mirjam. 2004. 'Behavioral Economics: How Psychology Made Its (Limited) Way Back into Economics'. *History of Political Economy* 36 (4): 735–60.
Shubik, Martin. 1960. 'Bibliography on Simulation, Gaming, Artificial Intelligence and Allied Topics'. *Journal of the American Statistical Association* 55 (292): 736–51.
Simon, Herbert A. 1955. 'A Behavioral Model of Rational Choice'. *The Quarterly Journal of Economics* 69 (1): 99–118.
———. 1956. 'Rational Choice and the Structure of the Environment.' *Psychological Review* 63 (2): 129–38.
Steffel, Mary, Elanor F. Williams, and Ruth Pogacar. 2016. 'Ethically Deployed Defaults: Transparency and Consumer Protection through Disclosure and Preference Articulation'. *Journal of Marketing Research* 53 (5): 865–80.
Stewart, Eric, and Ariel D. Roy. 2014. 'Subjectification'. Edited by Thomas Teo. *Encyclopedia of Critical Psychology*. New York: Springer New York. https://doi.org/10.1007/978-1-4614-5583-7_358.
Sugden, Robert. 2002. 'Beyond Sympathy and Empathy: Adam Smith's Concept of Fellow-Feeling'. *Economics & Philosophy* 18 (1): 63–87.
Sunstein, Cass R. 2016. *The Ethics of Influence: Government in the Age of Behavioral Science*. New York: Cambridge University Press.
———. 2019. *How Change Happens*. Cambridge, Massachusetts: MIT Press.
Thaler, Richard. 1980. 'Toward a Positive Theory of Consumer Choice'. *Journal of Economic Behavior & Organization* 1 (1): 39–60.
———. 2015. *Misbehaving: The Making of Behavioural Economics*. New York: W. W. Norton & Company.
———. 2018. 'From Cashews to Nudges: The Evolution of Behavioral Economics'. *American Economic Review* 108 (6): 1265–87.
Thaler, Richard, and Shlomo Benartzi. 2004. 'Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving'. *Journal of Political Economy* 112 (S1): S164–87.
Thaler, Richard, and Cass R Sunstein. 2008. *Nudge: Improving Decisions About Health, Wealth, and Happiness*. New Haven, CT: Yale University Press.
Thatcher, Margaret. 1981. Margaret Thatcher: Interview for Sunday Times Interview by Ronald Butt. Sunday Times. https://www.margaretthatcher.org/document/104475.
The Royal Swedish Academy of Sciences. 2019. 'Press Release: The Prize in Economic Sciences 2019'. The Royal Swedish Academy of Sciences. https://www.nobelprize.org/uploads/2019/10/press-economicsciences2019-2.pdf.

Thurstone, Louis L. 1931. ‘The Indifference Function’. *The Journal of Social Psychology* 2 (2): 139–67.
Tversky, Amos, and Daniel Kahneman. 1981. ‘The Framing of Decisions and the Psychology of Choice’. *Science* 211 (4481): 453–58.
Tzotzes, Sergios, and Dimitris Milonakis. 2020. ‘Paradigm Change or Assimilation? The Case of Behavioral Economics’. *Review of Radical Political Economics*. https://doi.org/10.1177/0486613420906901.
Uchitelle, Louis. 2001. ‘Economist Is Honored for Use of Psychology’. *New York Times*, 2001. https://www.nytimes.com/2001/04/28/business/economist-is-honored-for-use-of-psychology.html.
Whitehead, Mark, Rhys Jones, Rachel Howell, Rachel Lilley, and Jessica Pykett. 2014. ‘Nudging All over the World’. ESRC Report, Economic and Social Research Council, Swindon and Edinburgh.
World Bank. 2015. ‘World Development Report 2015: Mind, Society, and Behavior’. Washington, DC: World Bank.
Zouboulakis, Michel. 2005. ‘On the Social Nature of Rationality in Adam Smith and John Stuart Mill’. *Cahiers d’économie Politique / Papers in Political Economy*, no. 49: 51–63.
———. 2010. ‘Trustworthiness as a Moral Determinant of Economic Activity: Lessons from the Classics’. *Forum for Social Economics* 39 (4): 209–21.