

When Nutrition Policy Meets Behavioural Sciences. Regulating-by-Nudging in the Innovation Union

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1.- Introduction

The picture in the Thaler and Sunstein book cover which shows mummy elephant gently pushing her baby with her trunk, clearly exemplifies the idea at the heart of “nudge.”¹ The term was used by the authors to characterize structural ways to help people to make better choices - as judged by themselves - without forcing certain outcomes upon anyone. These interventions find their roots in the influence which, since the ‘70s, cognitive psychology and behavioural economics have exercised on the study of human behaviour, questioning the rational actor paradigm.

In the view of the bounded rationality, willpower and self-interest people have been proven to possess, nudge strategies – and, widely, behaviourally-informed approaches to regulation (so-called behavioural insights²) – are currently strongly informing and

redefining regulatory strategies worldwide³ and, definitely, in the European Union (EU), by impacting several and multifaceted domains (from employment to consumer protection to environment), nutrition policy area⁴ included. An example is represented by “Nudge-it”,⁵ a EU inter-disciplinary project which, by engaging leading international experts in several fields (neurobiology of motivational behaviour, experimental psychology, functional brain imaging, behavioural economics and computational modelling), has been developing innovative tools both to better understand decision-making in food choice and to build predictive models to contribute to improving public health policy.

However, the issues concerning the overall legitimacy of these new “regulatory/non regulatory”⁶ instruments and the problem of how they are interacting, interfering with, and replacing more traditional legal rules as well as their correlation with the meaning of citizenship, call for deep and thoughtful reflection. Yet given the commitment of law to the concept of (moral) human agency, the European turn to regulation-by-nudging faces some regulatory (how behavioural-based modes of action operate) and epistemological (how behavioural-inspired tools have been designed) tensions in dealing with individual autonomy⁷ and human dignity (in the sense of self-respect).⁸ All these conflicts are familiar since they rehearse many of the long-standing tensions characterizing each use of science into regulation

(1) R.H. Thaler, C.R. Sunstein, *Nudge. Improving Decisions about Health, Wealth and Happiness*, London, Penguin Books, 2008.

(2) See J.S. Lourenço, E. Ciriolo, S. Rafael Almeida, X. Troussard, *Behavioural Insights Applied to Policy: European Report 2016*, JRC Science Hub, 2016, http://publications.jrc.ec.europa.eu/repository/bitstream/JRC100146/kjna27726enn_new.pdf.

(3) See M. Whitehead, R. Jones, R. Howell, R. Lilley, J. Pykett, *Nudging all over the world: Assessing the global impact of the behavioural sciences on public policy*, Economic Social & Research Council Report, Swindon, UK, 2014.

(4) J. Wollgast, H. Benedikt, ‘Nudging’ healthy diets in the EU, in *Food Science and Technology*, 2013, <http://fstjournal.org/features/%E2%80%98nudging%E2%80%99-healthy-diets-eu>.

(5) <http://www.nudge-it.eu/>.

(6) The question about the (extra-)legal character of nudges, namely whether nudges represent a genuinely distinct mode of governance, with a corresponding distinct regulation, is discussed by P. Cserne, *Is Nudging Really Extra-Legal?*, in *The Tocqueville Review*, 37, 1, 2016, 159-18, which concludes that “nudges are not obviously and not always legal nor are they necessarily or typically extra-legal.” Conversely, K. Yeung, *Are Designed-Based Regulatory Instruments Legitimate?*, 2014, <https://ssrn.com/abstract=2570280>, considers nudges as regulatory instruments if we accept the definition of regulation as “a sustained and focused attempts intended to produce a broadly defined outcome or outcomes directed at a sphere of social activity according to defined standards or purposes that affect others in order to address a collective concern or problem.”

(7) P. Cserne, *Making Sense of Nudge-Scepticism: Three Challenges to EU Law’s Learning from Behavioural Sciences*, in Alemanno, A.-L. Sibony (eds), *Nudge and The Law. A European Perspective*, Oxford and Portland, OR: Hart Publishing, 2015, 279-299.

(8) On this matter, C. McCrudden, J. King, *The Dark Side of Nudging: The Ethics, Political Economy, and Law of Libertarian Paternalism*, Public Law and Legal Theory Research Paper Series, Paper No. 485, 2015, 103, affirm: “We believe that respect for dignity in the kantian

and policy-making over the past decades.⁹

In 2013, the UK Department of Public Health published guidance on front-of-pack (FoP) labeling¹⁰ recommending - in addition to the full mandatory nutrition declaration ex Article 30(1) and (3) of the EU Regulation on food information¹¹ - the voluntary combination of food labels with the use of colour coding as an additional form of expression. Grounded on insights from behavioural studies, the voluntary FoP labelling scheme has been promoted as a potential tool to make healthier choices, by both balancing consumers' diets and controlling their energy intake, so as to have significant impacts on individuals' health and reduce the economic costs of ill-health.

Conversely, the problem concerning the empirical effectiveness of behavioural sciences led the European Parliament, in its recent (2015) *Report on Regulatory Fitness and Performance Programme (REFIT)*,¹² to call on the Commission to review the scientific basis and the usefulness of Regulation on nutrition and health claims,¹³ suggesting eliminating the concept of nutrient profiles, today at the basis of traffic-light labels.

This request clearly mirrors one of the prominent dilemmas arising from nudge actions, that is their scientific validity and overall legitimacy.

In the light of this scenario, this contribution will explore the changes that the European nutrition policy is undergoing in dealing with behaviourally-

savvy interventions.

The analysis proceeds as follows. Section II sets the scene by providing an overview to the core of behavioural sciences and the key characteristics of the behavioural interventions referred to as nudge. This brief introduction will allow sketching, in the following Section, the rise of behavioural sciences on the EU nutrition policy agenda, by investigating the main tools designed by public authorities to nudge individuals to "better" food-related choices. Section IV, then, reflects more specifically on both regulatory and epistemological questions nudge poses in the nutrition field: to what extent nudging as regulatory/non-regulatory strategy interferes with the concept and the meaning of individuals' agency? How far is it congruent with the idea to let people fully act as moral agents? And, by steering human beings in defined directions, how far is it consistent with the ideal of freedom of choice, and how does it face regulatory debates about individual autonomy?

The Section copes with this range of questions, firstly by framing and explaining nudge measures in the process of rethinking of EU governance and, secondly, by focusing on their correlation with the idea of human agency and the notion of citizen. This analysis will identify how the treatment of cognitive-based practices in the regulatory policy-making linked to the nutrition domain tends to overcome ambiguities and suppositions that require, instead, a profound and rigorous analysis able to acquire the

form entails a degree of caution and respect for persons that the institutional practice of nudging is liable to overlook." Likewise, J. Waldron, *It's All For Your Own Good*, 2014, <http://www.nybooks.com/articles/2014/10/09/cass-sunstein-its-all-your-own-good/>, questions: "What becomes of the self-respect we invest in our own willed actions, flawed and misguided though they often are, when so many of our choices are manipulated to promote what someone else sees (perhaps rightly) as our best interest?" J. Waldron, *It's All For Your Own Good*, 2014, <http://www.nybooks.com/articles/2014/10/09/cass-sunstein-its-all-your-own-good/>, questions: "What becomes of the self-respect we invest in our own willed actions, flawed and misguided though they often are, when so many of our choices are manipulated to promote what someone else sees (perhaps rightly) as our best interest?"

⁽⁹⁾ For an insightful overview and analysis on the matter, see S. Jasanoff, *Design on Nature: Science and Democracy in Europe and the United States*, Princeton, Princeton University Press, 2005.

⁽¹⁰⁾ *Guide to creating a front of pack (FoP) nutrition label for pre-packed products sold through retail outlets*, <https://www.food.gov.uk/sites/default/files/multimedia/pdfs/pdf-ni/fop-guidance.pdf>.

⁽¹¹⁾ Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004.

⁽¹²⁾ European Parliament, *Report on Regulatory Fitness and Performance Programme (REFIT): State of Play and Outlook*, (2014/2150(INI)), 2015, point 47.

⁽¹³⁾ Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods.

best available knowledge, by criticizing and scrutinizing all the implicit assumptions underpinning the use of science in regulation. To this end, the insightful concepts of “peer-production of knowledge”¹⁴ and “proceduralization of law”¹⁵ may provide a solid and fertile ground for European experimental collaboration and learning in addressing nutrition-related health issues.

My argument (Section V) is that the use of behavioural sciences for better or “smarter”¹⁶ nutrition policy in Europe - today promoted as “Innovation Union”¹⁷ because of the relevance increasingly given to innovative ideas (such as nudge can be) - begs to be properly and democratically scrutinized as well as rethought in several aspects, if we want nudge-type techniques to be understood as “soft normative” guidance, and human agency not to be disregarded but empowered by nudging interventions.

2.- Behavioural sciences and nudge at a glance

In 1947 Herbert Simon, one of the founders of cognitive psychology and the analysis of decision making, published the volume *Administrative Behaviour*.¹⁸ In contrast to the classical economic theory presuming human agents as perfectly rational, informed of all the possible choices and having a stable system of preferences,¹⁹ Simon theorizes the principle of bounded rationality. The assumptions which this principle is based on refer to the idea that human rationality meets several limits (ethical, cultural, emotional), but, mostly, it is not able to predict the impact of each decision with certainty. The role of context in which these decisions

are made becomes decisive, as well as the willingness to review choices in the light of the related consequences. The rationality of a choice therefore becomes part of a constant learning process.

Later, at the end of '70s, psychologists Tversky and Kahneman's prospect theory²⁰ identifies the core of behavioural sciences (including cognitive psychology and behavioural law and economics), in the three heuristic principles of representativeness, availability and anchoring. Following this line of research, actors tend to ignore base rates and to use similarities and stereotypes in predicting the future (representativeness heuristic); they estimate frequency or probability by the ease with which instances or associations could be brought to mind (availability heuristic); probabilistic assessments are biased by preexisting cognitive anchors working as “default” (anchoring). Briefly speaking, this mental shortcut leads individuals to be systematically biased in their prediction of the probable results of various events, so as to violate the predictions of rational choice theory in individual circumstances.²¹ Together with these developments, in the early 1960s behavioural knowledge started gaining momentum and rapidly increasing relevance also in legal disciplines. In the words of Walter Berns, one of the first scholars questioning the role of behavioural sciences in the field of law, the new discipline “promises, for example, more expert testimony, especially in those areas where courts have traditionally been required to rely on judicial notice; it promises a new understanding of the factors responsible for decisions; it promises computers designed to do the work of judges more effectively than the judges themselves; finally, it promises a method of solving the great and intractable problems in jurispru-

⁽¹⁴⁾ Y. Benkler, H. Nissenbaum, *Commons-based Peer Production and Virtue*, in *The Journal of Political Philosophy*, 14, 4, 2006, 394-419.

⁽¹⁵⁾ G. Teubner (ed), *Dilemmas of Law in the Welfare State*, Berlin, Walter de Gruyter, 1985.

⁽¹⁶⁾ P. Rubig, *The Changing Face of Risk Governance: Moving from Precaution to Smarter Regulation*, in *European Journal of Risk Regulation*, 2, 2012, 145-146.

⁽¹⁷⁾ European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Europe 2020 Flagship Initiative: Innovation Union*, COM(2010) 546 final, Brussels, 2010.

⁽¹⁸⁾ H. Simon, *Administrative Behavior*, New York, MacMillan, 1947.

⁽¹⁹⁾ See T.S Ulen, *Rational Choice Theory in Law and Economics*, in B. Bockaert, G. De Geest (eds.), *Encyclopedia of Law and Economics*, 1999.

⁽²⁰⁾ D. Kahneman, A. Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, in *Econometrica*, 47, 2, 1979, 263-292.

⁽²¹⁾ A. Tversky, D. Kahneman, *Judgment under Uncertainty: Heuristics and Biases*, in *Science*, 185, 4157, 1974, 1124-1131.

dence.”²²

Along these assumptions, behavioural-informed interventions have started to advance at the institutional level worldwide, through the creation of specific offices, so-called Nudge Units. If in the US context, behavioural sciences gained ground with both the creation of the Social and Behavioural Sciences Team²³ and the Executive Order on using behavioural sciences insights issued by President Obama in 2015,²⁴ the EU’s engagement with the new discipline dates back to the gradual institutionalization of behavioural sciences within the British government, started by the Cabinet Office Strategy Unit (COSU), and has gone through the creation of the BIT (Behavioural Insights Team), as part of the Cabinet Office. Following these initiatives at the national level, in 2009 the EU Commission decided to undertake research and experiments externally and within its in-house scientific advisory DG, the Joint Research Centre, which has led to the birth of the BESTEP²⁵ (Behavioural Studies for European Policies). Currently, the Junker Commission strongly believes that behavioural sciences, by complementing traditional policy approaches, might inform on more targeted and efficient solutions at all stages of EU policy cycle, from designing to implementing EU regulations.²⁶

All these attempts to accommodate behavioural insights – such as availability heuristics and loss aversion – in the regulatory process, seem to pave the way to a diverse view of “the Regulatory State,”²⁷ where the recognition about the limits of consumer rationality calls for more evidence-based approaches, aimed at introducing more handy, flexible and speedier regulatory instruments. Scholars coined the expression “behavioural governance” to label this new “mode of governing informed, designed or implemented by focusing on psychological as well as cognitive mechanisms of behaviour, in both individuals and collectives.”²⁸

Particularly, the behavioural-informed interventions known as “nudge” are advancing within the governance landscape. A formal definition of nudge, originally proposed by the economist Richard Thaler and the jurist Cass Sunstein,²⁹ has recently been refined by the scholar Hansen as “a function of any attempt at influencing people’s judgment, choice or behaviour in a predictable way (1) that is made possible because of cognitive boundaries, biases, routines and habits in individual and social decision-making posing barriers for people to perform rationally in their own declared self-interests and which (2) works by making use of those boundaries, biases, routines, and habits as integral parts of such

⁽²²⁾ W. Berns, *Law and Behavioural Science*, in *Law and Contemporary Problems*, 28, 1963, 186.

⁽²³⁾ <https://sbst.gov/>.

⁽²⁴⁾ At http://www.eenews.net/assets/2015/09/16/document_cw_02.pdf “Helping workers to find better jobs, enabling Americans to lead longer, healthier lives, improving access to educational opportunities and support for success in school, and accelerating the transition to a low-carbon economy” are listed in the document as the main goals called to guide the Federal Government’s policies in America. In doing so, the US Behavioral Science Insights Policy Directive emerges as a tool to be used to improve regulation, as well as to identify and reduce regulatory burdens.

⁽²⁵⁾ See <http://is.jrc.ec.europa.eu/pages/BE/BEindex.html>.

⁽²⁶⁾ J.S. Lourenço, E. Ciriolo, S. Rafael Almeida, X. Troussard, *Behavioural Insights Applied to Policy: European Report 2016*, cit., 37. As far as the policy design is concerned, the European Commission’s first behavioural study on consumer decision-making in retail investment services - dating back to 2009 - was commissioned by the Consumer Directorate of DG Health and Consumers (currently in DG Justice and Consumers), in order to design a framework contract open to all services of the European Commission. By showing how standardizing and simplifying product information can improve consumer choices, the study produced pioneering considerations of the design of regulation, including features such as the framing of information and the provision of warnings. As for the level of implementation of the Better Regulation Agenda, a “Toolbox” has been put forward. This so-called “Better Regulation Toolbox” (http://ec.europa.eu/smart-regulation/guidelines/docs/br_toolbox_en.pdf) mentions behavioural biases, on the one hand, as tools through which to analyze problems and identify policy options in the context of impact assessment; on the other, as one of the four categories of problem drivers, together with market failures, regulatory failures and equity.

⁽²⁷⁾ G. Majone, *Regulating Europe*, London, Routledge, 1996.

⁽²⁸⁾ H. Strassheim, R-L. Korinek, *Behavioural Governance in Europe*, in J. Wilsdon, R. Doubleday (eds), *Future Directions for Scientific Advice in Europe*, Cambridge, Centre for Science and Policy, 2015, 153-160.

⁽²⁹⁾ “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” (R. Thaler, C.R. Sunstein, *Nudge. Improving Decisions about Health, Wealth and Happiness*, cit., 6).

attempts.”³⁰ To sum up, nudge actions refer to mechanisms which assist individuals in finding their “real” preferences and achieving goals pre-selected by policy makers, without restricting one’s own choice. Nudge has been thought of as echoing the two attractive – even though debated - concepts of “choice architecture” and “libertarian paternalism,” both coined by Thaler and Sunstein. While the former indicates the design of different ways (defaults, expecting error, understanding mappings, giving feedback, structuring complex choices, and creating incentives) in which choices can be presented to consumers, and the impact of that presentation on consumer decision-making,³¹ the latter alludes to the idea that it is possible and legitimate for private and public institutions to affect behaviour while also respecting freedom of choice.³²

In conclusion, nudge-based strategies have been thought of as mechanisms of choice architecture – smart and low cost – through which to influence consumers’ judgments and decisions in order to promote definite behaviours, that are considered desirable by the regulator itself. The behavioural tools usually enucleated as the most used to achieve the defined goals are pigeonholed into three main categories, each of which might be the object of application in numerous fields: default rules, smart disclosure and simplification.

For a deep understanding of what they are and how they work, the next section will shift to the analysis of one realm in which this topic clearly emerges: the nutrition policy area. By sketching the regulatory and ethical concerns underpinning nudge-type interventions in this field, it will be looking at the main trajectories through which the relationship between behavioural sciences and nutrition actions is being revised and reshaped – albeit gradually - at the EU institutional level.

3.- How nudge is informing nutrition policy in Europe

Nutrition matters have been addressed since the ‘80s through specific actions by the then European Communities in the areas relating to cancer³³ and alcohol abuse,³⁴ and acquired significant relevance in the following decade with *the World Declaration for Nutrition and Plan of Action on Nutrition*³⁵ adopted by FAO and WHO.

However, only at the beginning of 2000s did a nutrition policy strategy gain ground at the institutional level in Europe (ex Article 129 of the Maastricht Treaty), through a series of multifaceted initiatives, defined and structured by numerous planning documents on the subject.³⁶ Among them, the 2013

⁽²⁹⁾ “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” (R. Thaler, C.R. Sunstein, *Nudge. Improving Decisions about Health, Wealth and Happiness*, cit., 6).

⁽³⁰⁾ P.G. Hansen, *The Definition of Nudge and Libertarian Paternalism: Does the Hand Fit the Glove?*, in *European Journal of Risk Regulation*, 1, 2016, 4.

⁽³¹⁾ R. Thaler, C.R. Sunstein, J.P. Balz, *Choice Architecture*, 2010, <https://ssrn.com/abstract=1583509>.

⁽³²⁾ R.H. Thaler, C.R. Sunstein, *Libertarian Paternalism*, in *The American Economic Review*, 93, 2, Papers and Proceedings of the One Hundred Fifteenth Annual Meeting of the American Economic Association, Washington, 2003, 179, define it as “an approach that preserves freedom of choice but that authorizes both private and public institutions to steer people in directions that will promote their welfare.”

⁽³³⁾ Resolution of the Council and the Representatives of the Governments of the Member States, meeting within the Council, of 7 July 1986, on a programme of action of the European Communities against Cancer. OJ C 184, 23.7.1986; Decision of the Council and of representatives of the Governments of the Member States, meeting with the Council of 21 June 1988 adopting a 1988 to 1989 plan of action for an information and public awareness campaign in the context of the ‘Europe against cancer’ programme (88/351/EEC). OJ L 160, 28.6.1988; Decision the Council and the Representatives of the Governments of the Member States, meeting within the Council, on 17 May 1990, adopting a 1990 to 1994 action plan in the context of the “Europe against Cancer” programme. OJ L 137, 30.5.1990; Decision No 646/96/EC of the European Parliament and the Council of 29 March 1996, adopting an action plan to combat cancer within the framework for action in the field of public health (1996 to 2000). OJ L 95, 16.4.1996.

⁽³⁴⁾ Resolution of the Council and of the Representatives of the Governments of the Member States, meeting within the Council, of 29 May 1986, on alcohol abuse (OJ C 184, 23.7.1986).

⁽³⁵⁾ FAO, WHO, *World Declaration and Plan of Action for Nutrition*, International Conference on Nutrition, 1992, <http://apps.who.int/iris/bitstream/10665/61051/1/a34303.pdf>.

⁽³⁶⁾ See for an in-depth overview M. Holle, *Nutrition Policy in the European Union*, Wageningen Working Paper Law and Governance, 3, 2014, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2446430.

*Vienna Declaration on Nutrition and Noncommunicable Diseases*³⁷ and the 2014 *European Food and Nutrition Action Plan 2015–2020*³⁸ adopted by the WHO European Region have given emphasis to the need to adopt a whole-of-government, health-in-all-policies approach for the creation of healthy and sustainable food systems, in line with the European Health 2020 strategy.

Currently in Europe, in fact, the ever bigger urgency to tackle the health and economic consequences related to noncommunicable diseases (NCDs) has been leading scientists and policy makers to adopt measures that might be as efficient as possible in changing consumer choices and behaviour: by working across government policy areas and at different levels of government; by using a range of heterogeneous instruments (including legislation, networking, public-private approaches); and by engaging the private sector and civil society. As a result, the European nutrition policy appears today to be a hybrid structure, where traditional regulatory tools (like bans, restrictions or taxation) are mixed and complemented with new and soft forms of regulation, namely non-legally binding legal instruments (such as declarations, action plans, communications, guidelines, etc.) aimed at improving food system governance and the overall quality of the European population's diet and nutritional status, as

well as reducing ill health due to poor nutrition, overweight and obesity.³⁹

In this broad and complex framework, behavioural sciences are meant as potential resources both to encourage healthier lifestyles and to address NCDs and their risk factors.⁴⁰

Indeed, as shown by scholars,⁴¹ the WHO has recognised the significant role that behavioural insights might play in articulating and achieving the policy goals pertaining to improving diets and reducing obesity, in the light of the importance of investing in prevention. In this sense, references to “enabling environments” that – by encouraging behaviour changes – strengthen progress towards national health goals and healthy lifestyle patterns emerged from the *Global Strategy on Diet, Physical Activity and Health*,⁴² the *NCD Political Declaration*⁴³ and the *2013 NCD Action Plan*.⁴⁴

Along this path, the UK government has promoted a “five a day” campaign⁴⁵ aiming at encouraging citizens to eat at least five portions of fruit/vegetables each day. The two instruments combined in the pledge – capacity and organization – have been informed by behavioural insights.

Usually, as anticipated before, the array of instruments currently used by governments to integrate cognitive psychology within the framework of nutrition policy, for the promotion of healthier lives, fall

⁽³⁷⁾ WHO, *Vienna Declaration on Nutrition and Noncommunicable Diseases in the Context of Health 2020*, WHO Ministerial Conference on Nutrition and Noncommunicable Diseases in the Context of Health 2020, 2013, http://www.euro.who.int/_data/assets/pdf_file/0003/234381/Vienna-Declaration-on-Nutrition-and-Noncommunicable-Diseases-in-the-Context-of-Health-2020-Eng.pdf?ua=1.

⁽³⁸⁾ WHO, *European Food and Nutrition Action Plan 2015–2020*, Regional Committee for Europe EUR/RC64/14 64th session, 2014, http://www.euro.who.int/_data/assets/pdf_file/0008/253727/64wd14e_FoodNutAP_140426.pdf.

⁽³⁹⁾ See for a global picture: U. Trübswasser, F.M. Branca, *Nutrition policy is taking shape in Europe*, in *Public Health Nutrition*, 12, 3, 2009, 295-306; M; L. Leone, *La policy nutrizionale in Europa: iter normativi e dinamiche di regolamentazione*, in *Epidemiologia e Prevenzione*, 39, 5-6, 2015, 395-400; S. Capacci, M. Mazzocchi, B. Shankar et al., *Policies to promote healthy eating in Europe: a structured review of policies and their effectiveness*, in *Nutr. Rev.*, 70, 3, 2012, 188-200. See also the various local initiatives launched under the umbrella of the *European Commission sponsored European Platform for Diet, Physical Activity and Health* (http://ec.europa.eu/health/nutrition_physical_activity/platform/index_en.htm).

⁽⁴⁰⁾ With this respect, research has demonstrated that nudge holds promise as a public health strategy to combat obesity (A. Arno, S. Thomas, *The efficacy of nudge theory strategies influencing adult dietary behaviour: a systematic review and meta-analysis*, in *BMC Public Health*, 16:676, 2016).

⁽⁴¹⁾ A. Alemanno, *What can EU Health Law Learn from Behavioural Sciences? The Case of EU Lifestyle Regulation*, in A. Alemanno, A-L. Sibony (eds), *Nudge and The Law*, cit., 248

⁽⁴²⁾ WHO, *Global Strategy on Diet, Physical Activity and Health*, World Health Organization, France, 2004, para 11.

⁽⁴³⁾ United Nations General Assembly, *Political declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases*, 2011, http://www.un.org/ga/search/view_doc.asp?symbol=A/66/L.1, para 43 (a).

⁽⁴⁴⁾ “WHO, *Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020*, WHO Document Production Services, Geneva, Switzerland, 2013, para 33.

⁽⁴⁵⁾ See <http://www.nhs.uk/livewell/5aday/pages/5adayhome.aspx>.

into three categories.

Default rules induce behaviour changes by working on the power of inertia and procrastination. In this regard, one study has shown that slight changes in the accessibility of foods in a cafeteria salad bar reduced intake by 8–16 percent.⁴⁶ Further research suggested that changing unhealthy foods with healthier foods in the convenience line led to an increase of sales of healthy foods by 18 percent together with a decrease in sales of unhealthy foods by 28 percent, in a high school canteen.⁴⁷

A different behavioural-informed tool is represented by “smart” disclosure requirements, based on framing and salience and characterized by being useful, meaningful and adequate in a given environment, such as the lettering “90 percent fat-free” labelled on a food product compared to “10 percent fat.” Further examples are the requirements ex Articles 9 and 13 of Regulation 1169/2011 on the provision of nutrition information, prescribing a set of major information (i.e. the name, the net quantity and the nutritional content of the food) in the principal field of vision to allow consumers to instantly identify a specific product.

Exploiting emotional responses is the third behaviourally savvy category to ease people’s food choices. Graphic warnings on unhealthy products are emblematic of these nudging practices. Though their application has been studied in relation to alcohol and cigarette packages in several countries, studies on their use in the food sector are progressively increasing.⁴⁸

Going beyond this scheme cataloguing nudge techniques, additional initiatives meant to promote healthy eating encompass: “salt calculator” programs allowing consumers to reduce the amount of

salt in their everyday menu, by comparing the salt content of different foods;⁴⁹ simplified schemes to nudge children to eat more fruit and vegetables;⁵⁰ “green keyhole” labels which make it easier to choose healthier foods.⁵¹ Other proposals to encourage behaviour changes have been made, for instance, by the UK Nudge Unit, spanning from visual prompts in supermarkets constituted by a line of yellow tape together with a sign placed across a shopping trolley, to voluntary agreements with the food industry to commit to out-of-home food labelling; from Didget devices making blood-sugar testing fun and rewarding for children, to food hygiene rating schemes aimed at empowering customers to make more informed decisions when it comes to hygiene standards of food premises.⁵²

However, in spite of these behavioural change interventions and their promises of enabling individuals to make better food choices while formally preserving their autonomy, efforts to build a solid approach able to embed them within a well-structured nutrition policy framework are still scarce to date.

Yet in a report of 2011, the Science and Technology Select Committee of the House of Lords, by assessing the evidence-base for the effectiveness of nudges, affirmed that “although much was understood about human behaviour from basic research, there was relatively little evidence about how this understanding could be applied in practice to change the behaviour of populations.”⁵³ In this regard, the upper House of the UK Parliament suggested the adoption of mechanisms of sharing knowledge across governments, as well as guidance both on how to use evidence effectively to design, commission and evaluate interventions, and on the need to involve experts in the design and evaluation process.

⁽⁴⁶⁾ P. Rozin, S. Sydney, M. Dingley, et al., *Nudge to Nobesity I: Minor Changes in Accessibility Decrease Food Intake*, in *Judgment and Decision Making*, 6, 2011, 323–332.

⁽⁴⁷⁾ A.S. Hanks, D.R. Just, L.E. Smith, et al., *Healthy Convenience: Nudging Students toward Healthier Choices in the Lunchroom*, in *Journal of Public Health*, 34, 3, 2012, 370–376.

⁽⁴⁸⁾ See, on this matter, A. Alemanno, A. Garde, *Regulating Lifestyle Risks in Europe*, Swedish Institute for European Policies Studies, Stockholm, 2013.

⁽⁴⁹⁾ <http://www.toitumine.ee/kampaania/sool/>.

⁽⁵⁰⁾ <http://www.croatiaweek.com/free-fruit-vegetables-for-kids-at-over-800-schools-next-year/>.

⁽⁵¹⁾ <http://www.norden.org/en/nordic-council-of-ministers/council-of-ministers/nordic-council-of-ministers-for-fisheries-and-aquaculture-agriculture-food-and-forestry-mr-fjls/keyhole-nutrition-label>.

⁽⁵²⁾ Behavioural Insights Team, *Applying Behavioural Insight to Health*, London, Cabinet Office, 2010.

⁽⁵³⁾ House of Lords, Science and Technology Select Committee, *Behavior Change*. Report, HL Paper 179, 2011, 5.

Likewise, by reflecting on the Government approach to changing behavior, the Report confirmed the view that “usually the most effective means of changing behaviour at a population level is to use a range of policy tools, both regulatory and non-regulatory.”⁵⁴

This perspective poses at stake the interaction among EU-level nudging, behavioural research and policy initiatives and, by highlighting the controversial character of any public intervention in changing people’s behavior, states the need to always explain the evidence-base, necessity and proportionality of any proposed behaviour change intervention.

4.- Nudge strategies at stake

Surely, the aims linked to the framework depicted by nudge practices in the nutrition field appear noteworthy and commendable for several reasons: health protection and citizens’ well-being above all. Scholarly work,⁵⁵ though, has highlighted that the core of nudging approach, i.e. reflecting “real” consumers’ preferences and needs, simultaneously represents its essence and weakness, being based on a rationality paradox. That is “it assumes bounded rationality, but offers a comprehensive vision of rationality to address problems caused by bounded rationality.”⁵⁶ This is due to the rationality assumptions underpinning it, regarding the possibility of

expert judgment, of predicting the effect of architecture choices and of individuals’ willingness to choose on the basis of better provided information. Nudge, therefore, would represent “the latest incarnation of rational policy tools to overcome perceived inferior outcomes due to bounded rationality.”⁵⁷

Certainly, in the wake of such promises follow reasons of efficiency and maximization of economic rationality, the will to encourage and reward behaviours saving time and money, as well as the need to meet requests and needs coming from marketing strategies. Still these same promises shed light on the ambiguous sides of nudging strategies and, widely, on the use of behavioural sciences in policy-making processes.

Having said that nudge does not embrace all behavioural insights,⁵⁸ and that it has many definitions proposed so far,⁵⁹ most debates on the matter – and, for our interest, on embedding behavioural sciences within the realm of eating and healthy lifestyles – are currently focusing on three main dilemmas: the psychological mechanisms working behind nudge, the representational and ethical issues surrounding it, and the legal aspects pertaining to it. In the following discussion, these unclear and controversial concerns will be scrutinized by framing them within the two bedrocks that have informed the flourishing of the so-called Innovation Union, i.e. the reform of EU governance and EU citizens’ empowerment.

⁽⁵⁴⁾ Ibidem, 35.

⁽⁵⁵⁾ M. Lodge, K. Wegrich, *The Rationality Paradox of Nudge: Rational Tools of Government in a World of Bounded Rationality*, in *Law & Policy*, 38, 3, 2016, 250-267.

⁽⁵⁶⁾ Ibidem, 253.

⁽⁵⁷⁾ Ibidem, 262.

⁽⁵⁸⁾ See the distinction among behavioural economics, behavioural insights and nudging made by J.S. Lourenço, E. Ciriolo, S.R. Almeida and X. Troussard, *Behavioural Insights Applied to Policy: European Report 2016*, cit., 10. See, also, P. Lunn, *Regulatory Policy and Behavioural Economics*, OECD Publishing, 2014, 23.

⁽⁵⁹⁾ See P.G. Hansen, A.M. Jespersen, *Nudge and the Manipulation of Choice. A Framework for the Responsible Use of the Nudge Approach to Behaviour Change in Public Policy*, in *European Journal of Risk Regulation*, 1, 2013, 3-28. The authors define “transparent nudge as a nudge provided in such a way that the intention behind it, as well as the means by which behavioural change is pursued, could reasonably be expected to be transparent to the agent being nudged as a result of the intervention” (p. 17). By contrast, a non-transparent nudge is “a nudge working in a way that the citizen in the situation cannot reconstruct either the intention or the means by which behavioural change is pursued” (p. 18). In the light of this distinction, the two authors provide a conceptual framework for describing the character of four broad types of nudges, as a basis for policy recommendations. See, also, L. Floridi, *Tolerant Paternalism: Pro-ethical Design as a Resolution of the Dilemma of Toleration*, in *Science and Engineering Ethics*, 2015, who distinguishes between structural and informational nudging. “Structural nudging is ontological, for it changes the nature of the actual courses of actions available to an agent. Modifying the order in which food is presented in a school cafeteria is a textbook case of a structural nudge. [...] Informational nudging is epistemological, for it changes the nature of information to which an agent is exposed in order to obtain a goal. Labelling the more or less healthy properties of food with clear colours is an informational nudge.”

4.1. Nudging for better regulation

Since 2001, the use of the term governance has become an indicator of a broad process of revision and deconstruction of the law, based on the principles of accountability and proportionality, so as to “speed-up and simplify” the legal processes with the goal of coordinating innovative processes in the society and the market.⁶⁰

Actually, however, the search for new modes of governance led to rhetoric “regulatory discourses”⁶¹ echoing openness and transparency in the exercise of public power, sometimes shifting to a different regulatory language – ethical, for instance.⁶²

Implementation of this strategy started in 2002 with the Action Plan on *Simplifying and improving the regulatory environment*,⁶³ through which self-regulation, co-regulation, networking, benchmarking and soft-law have incisively gained traction for simplified and improved regulation.⁶⁴ The Action Plan represented the starting point for the launch of two measures aiming at improving the quality of legislation: the establishment of minimum standards of consultation and the definition of a consolidated impact assessment method. With the following 2003 *Interinstitutional Agreement on better law-making*,⁶⁵ the European Parliament, the Council and the Commission tried to limit legislative activity, by setting out a general legal framework – providing rules of both substantive and procedural nature – for the use of co-regulation and self-regulation. The next EC Communication on *Better Regulation Agenda*⁶⁶

endorsed the Commission’s commitment to work more transparently and accountably in order to consistently change the EU institutions’ work.

By pursuing this strategy, the EU institutions brought to light, in 2016, a new *Interinstitutional Agreement on better law-making*,⁶⁷ with the goal of delivering high-quality Union legislation, by both reducing the regulatory burden and promoting simplicity, clarity and consistency in the drafting of Union legislation. In this respect, impact assessment, public and stakeholder consultation and feedback, ex-post evaluation of existing legislation - together with legislative instruments and delegated and implementing act - are catalogued as major tools to achieve the desired objectives of transparency and simplification of the legislative process.

The few behaviourally-based nutrition actions endorsed so far in Europe surely fit within this framework, being meant both as response to the growing interest towards behavioural studies, and as part of a pregnant attention by regulators in policy design’s and implementation’s innovative mechanisms. Moreover, and especially, nudge mechanisms mirror the idea at the heart of the “reform” of EU governance, that is using the principles of better regulation⁶⁸ (respect for subsidiarity and proportionality, coherence and transparency, *inter alia*) as tools to “provide a basis for timely and sound policy decisions” that will be “evidence-based, well designed and deliver tangible and sustainable benefits for citizens, business and society as a whole.”⁶⁹

⁽⁶⁰⁾ Commission, *European governance - A white paper*, COM(2001) 428 final, 2001, Brussels.

⁽⁶¹⁾ B. Wynne, U. Felt, *Taking European Knowledge Society Seriously*, Report of the Expert Group on Science and Governance, Brussels, European Commission, 2007.

⁽⁶²⁾ See M. Tallacchini, *Governing by Values. EU Ethics: Soft Tool, Hard Effects*, in *Minerva*, 2009, 47, 281-306.

⁽⁶³⁾ Commission from the European Communities, *Communication from the Commission, Action Plan ‘Simplifying and improving the regulatory environment’*, COM(2002) 278 final, Brussels, 2002.

⁽⁶⁴⁾ Reflections on the meaning of this strategy can be found in L. Senden, *Soft Law and Its Implications for Institutional Balance in the EC*, in *Utrecht Law Review*, 2005, 79-99.

⁽⁶⁵⁾ European Parliament, Council, Commission, *Interinstitutional Agreement on better law-making*, (2003/C 321/01).

⁽⁶⁶⁾ Communication from the Commission to the European Parliament, the Council, the European economic and Social Committee and the Committee of the Regions, *Better regulation for better results-An EU agenda*, COM(2015) 215 final, Strasbourg.

⁽⁶⁷⁾ *Interinstitutional Agreement between the European parliament, the Council of the European Union and the European Commission on better law making*, http://ec.europa.eu/smart-regulation/better_regulation/documents/iaa_blm_final_en.pdf.

⁽⁶⁸⁾ See http://ec.europa.eu/smart-regulation/guidelines/tool_1_en.htm.

⁽⁶⁹⁾ Communication from the Commission to the European Parliament, the Council, the European economic and Social Committee and the Committee of the Regions, *Better regulation for better results-An EU agenda*, COM(2015) 215 final, Strasbourg, 2015, 3.

However, any attempt to integrate behavioural science-based knowledge within the process for a simpler, more effective and better understood regulatory framework, turn out to be problematic in achieving the legitimate ends – even in the nutrition sphere. Research has shown, for instance, that: altering plate sizes had no significant effect on energy intake at meals;⁷⁰ menu-labelling regulation does not affect the number of calories ordered;⁷¹ the mere presence of the healthy food option vicariously fulfils nutrition-related goals and provides consumers with a license to indulge.⁷²

Other studies have demonstrated that promoting the consumption of healthy foods might end up facilitating calorie overconsumption, since people erroneously believe that eating healthy foods in addition to unhealthy ones can decrease a meal's calorie count.⁷³

All these findings suggest evidence of little or no effect to support the effectiveness of nudging as means to improve population health.⁷⁴ Several reasons deal with this concern.

First, since the majority of behavioural sciences are based on lab experiments, and given that cognitive based regulatory interventions often are poorly grounded,⁷⁵ the equivalence between decisions made by experimental subjects and real life agents cannot be taken for granted.⁷⁶

Accordingly, correlated to the internal and external

validity of behavioural findings is the lack of knowledge about emotionally-sensitive biases pertaining to the EU's several and different cultures. Secondly, many concerns derive from the difficulty arising in translating empirical knowledge into policy interventions.⁷⁷ Third, drawing on behavioural insights in exercising public power is not always likely to grant the same degree of legitimization and democratic warrants, and can often be more politically-embedded.⁷⁸

All these reflections led to a big debate among scholars about what the best solution to tackle nutrition-related issues may be. Some have criticized behavioural law and the economics approach, since it overlooks substantial empirical evidence that people are not equally irrational and that situational variables exert an important influence on the rationality of behaviour.⁷⁹

Others have demonstrated that government intervention is often ineffective in remedying individual failures, by arguing that “the growing use of paternalism to justify government intervention in individual food and lifestyle choices is often misguided and that policies are too easily justified on the assumption that government officials are better informed than the individuals they seek to guide.”⁸⁰

Other critics have stressed that “substituting government for personal responsibility rarely works out as planned.”⁸¹

⁽⁷⁰⁾ B.J. Rolls, L.S. Roe, K.H. Halverson, et al., *Using a Smaller Plate Did Not Reduce Energy Intake at Meals*, in *Appetite* 49, 2007, 652–660.

⁽⁷¹⁾ E.A. Finkelstein, K.L. Strombotne, N.L. Chan, et al., *Mandatory Menu Labeling in One Fast-Food Chain in King County*, Washington, in *American Journal of Preventive Medicine*, 40, 2, 2011, 122–127.

⁽⁷²⁾ K. Wilcox, B. Vallen, L. Block, G.J. Fitzsimons, V. Goal, *Fulfillment: When the Mere Presence of a Healthy Option Leads to an Ironically Indulgent Decision*, in *Journal of Consumer Research*, 36, 2009, 380–393.

⁽⁷³⁾ A. Chernev, *The Dieter's Paradox*, in *Journal of Consumer Psychology*, 21, 2011, 178–183.

⁽⁷⁴⁾ T.M. Marteau, D. Ogilvie, M. Roland, M. Suhrcke, M.P. Kelly, *Judging Nudging: Can Nudging Improve Population Health?*, in *BMJ*, 2011, 342

⁽⁷⁵⁾ This is due to the lack of a theory of cognitive function telling how these biases interact within the person and how markets aggregate differing biased consumer preferences. See D. Schwartz, *Regulating for Rationality*, in *Stanford Law Review*, 2014, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2520017.

⁽⁷⁶⁾ L.R. Skov, S. Lourenço, G.L. Hansen, et al., *Choice Architecture as a Means to Change Eating Behaviour in Self-Service Settings: A Systematic Review*, in *Obesity Reviews*, 14, 3, 2013, 187–196.

⁽⁷⁷⁾ See Y. Feldman, O. Lobel, *Behavioural trade-Offs: Beyond the Land of Nudges Spans the World of Law and Psychology*, in A. Alemanno, A-L. Sibony (eds), *Nudge and The Law*, cit., 301–324.

⁽⁷⁸⁾ See O. Amir, O. Lobel, *Liberalism and Lifestyle: Informing Regulatory Governance with Behavioural Research*, in *European Journal of Risk Regulation*, 3, 1, 2012, 17–25.

⁽⁷⁹⁾ G. Mitchell, *Why law and economics perfect rationality should not be traded for behavioural law and economics equal incompetence*, in *Georgetown Law Journal*, 91, 2002, 67–167.

⁽⁸⁰⁾ M.L. Marlow, S. Abdukadirov, *Fat Chance: An Analysis of Anti-Obesity Efforts*, in *Mercatus Center*, 12-10, 2012, 2.

⁽⁸¹⁾ M.L. Marlow, A.F. Shiers, *Optimal Weight Are Government Goals for Reducing Obesity Sensible?*, in *Health and Medicine*, 2011, 14.

Counter to these opinions, a vast majority⁸² remains with the idea that, by critically looking at the behavioural sciences' assumptions,⁸³ the coexistence of a range of regulatory/policy measures could offer better solution to cope with nutrition-related matters, while representing, at the same time, a valid tool to overcome the persistent gap between policy knowledge at the global level and policy implementation at country level.⁸⁴ Scholarly analysis⁸⁵ suggested that a problem as complex as that pertaining to nutrition issue requires an "all-of-society" approach encompassing all key actors (e.g. national governments, the international community, industry, philanthropic groups and civil society), as well as a range of initiatives falling outside the health portfolio. Whether, on the one hand, this perspective offers an interesting point of view for the subject we are discussing, two orders of problems, on the other hand, clearly arise. The first one is neatly related to the relationship between nudge and law. Since nudging does not always call for regulation,⁸⁶ its sui generis and anomalous legal nature, its non-binding character, as well as the shaping of the environment it provokes, appear far away from respecting the principle of legality, thus obstructing any possible application of the accountability mechanism of judicial review.⁸⁷

The second one emphasizes how nudge measures have been built on the economic concept of "the consumer," so as to exclude the values embodied

within the idea of citizenship. Therefore an intricate question arises: how far is the behaviourally-based agreed vision of values and choices from incorporating governance dimension? Yet controlling citizens' behaviour and directly shaping the social environment through strategies where scientific, ethical and policy statements combine with each other, is evidence of a move away from democratic decision-making. To what extent can nudge interventions acquire a useful role in embracing a more democratic vision of both law-making and citizenship?

5.- Behaviourally informed actions for European citizens?

So far, for citizens the trusted voice of science coincided with its essentially undisputed authority. Only later did the extensive research devoted to public understanding of science reveal that the increasing resistance of citizens to trusting experts and to relying on their choices cannot be simply labeled as irrational. The suspicious behaviour of citizenry towards techno-science has been proven to be inextricably related to multiple, reasonable and practical considerations (limited access to pluralist information sources, opacity of the selection and decision criteria of experts and possible conflicts of interest).⁸⁸ With reference to nudge, recent survey studies find positive attitudes towards its application

(82) See, inter alia, A. Alemanno, *What can EU Health Law Learn from Behavioural Sciences? The Case of EU Lifestyle Regulation*, in A. Alemanno, A-L. Sibony (eds), *Nudge and The Law*, cit.; House of Lords, cit.; A.R. Salazar, *Libertarian Paternalism and the Danger of Nudging Consumers*, in *King's College London Law Journal*, 2012, <https://ssrn.com/abstract=1973397>; M. Cecchini, F. Sassi, J.A. Lauer, Y.Y. Lee, V. Guajardo-Barron, D. Chisholm, *Tackling of Unhealthy Diets, Physical Inactivity, and Obesity: Health Effects and Cost Effectiveness*, in *Lancet*, 376, 2010, 1775-1784.

(83) C. Bonell, M. McKee, A. Fletcher, A. Haines, P. Wilkinson, *Nudge Smudge: UK Government Misrepresents Nudge*, in *The Lancet*, 377, 9784, 2011, 2158-2159 ("We argue that the government has misrepresented nudging as being in opposition to their use of regulation and legislation to promote health...").

(84) R.S. Magnusson, *Non-communicable diseases and global health governance: enhancing global processes to improve health development*, in *Globalization and Health*, 2007, 3, 2.

(85) B. Thomas, L.O. Gostin, *Tackling the Global NCD Crisis: Innovations in Law and Governance*, in *Journal of Law, Medicine & Ethics*, 41, 2013, 16-27.

(86) See A-L. Sibony, A. Alemanno, *The Emergence of Behavioural Policy-Making: A European Perspective*, in A. Alemanno, A-L. Sibony (eds), *Nudge and The Law*, cit., 10-11, who distinguish two sets of circumstances in which nudging needs the law, i.e. when private entities nudge their employees, consumers or potential donors into desired behavior, and in the relation between public entities and citizens.

(87) Reflections on the matter are made by A. Alemanno, A. Spina, *Nudging Legally. On the Checks and Balances of Behavioural Regulation*, in *International Journal of Constitutional Law*, 12, 2, 2014, 429-456.

(88) See, for a deep overview, A. Irwin, B. Wynne, *Misunderstanding Science? The Public Reconstruction of Science and Technology*, Cambridge, Cambridge University Press, 1996.

to the domain of eating and health behaviour,⁸⁹ though a great deal remains to be learned about people's views on nudging practices and on their assessment. Latest nationally representative surveys conducted in six European nations suggested "strong majority support for nudges of the sort that have been adopted, or under serious consideration, in democratic nations. If respondents believe that a nudge has legitimate goals, and that it fits with the interests and values of most people, they are likely to favor it."⁹⁰ As persuasive as these surveys appear, they lie on the implicit acceptance of a choice structure not subject to public scrutiny and debate. This aspect, however, should not be taken for granted.

As opponents of nudging consider its "inherently technocratic" nature as an insuperable barrier to the construction of a more responsible and active citizenry,⁹¹ so the fixed "better outcomes" underpinning an empirically-driven approach to law can be perceived as obstacles for citizens to a steady learning process, as well as to the assumption of responsibility for the management of their actions. Counter to these opinions, some argue that nudge-style tools do not pose ethical issues "if they are fully transparent and effective, if their rationale is not hidden, and if they do not limit freedom of choice."⁹² Counter-objections flag other factors entering into permissibility of nudge, i.e. a "fragmented self" nudge might create between one's own agency and one's overall preferences; the long-term infantilisation effects (making individuals incapable of autonomous changes in their agency) and the hindrance of moral development; a limited control over nudge that impedes unmasking the manipulation.⁹³ In regard to this debate, the philosopher Floridi

refers to the tension emerging between paternalistically benevolent policies and autonomy as the "dilemma of toleration."⁹⁴ By arguing that almost all of forms of paternalism, including structural nudging, cannot resolve the dilemma, Floridi indicates one form of choice architecture, labelled "pro-ethical design," as able to influence choices, while still being fully respectful of freedom. Instead of shaping the actual options available to an agent, and relying on human inertia and biases as the pragmatic motivation for action – as structural nudging tends to do – the pro-ethical design's approach shapes only the information about the actual options available, and hence forces agents to "empower themselves" through their informational choices. Advantages of Floridi's theory are correlated to the possibility of educating agents to make their own critical choices and assume explicit responsibilities, and of fostering autonomy, so as to safeguard toleration and respect for individual preferences, as well as to nurture the development of a more critical understanding of one's own choices.

What perhaps seems to be lacking is citizen engagement in the decision making process. Nudge measures "forget" to involve citizens in defining the better outcomes and values worthy to pursue, so as to leave the voice of civil society in the margin. Accordingly, the top-down vision - though soft paternalistic – nudge promotes seems running counter to much of what comprises human agency. The expression alludes to the capacity for human beings to act as subjects instead of deterministic mechanisms.⁹⁵ In this sense, a full concept of humanness arises, calling for the urge to let human agents behave intentionally and responsibly. Still psychologically and behaviourally informed streams of

(89) S. Diepeveen, T. Ling, M. Suhrcke, M. Roland, T.M. Marteau, *Public acceptability of government intervention to change health-related behaviours: a systematic review and narrative analysis*, in *BMC Public Health*, 13, 2013, 756; A.F. Junghans, T.T.L. Cheung, D.D.T.D. de Ridder, *Under consumers' scrutiny — an investigation into consumers' attitudes and concerns about nudging in the realm of health behaviour*, in *BMC Public Health*, 15, 2015, 336.

(90) L.A. Reisch, C.R. Sunstein, *Do Europeans Like Nudges?*, in *Judgment and Decision Making*, 11, 4, 2016, 322.

(91) A. Burgess, *'Nudging' Healthy Lifestyles: The UK Experiments with the Behavioural Alternative to Regulation and the Market*, in *European Journal of Risk Regulation*, 1, 2012, 3-16.

(92) C.R. Sunstein, *The Ethics of Nudging*, 2014, <http://ssrn.com/abstract=2526341>.

(93) L. Bovens, *The Ethics of Nudge*, in T. Grüne-Yanoff, S.O. Hansson (eds), *Preference Change: Approaches from Philosophy, Economics and Psychology*, Berlin and New York, Springer, 2008, 207-219.

(94) L. Floridi, *Tolerant Paternalism: Pro-ethical Design as a Resolution of the Dilemma of Toleration*, cit.

(95) A. Arendt (1958), *The Human Condition*, Chicago IL, University Of Chicago Press, 1998.

research could appear unobtrusive tools to by-pass citizens' private sphere of autonomy, drawing upon the human tendency to act unthinkingly due to reliance on cognitive heuristics in decision-making processes. As the legal scholar Yeung has persuasively argued, "the administration of design-based techniques involving the treatment of other individuals as objects or things, rather than as moral agents capable of rational reflection and deliberation, is objectionable; it fails to demonstrate respect for persons."⁹⁶

Obviously, these considerations are not meant to negatively evaluate at all the use of prompted choices⁹⁷ – even that regarding the nutrition field. Let us consider a community where the population level obesity represents a serious problem, so that improved diets can help in tackling it. In this case, certainly the health-promoting layout of the cafeteria leading an individual to prefer the salad rather than lasagne would be a justified form of nudging, since it would take benefits to the community itself.

However, some nudge actions, by entailing a subtle form of manipulation, appear far away from achieving consumer education⁹⁸ and upstream public involvement – as prescribed, for instance, by the European Charter on counteracting obesity.⁹⁹

Whether achieving these ends has been a bone of contention for many years, some valid solutions may be offered – from an epistemic standpoint – by the new civic practices today promoted as "peer-production of knowledge." They consist in innovative and more democratic modalities of social production emerging in the digitally networked environment, where citizens and scientists – through know-

ledge and technology – can join together with the possibility of exhibiting and experiencing virtuous behaviour. Scholars¹⁰⁰ have identified the central characteristics of these common-based systems of production in the concept of decentralization (as authority to act resides with individual agents) and in social nature linked to participating agents' motivations. Thus conceived, the phenomenon is increasingly growing within digital communities as a socio-technical-economic set of morally attractive practices through which to foster significant social and political virtues.

To this end, a suggestion for its application to the nutrition sector might notably come from what has been termed as "Personalised Mobile Participation Paradigm,"¹⁰¹ namely the civic use of ICT technology to improve the understanding and assessment of health, so as to protect it and foster healthier lifestyles.

Given the volume of Public Sector Information (PSI), this policy shift refers to a crowd sourced approach in data procurement aimed at supporting evidence-based investment in public health. Instrumented crowds within co-produced choice structures enabling participation can be a valuable source of high yield health data,¹⁰² for instance to give faster feedback on the impact of consumer diet and lifestyle choices and behaviour. In so doing, providing open access to data to share them gives crowds an active role in solving problems affecting their lives.

"In this way, collaborations between governments, industry and private citizens may benefit from a level of trust needed to continuously co-produce

⁽⁹⁶⁾ K. Yeung, *Are Designed-Based Regulatory Instruments Legitimate?*, cit., 24.

⁽⁹⁷⁾ See S. Conly, *When Freedom of Choice Doesn't Matter*, in *The Tocqueville Review*, 37, 1, 2016, 39-58, who argues that "we need to have areas where we exercise choice, but we do not need to exercise choice in all areas. Being subject to constraints, and losing, in some quantifiable sense, more choices, can result in the possibility of choices that are more meaningful for ourselves and for those around us."

⁽⁹⁸⁾ On this topic, see E. Sirsi, *Il diritto all'educazione del consumatore di alimenti*, in *Rivista di Diritto Agrario*, 4, 2011, 496-524.

⁽⁹⁹⁾ WHO, *European Charter on Counteracting Obesity*, European Ministerial Conference on Counteracting Obesity 2006, http://www.euro.who.int/_data/assets/pdf_file/0009/87462/E89567.pdf?ua=1.

⁽¹⁰⁰⁾ Y. Benkler, H. Nissenbaum, *Commons-based Peer Production and Virtue*, cit., 400 ss.

⁽¹⁰¹⁾ B. Piniewski, C. Codagnone, D. Osimo, *Nudging lifestyles for better health outcomes: crowdsourced data and persuasive technologies for behavioural change*, JRC Scientific and Technical Reports, Luxembourg, Publications Office of the European Union, 2011, 43.

⁽¹⁰²⁾ Example referred to the health domain in general, are enucleated in R. Cornet, L. Stoicu-Tivadar, A. Hörbst, C.L. Parra Calderón, S.K. Andersen, M. Hercigonja-Szekeress, *Digital Healthcare Empowering Europeans*, Proceedings of MIE, IOS Press, 2015; M. Gemo, D. Lunardi, M. Tallacchini, *Wearable Sensors and Digital Platforms in Health: empowering citizens through trusted and trustworthy ICT technology*, JRC Technical Reports, 2015, Luxembourg, Publications Office of the European Union.

effective nudging strategies.”¹⁰³ Yet the dissemination of knowledge valued and promoted by these new forms of peer-production of knowledge is no longer isolated in one social component – the scientific community - but ascribed to many different actors, and no longer uniquely conceived of as the only form of knowledge, but disaggregated and re-aggregated in several epistemic cultures differently relevant. By recognizing credibility and accountability to all important actors in their mutual relations, this new paradigm blends the two instances of integration between different forms of knowledge and of redistribution of decisional power. Arguably, recognized institutional status and mechanisms have to be put in place in order for both to effectively use this source of knowledge and to legitimize technical means used to acquire it.¹⁰⁴ Moreover, it is also true that implementing and embedding these arguments within behavioural-inspired initiatives will require a radical shift for nudge, in the view of a more democratically-shared vision, focused to balance legal and ethical issues as well as to nurture human agency.

In this respect, far beyond the concept of agency as defined by informed consent, the implications of peer-production of knowledge offer the opportunity for a radical dialogue - cognitive and regulatory - in the management of decision making. Rather than going from the institutional level towards society, as nudge proceeds, the production of knowledge should flow in the opposite direction: from society towards public authorities.

To this end, from a regulatory stance, the law may certainly play a significant role in the reframing of substantive and procedural rights, amenable to a process of governance more suitable to contemporary challenges. In particular, the thesis evoking the procedural paradigm of the law appears pertinent with the argumentation made above.

“What can be understood as proceduralization of

law is the transformation of a social context of legal freedom (linked with rule-exception or interest-balancing decision-making patterns) in a system of justifications of ever-new social contexts of ideas and interests.”¹⁰⁵ This new process does not have to be understood in a formalistic way, but as a concrete, contextualized and thoughtful process of co-production of knowledge, where reflection on the principles and criteria of the evaluation of norms, as well as the conditions of involving various actors or limiting their access to the procedures of decision making, acquire concrete significance.

Since the means for citizens to perform their own watching activities towards the production of socially useful and empowering knowledge depend on the ability to assure principles of transparency, accessibility and participation in those same means, it is hoped a learning process that allows any form of knowledge to be punctually scrutinized, compared and merged. This procedural perspective shies away from achieving a permanent truth. Rather, it is meant to build an institutional space for discussion, in which scientific knowledge can find forms of social stabilization mainly critically and democratically discussed.

Embracing this “procedural regulatory approach” within policy and law-making will require, of course, new and innovative normative and educational measures, bound to build collective transdisciplinary knowledge of the relationships between science and normativity. But, in contrast with nudges initiatives, it would allow discussion and control of all the legal choices implicitly black-boxed and hidden in upstream defined programs, so as to guarantee openness and transparency, while, at the same time, empowering citizens through the production of socially robust knowledge. In this context, the proceduralization of law gives word to those who are not represented – for several reasons - within society. It is a perspective that might combine the

⁽¹⁰³⁾ B. Piniewski, C. Codagnone, D. Osimo, *Nudging lifestyles for better health outcomes: crowdsourced data and persuasive technologies for behavioural change*, cit., 38. ⁽¹⁰⁴⁾ A. Biggeri, M. Tallacchini, *ICT, Genes, and Peer-production of Knowledge to Empower Citizens' Health*, in *Science and Engineering Ethics*, 2015, 1-15.

⁽¹⁰⁴⁾ A. Biggeri, M. Tallacchini, *ICT, Genes, and Peer-production of Knowledge to Empower Citizens' Health*, in *Science and Engineering Ethics*, 2015, 1-15.

⁽¹⁰⁵⁾ R. Wietholter, *Materialization and Proceduralization in Modern Law*, in G. Teubner (ed), *Dilemmas of Law in the Welfare State*, Berlin, Walter de Gruyter, 1985, 248.

individual dimension with the collective one, the protection of each subject with more general interests, everyone's own knowledge with the power that the participatory act returns to each individual.

6.- *Conclusive thoughts*

The unprecedented social scenario portrayed by empirically grounded, designed-based strategies in the nutrition sphere - as in other domains that cannot be examined here - is redefining choice structures at an institutional level. However, the renewal idea surrounding the exercise of power within European governance seems to be going in a different direction. Yet, the potential emerging from the renewal and democratic character of the new governance in Europe - as well as the transformations law is undergoing to respond both to the cognitive and regulatory challenges of governance itself - push towards a change in perspective, whereby citizens are entitled to play a wider role, in the view of their possible and desirable participation in the production, control and validation of scientific knowledge. The approach proposed here thus consists in looking at the choices to be made - as regards the nutrition-related domain - as matter of individual agency and, at least prospectively, as matter of "rights" for citizens, invested of an active role in using, experiencing, and controlling their options, powers and data. The overall reiterated process of actively framing and tailoring individual choices - without implicit assumptions and pre-defined values - not only triggers a more aware and responsible agency but, as a form of collaboration with citizens, may generate trust and renewed trustworthy relations with institutional bodies.

In its 2007 White Paper *Together for Health*, the EU Commission defined citizens' empowerment as a core value in EU healthcare systems, worth pursuing by taking citizens' and patients' rights as a key starting point within the Community health policy.¹⁰⁶ Since the procedural approach proposed here considers choice structures as a place for citizens'

moral and legal entitlements, with the aim of building a socially robust knowledge, surely it takes a significant step in this direction. We thus suggest the need not to avoid, but to re-think and re-shape behaviourally-based actions with elements drawing the conceptual horizon of democratic and participatory governance. Building new "experimental and procedural forms of normativity" would encompass the need for citizens to participate in the determination of choices; citizenship's rights to contribute to the identification of institutional objectives; citizens' empowerment, by making them capable of operations and management decisions in the framework of European policies; the recognition of citizens' participatory rights as an integral part of any democratic society, and as a way to revitalize democracy. This "civic shift" of nudge/behavioural insights is hoped to lead - in a long-term perspective - the overall ethical and legal vision of the EU nutrition policy agenda, so as to perfectly fit within the integrated and strategic approach set out by the Innovation Union, "whereby innovation is the overarching policy objective" and "where all policy instruments, measures and funding are designed to contribute to innovation."¹⁰⁷

ABSTRACT

This contribution deals with the empirically-grounded, designed-based strategies known as "nudge" in their application to the nutrition field. Though relevant and valuable for several aspects, the European turn to regulation-by-nudging faces some regulatory (how behavioural-based modes of action operate) and epistemological (how behavioural-inspired tools were designed) tensions in coping with individual autonomy and human dignity (in the sense of self-respect). To face these issues, the insightful concepts of "peer-production of knowledge" and "proceduralization of law" may provide a solid and fertile basis for European experimental collaboration and learning in addressing nutrition-related health issues.

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⁽¹⁰⁶⁾ Commission of the European Communities, *White Paper. Together for Health: A Strategic Approach for the EU 2008-2013*, COM(2007) 630 final, Brussels, 4.

⁽¹⁰⁷⁾ *Ibidem*, 2.