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PREFACE TO THE SPECIAL ISSUE

If you type the term "future" into your internet search engine, you will immediately and surely get more than two billion results. Just as the future has penetrated the vast ocean of digital data, it has also become the context of our present social existence, embedded in the domineering narrative of progress and innovation. Evolving beyond its original reference to a date in time further away from the lived moment, the future has come to represent a registry of our contemporary longings and fears. It has turned into a complex concept to be "formed" and "pursued," an attitude to be "grown" and "groomed," an intellectual stance with which to view the world. The operations, policies and strategies of both states and institutions cannot be decided without having a future perspective to manage risk and change. Economic-technological-cultural futures do count and are accounted for, are sought and foreseen, cast and forecast; namely, they are acknowledged as necessary elements of professional and academic discourses.

This special issue of *Society and Economy*, entitled "Social Futuring," however, does not aim to contribute further to the scholarly contemplations about what the future can and will be, or how it will unfold. The papers in this volume rather endeavor to open up a new avenue for thinking and acting – be this academic or lay – concerning our prosperous future(s). Let us start with the title itself. The term social futuring labels a concept and a project launched by the **Social Futuring Center** (SFC) of Corvinus University of Budapest (CUB). SFC was established as a multidisciplinary research unit to formulate and test the concept of social futuring and to exploit it in connection with the Social Futuring Index (SFI) within the framework of the ConNext 2050 project. Due to be fully operational in 2019, the SFI is designed to measure social entities' ability and readiness to embrace the future, as well as their activities in this regard. Social futuring is thus the set of skills or characteristics of a social entity that foster its capacity and fitness to envision and enact changes, and thereby to prepare itself for the beneficial

managment of the future. The term captures the creative awareness and intent a social entity (e.g. a family, a community, a city, a country, a region, etc.) needs to rationalize its present and future potential, define common goals, resiliently adapt to and cope with changes, and implement its vision while sustaining its orientation towards the future.

The SFC started working in Spring 2017 at CUB, creating a convergent research hub that gathers researchers and combines the disciplinary approaches of philosophy, sociology, psychology, informatics, bionics, political science, network science and future studies, among many others. It set out first to conceptualize social futuring within normative, analytical, discursive and disciplinary frames. By September 2018, the Center had published 18 papers in Hungarian and English and organized three Hungarian and two international workshops addressing different aspects of social futuring and the social futuring index, respectively. The first international conference took place in Budapest in March 2018 with renowned plenary speakers like geopolitical strategist George Friedman, President of Geopolitical Future, sociologist Huang Ping, Director General of the Institute of European Studies of the Chinese Academy of Social Sciences, and network scientist László Barabási-Albert, professor and head of the Barabási Lab at Northeastern University. In cooperation with American, Chinese and Hungarian research institutes, statisticians and analysts, the SFC is now on the road to formulating and testing the SFI.

The present collection of essays marks a significant point in the short but rocketing career of social futuring, serving as a thorough and multitudinous introduction to a new approach to understanding the content of a sustainable, prosperous social life that is fit for tomorrow. The five articles that follow are woven into a compilation with the intent to both highlight and explore the capacities of this new concept: social futuring. Providing clear definitions and analysis, Zoltán Oszkár Szántó's paper founds this exploration with firm statements. The article extracts the essential explanation and most important components of social futuring, systematically elaborating on multiple parameters. The necessary and sufficient conditions and forms of the social futuring of various social entities are examined in relation to changes in order to formulate this new notion through a process of definition, analysis and classification. Illustrative examples shape our understanding of how this new concept and its formal definition is applicable to the life of social entities.

János Csák grounds social futuring within the normative frame of the good life, personhood and *oikeiosis* (the ethical concept of finding one's own space). The paper deepens the discussion about social futuring with philosophical-theoretical assumptions about worthwhile living, along with a description of its features and dimensions. Csák's text is a seminal one in that it distills the uniqueness of social

futuring, characterizing the normative basis for measuring the state and future fitness of a social entity. Four features of human life and four dimensions (i.e., critical fields that influence and require social entities to define goals and preserve their lives for the future) are identified in the paper in order to clearly stratify the composition of the social futuring index.

Coming next, Petra Aczél, in her discursive treatment of social futuring, consistently compares the concept to preexisting terms on the basis of their constitutive semantic categories. The concepts of resilience (optimism), future proofing, and future orientation are related to and contrasted with social futuring to exhibit its defining semantic and discursive characteristics. Disciplinary synergies are revealed and displayed in Eszter Monda's and Tamás Kocsis' articles. Monda investigates the relations between futures studies and social futuring with a specific focus on the measurement of future orientation and foresight methodology. With these insights, she singles out the appropriate toolkit(s) for social futuring research. Tamás Kocsis connects social futuring to the concept of environmental sustainability, addressing cases in which the overlapping and diverging features of the two come to light. As his paper suggests, even though these two approaches (concepts and methods) may have evolved from different normative assumptions, they both share the goal "of giving humanity new direction and impetus."

If you type "social futuring" into your internet search engine today, the results you get will nearly all point to the same project that the papers of this special issue have emerged from. With the idea of social futuring, a new paradigm, a unique method, and a future way of thinking is unfolding. Why not continue this quest?

Petra Aczél, János Csák and Zoltan Oszkar Szanto
Guest editors of this special issues

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SOCIAL FUTURING – AN ANALYTICAL CONCEPTUAL FRAMEWORK

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In this paper we attempt to define the concept of social futuring and classify it using multiple dimensions. Starting out with a minimal definition of the notion, we elaborate on the ideal-typical definition of social futuring based on the concepts of necessary and sufficient conditions. Thereafter, classifications of the different forms and types of social futuring are developed according to various features. A complex network of concepts is constructed to make the ambiguous notion more precise and to operationalize it with a view to the construction of a Social Futuring Index. We close our study in the hope that we have managed to illuminate and clarify the multi-layered concept of social futuring by creating an analytical framework which is in synergy with the normative foundations of the research.

Keywords: social futuring, analytical concept, social entities, Social Futuring Index
JEL-codes: O10, Z10

1. INTRODUCTION

"Our task is not to predict future,
But to prepare for it"
Pericles

As I see it, social futuring[1] is the very feature of an arbitrarily chosen social entity that expresses its potential, ability and competence (1) to interpret, envisage, influence, and generate future changes, and (2) to prepare for their strategic treatment – that is, await the challenges that stem from any changes (be they limits/opportunities or threats) in a state of full preparedness.

One can encounter expressions like "future proofness", "future orientedness", "resilience" and "adaptation" in the semantic surroundings of social futuring. Many associate futuring with futures studies, while others associate it with sustainability, or even competitiveness. The necessity of the term social futuring is explained by Aczél (2018).

In architecture, for example, the term "future proofness" denotes the need to account for long-term functionality when designing and constructing buildings or settlements. It is now used in a broader sense, albeit mostly in technical and technological contexts (e.g. software, memory, workforce, and in project management).[2] Future-orientedness refers to the more general human mind-set of counterbalancing mainly past- and present-centered attitudes. The exact meaning of resilience, a term taken from psychology, is difficult to briefly explain. It simultaneously means flexibility, adaptation, and the ability to cope and withstand. This term nowadays is applied to characterize not only people, but organizations, materials, systems, eco-systems, etc. As with the concepts above, the term "adaptation" suggests a certain passivity which, to my mind, makes the conceptual horizon of futuring that is to be examined too narrow, and too lopsided.

The concept of social futuring only relates to futures studies inasmuch as it relies on specific methods and findings of the former in reflecting on future changes.[3] As we all know too well, the widespread and clearly defined notion of sustainability is a product of environmental studies, and is used by researchers chiefly in ecological contexts. There are, however, correlations here, too: though

[1] I would like to express my gratitude to Petra Aczél, Loránd Ambrus, Márton Barta, Tamás Bartus, János Csák, Róbert Iván Gál, Eszter Monda, Annamária Orbán, Péter Szabadhegy and Balázs Szepesi for their valuable comments on an earlier version of this paper. However, the author takes full responsibility for the contents.

[2] For a comprehensive study about the notions of futuring, resilience, future-orientedness and future proofness, see Aczél (2018).

[3] The correlation between futuring and future studies is explained in detail by Monda (2018).

completely different fields of study, environmental sustainability and social futuring still have many things in common.[4] The same can be said about the relations between economic competitiveness and social futuring.

The Social Futuring Research Centre of the Corvinus University of Budapest has purposefully taken a new direction with its dedication to work out the concepts of social futuring. To focus on "social" features, as the prefix determines, indicates the intention to place future-oriented scientific and political streams into wide, multi-layered and complex contexts, ranging from settlements and institutions/organizations to states/nations, including taking their alliances into consideration. With a well-defined notion of "futuring", we shall also have the opportunity to grasp multiple ways of interpretation and performance at once, while also taking into consideration (geo)political, technological, socio-economic and cultural-spiritual features on a multidisciplinary and interdisciplinary basis.[5]

By unfolding the details of the minimal definition mentioned in the first paragraph,[6] an ideal-typical notion of social futuring will be defined analytically, in terms of conditionality concepts. Firstly, and *per definitionem*, we differentiate between conjunctive (or complex) – i.e. necessary – conditions, and disjunctive (or alternative) – i.e. sufficient – conditions of social futuring.

Then, starting out from the ideal-typical definition – and also regarding the wide circles of social entities as possible subjects of social futuring, as well as the various changes that may be expected at some point in the future – the three basic forms of social futuring are defined, along with their variations and subtypes.

In the course of defining the conceptual framework,[7] while aiming for maximal notional accuracy and clarity, definitions and types will first be outlined, then illustrated with examples and, finally, adjusted by adding simple logical markings (formal adjustment) and simple figures. The system of analytical definitions will hopefully make the complex framework of social futuring more comprehensible and "followable" to everybody, thereby serving as a compass through the notional maze.

This conceptual priming is further justified by the fact that – since the concept of social futuring has innumerable layers of denotations and connotations and is

4 The conjunction of sustainability and futuring is discussed by Kocsis (2018).

5 Ablonczy (2018) summarizes how the idea of futuring appeared in the writings and activities of three outstanding Hungarian historical figures – namely, István Széchenyi, Miklós Bánffy, and Zoltán Szabó.

6 We shall follow Ian Morris (2013) who, on the basis of a minimal definition of social development, created an ideal-typical definition and defined the pillars of a social development index.

7 László Bertalan (2005)'s contribution presents the logic of coining terms and classification procedures in detail.

an umbrella term in a certain sense – separating these layers[8] should enable us to designate the main directions of the empirical research of social futuring, and will thus operationally contribute to the construction of a detailed plan for creating a social futuring index.

2. THE IDEAL-TYPICAL NOTION OF SOCIAL FUTURING

"The clever man is not the one who
gives good predictions about the future
but the one who sees clearly that predicting the future is impossible,
but, keeping that in mind, a clever man can still adapt to the future in advance."
László Mérő

By definition, a conjunctive (or complex) necessary condition of the futuring of an arbitrarily chosen social entity (SE) is that it has (1) self-consciousness, a constitution[9] (NC_1); (2) is able to operate functionally (NC_2); (3) is able to sustain and reproduce itself over a longer period of time (NC_3), and (4) is able to act and organize itself in order to influence its future environment and operations – based on a strategic perspective – and prepare to organize ways to act (NC_4).

Meeting all the above conditions *simultaneously* – as I see it – *enables* the creation, sustenance and growth of the social futuring (SF) of any social entity, at least as far as the necessary conditions are concerned. In other words, the simultaneous existence of the above factors creates an opportunity to engage in social futuring, while the lack of one or more of them makes it unfeasible.

If, for instance, the original population of a country or settlement is in serious decline for some reason, its long-term viability may become questionable (e.g. ghost towns or settlements with a changing population mix). If an organization or an institution is unable to continuously maintain its basic operations under changing circumstances, it may lose the capacity to function effectively (e.g. enterprises may lose market share, or institutions may empty out). If a political organization does not have a strategic vision of the future and is not strong enough to organize strategic methods of acting to reach its goals, it may be squeezed out or fade out from the political contest and lose significance (e.g. political parties

[8] This method of making a notion more accurate is referred to by scientific philosophy as a typology-based explication of scientific terminology. See Bertalan (2005).

[9] In philosophy, the term "constitution" is an ontological category, a constitution of existing organisms from existence and essence, action and potential, material and form. It involves the features of self-definition and constitutional existence of an entity in a political philosophical sense.

may lose voters' trust, trade unions lose their members, and non-governmental movements may die out).

Formally: (SE) [$NC_1 \wedge NC_2 \wedge NC_3 \wedge NC_4 \rightarrow Df \rightarrow SF$]

Per definitionem, it is true of all social entities (SE) that their successful futuring requires the potential for a self-conscious, constitutionalized existence (NC_1), functional operation (NC_2), *and* long-term sustenance/reproduction (NC_3), and preparedness for self-organization/the organization of strategic action (NC_4). In other words, the per definitionem conjunctive (or complex) necessary conditions of social futuring are self-consciousness and a constitutionalized existence (NC_1), long-term sustenance/reproduction (NC_2), functional operation (NC_3), *and* preparedness for self-organization/the organization of taking strategic action (NC_4)

If all the necessary conditions are met, the futurability of social entities is secured by agents and their assemblages who are able to adopt various attitudes to adapt to expectable changes in any point in the future.

By definition, the disjunctive (or alternative) sufficient conditions of successful futuring of any social entity are the following: (1) the entity must be capable of making changes (SC_1); and/or (2) must be able to prepare to influence expectable change (SC_2); and/or (3) must be able to prepare to neutralize/exploit the limitations inherent in expectable change (SC_3); and/or must be able to prepare to address the risks of an expectable change (SC_4**)**.

If all, one, or some of the above conditions are met, regardless of combination, social futuring can be regarded as secured, and its various manifestations will be created, maintained and improved. If, for example, a nation (e.g. Turkey) or a large corporation (e.g. Tesla) can prepare itself to generate/influence a specific, expectable geopolitical change (e.g. an international migration crisis) or a specific technological change (e.g. the uptake of self-driving cars), respectively, they can be regarded as being successful at futuring; the situation likewise applies to regions and cities that are able to prepare for the risk management of environmental changes (e.g. climate change, global warning), or capitalize on the opportunities created by technological development (e.g. Smart Cities, or Slow Cities).

If none of the sufficient conditions are met, it can be argued that the creation, sustenance and growth of social futuring is impossible, at least as far as the sufficient conditions are concerned.[10] For instance, if a country is unable to

[10] Note that necessary and sufficient conditions are treated separately. I shall make no effort to make a list of "necessary-and-sufficient" conditions. Consequently, conjunctivity and disjunctivity are treated separately. However, we believe that the alternative sufficient conditions may ideal-typically be considered only if the complex necessary conditions are met. In the course

generate/influence any demographic, technological or environmental change – be this in the form of either threats (e.g. decreasing population, ageing society, climate change) or opportunities (e.g. robotic mechanization, artificial intelligence) – and cannot prepare to address these changes strategically, they will seriously lag behind in social futuring. We may also add that the more of the four conditions above are met by any given country or social entity, the stronger at social futuring they are.

Formally: (SE) $[SC_1 \vee SC_2 \vee SC_3 \vee SC_4 \rightarrow Df \rightarrow SF]$

Per definitionem, a social entity is successful at futuring if it has the potential to generate change (SC_1), and/or to prepare to influence expectable change (SC_2), *and/or* to prepare for the neutralization/exploitation of limits from an expectable change (SC_3), and/or to prepare to tackle the threats of expectable change (SC_4). In other words: the predefined disjunctive (or alternative) sufficient condition of social futuring is the potential for making changes (SC_1), and/or preparing to influence an expectable change (SC_2), and/or preparing to neutralize limits/ exploiting opportunities in relation to an expectable change (SC_3), and/or preparing to tackle the risks of an expectable change (SC_4).

3. WHICH SOCIAL ENTITIES?

"The future belongs to the generations and nations
which are willing and strong enough to meet it."
Max Planck

The social entities in focus are constituted by persons who are given the ability to interpret things, make decisions and take action, and who are "embedded" into various groups and social networks (e.g. families or communities based on blood ties, common interests, collegiality or cohabiting, etc.).[11] They and their groups are the potential "champions" and key figures; i.e., the agents of creating and increasing social futuring. Such social entities can include, for instance: organi-

of doing empirical research, the main question will naturally relate to the conditions the social entities (the "real types") that are in focus meet, based on which comparisons and rankings can be constructed. This is the very reason why ideal-typical notions are sometimes referred to as "line notions" in the philosophy of science.

[11] Here I rely on the popular socioeconomic concept of Mark Granovetter (2017).

zations (O), institutions (I),[12] settlements (Se), regions (R), countries (or country groups) (C), societies (So), and nations (N).

According to various viewpoints, these social entities can be subdivided into further subtypes. For example, we can differentiate between for-profit and non-profit organizations, social, economic and political institutions, and identify further subtypes within these (e.g. the state and the parties within political institutions) or specific cities, regions, countries and nations. And so on.

The circle of potentially futurable social entities may be enlarged along certain research parameters. However, when doing futuring research of any kind, one must make the most accurate and unambiguous selection from the vast set of social entities and choose those which are the most suitable for the particular analysis. For example, the elements included in a comparative analysis of the social futuring of certain countries are different from the elements picked for an analysis of the social futuring of, say, business enterprises, political systems or settlements.[13]

Formally: $SF = F_{SE}$, where SE {O, I, Se, R, C, So, N, ...}

The set of futurable social entities (F_{SE}) contains various elements: organizations (O), institutions (I), settlements (Se), regions (R), countries (or country groups) (C), societies (So), nations (N), etc. and various subtypes thereof.

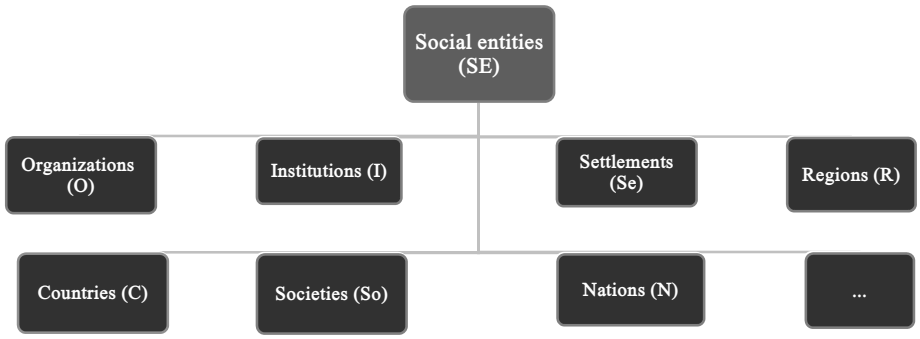

Figure 1. Types of social entities

[12] The notion of institution is used here in the sense Douglass C. North defined it: "Institutions represent the rules of society [...] the boundaries people made to regulate the interaction between people" (North 1990). Bakacsi (2017b) examined the role of institutions with regard to futuring.

[13] Social entities may also be interpreted as social networks from the perspective of network science and network analysis (Barabási 2002; 2010; 2016). For details, see Bakacsi (2017a; 2017b) and also: Khanna (2016).

It must be stressed again – referring back to the first paragraph – that research into different social entities can never commence without clearly designating and separating the actual and/or potential agents who create and secure futuring.[14] It is no matter if they are persons ("champions") or groups: the basic question remains the same in all cases: have they prepared, or how are they able to prepare to create the circumstances of short-, mid- and long-term social futuring? It should also be examined whether the size of agent groups have reached the "critical mass" which is indispensable for activities that secure the self-sustenance needed in futuring.[15]

4. THE BASIC FORMS OF SOCIAL FUTURING

"The future is not in our power entirely,
but it is not entirely outside our power either."
Epicurus

Interpreting, generating and elaborating expectable future changes, including preparations to influence them, may be termed proactive (Pa) social futuring. A common feature of these methods of action is that they invariably target changes directly, and the agents of social entities manipulate such changes according to their common objectives and interests, or at least they are prepared to do so: they aim to generate changes which are desirable for them, and try to hinder undesirable/disadvantageous changes or place obstacles in the way of their development.[16]

This basic form of social futuring may be characterized as a specific manifestation of strategic creativity because it involves a particular social entity attempt-

[14] For details, see Szepesi (2017).

[15] "Critical mass" is used in the sense Thomas C. Schelling put it: "[…] common to all models of critical mass is that certain kind of activity that becomes self-sustaining after having reached a minimum level." (Schelling 1978). It should be noted here that the successful futuring of persons and smaller social entities (e.g. organisations) does not necessarily imply the successful futuring of larger entities (e.g. countries) – this may be called the "problem of aggregation". These issues are not examined here in detail; nevertheless, neither are they disregarded. I shall try to elaborate on them later, in the empirical research phase.

[16] Normative benchmarks help us decide whether a change is "desirable" or "undesirable". For the normative framework of our research project, based on ethical and political philosophy, see Ábrahám (2018) and Csák (2018). The changes envisaged may bring present conditions closer to the desired social conditions, and they may also create distance between them. A desirable social condition can nevertheless be depicted by using normative standards. This also means that the "[...] analytic and normative concept of social futuring cannot be separated from one another." (Ambrus 2017c: 3)

ing to shape the future in a creative way, while respecting limits and circumstances. For example, if a country realizes its unfavorable demographic tendencies in time, it may undertake innovative action through demographic and family policies to influence them. Or, a country group may make provisions to combat global warming by implementing new energy- and environmental policies. Both of these responses involve proactive and creative steps to secure futuring.

However, if the potential agents of social entities prepare to neutralize the limitations of future changes and/or harness advantageous opportunities, we may speak of *active* (A) futuring. Considering the same example as above: if the country group is unable to slow down the process of global warming, it may still exploit its advantages through the use of active futuring. In practice, this may mean taking creative steps in energy policy, such as installing vast amounts of solar collectors. Or a business/institution specializing in healthcare may prepare in advance for the opportunities presented by technological change (e.g. the spread of nanotechnology) by applying new treatment methods, which is another example of active futuring. These cases are also characterized by a sort of strategic resiliency:[17] the ability to grasp the envisaged opportunity in a creative way, and at the right time. Here, however, action does not target the change itself but aims at the potential outcome of the change instead, also in an innovative way.

Finally, if the social entities address the threats inherent in certain changes, a reactive (Ra) futuring is taking place. Or rather, this is a sort of strategic adaptivity inasmuch as action responding to unavoidable future threats comes to the foreground, often taking the form of adaptation or resilience. Extending the earlier example further: if the country in question cannot influence demographic processes directly, it can still prepare for the strategic treatment of their risks – for instance, by taking administrative steps regarding the regulation of the labor market or the pension system. This is reactive futuring. Or, if a country seeks to prepare to minimize geopolitical threats (e.g. in conflict zones), it may join alliances or arm itself since it cannot influence the threat directly. These are possible cases of reactive futuring, too.

In the above, we have defined the three basic forms (Bf) of social futuring, which – taking the broad set of possible social entities and the various expectable changes into account – can be combined with further subtypes.

Formally: $F_{SE, Bf}$, where Bf {Pa, A, Ra}

The set of social futuring thus contains three elements: a proactive form (Pa), an active form (A) and a reactive form (Ra) – see Figure 2.

[17] For the term of strategic resiliency see Deloitte (2018).

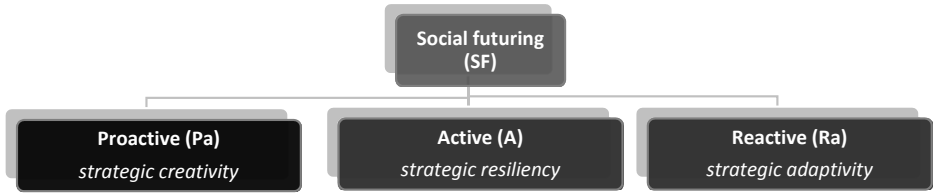

Figure 2. Basic forms of Social Futuring

5. WHAT CHANGES ARE TO BE EXPECTED?

"The 'future' does not really exist in the singular.
We may only speak about innumerable unforeseeable futures
which will be able to surprise us all the time."
Niall Ferguson

Expectable future changes (EC) may be classified from many perspectives. A classification can be undertaken from the viewpoint of their content (i.e. substantivity), prediction-based features (i.e. predictability) and time-related features (i.e. temporality).

To conceptualize social futuring further, expectable future changes can also be classified by regarding the broader sphere in which the changes take place, or will take place. Regarding the content-based features of expectable change (ECC), we may differentiate between (1) ecological-(geo)political (EGp); (2) technological (T), (3) socio-economic (SE), and (4) cultural-spiritual (CS) changes – just to highlight the most important ones.

On the one hand, such a classification is not comprehensive; i.e. it does not encompass all the possible kinds of expectable change. However, it does refer to the types of change that are of key importance in the research of social futuring. On the other hand, the specific types are comprehensive enough to enable us to make more subtle and detailed distinctions in specific fields of change.

The notion of ecological-(geo)political change includes the expectable global balance of natural resources, geographical location, and the political shifts stemming from these two,[18] anthropogenic global climate change', biodiversity, and the availability of natural resources (especially shifts in the world's freshwater supplies).[19] It also spans the shaping of the political systems of future societies

[18] The notion of geopolitics is used in the spirit of George Friedman's classic works (2012; 2015; 2016). "Connectography" represents a new approach to mapping the future of global civilisation, along with a network-based methodology. See Khanna (2017).

[19] For the correlation between ecological sustainability and social futuring, see Kocsis (2018).

(e.g. a shift from democracy-dictatorship, changes in political stability and security, and the shaping of political integrity and sovereignty).[20]

With the notion of technological change, we intend to grasp the tendencies and trends shaping the artificial-material world and accelerating technological processes. In particular, the spread of robotic mechanization, artificial intelligence and nanotechnology belong here, all of which radically change human activity and lifestyles (especially work).

Popular trends are certainly also socio-economic ones,[21] including changes in childbirth and mortality rates and those of (international) migration. To our mind, urbanization and social mobility also belong here, as well as trends such as changes in competitiveness, and also education and healthcare.

With the notion of cultural-spiritual change, we intend to grasp worldwide trends concerning changes related to the existence of entities manifested in their symbols, values and norms,[22] as well as international processes of communication, trust and religion.

Formally: $F_{SE, Bf, ECC}$, where ECC {EGp, T, SE, CS, …}

The set of expectable changes relevant to social futuring contains four content-based elements: ecological-(geopolitical) change (EGp), technological change (T), socio-economic change (SE), and cultural-spiritual change (CS).

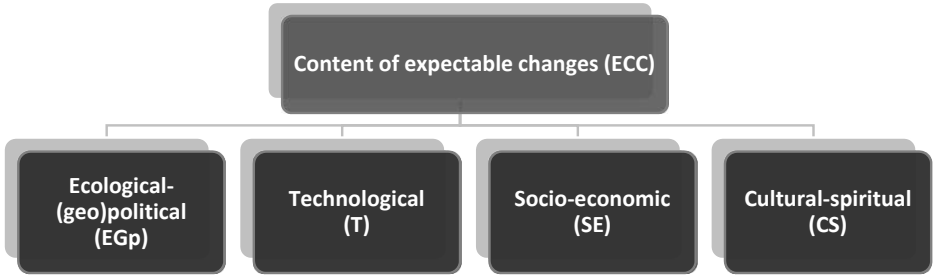

Figure 3. Content-based types of expectable change

Source: author

20 For a futuring-based interpretation of long-term political strategy, see Ambrus (2017a; 2017b; 2018).

21 On the topic of childbearing and ageing societies, see Bartus (2017) or Gál – Radó (2018).

22 "The modern state also has a spiritual and a symbolic function. These are indispensable to make citizens conscious of their citizenship" (Manent 2003: 54).

Predictability (P) is another factor according to which a classification of changes is possible. Thus, changes can be predictable or unpredictable. The first type includes changes that are not expected or unexpected, while the second type contains changes which have some probability of occurring. Good examples can be found in demographic research and forecasts regarding climate change. Projections using the birth and mortality rates of the past enables us – ceteris paribus – to predict the size of future populations with a certain probability, just as ecologists can calculate potential global warming scenarios using past trends in climatic change.

Utilizing the relevant basic concepts of the standard theory of rational decisions,[23] we may state that if the chance of predictable change is 100%, the change is *certain* (C); and if it is between 0% and 100%, the change is, *in a broader sense, uncertain*.[24]

Knowing the – objective or subjective – probability of the realization of an expectable change indicates a risky change (R). However, if the scenarios for possible changes are known but there is no information available about their probability, we must refer to an uncertain change (Uc), in a narrow sense.[25]

Formally: $F_{SE, Bf, ECC, ECP}$, where ECP {C, R, Uc}

In the set of expectable changes relevant to social futuring there are therefore three states of predictability: there are certain (C), risky (R) and uncertain changes (Uc).

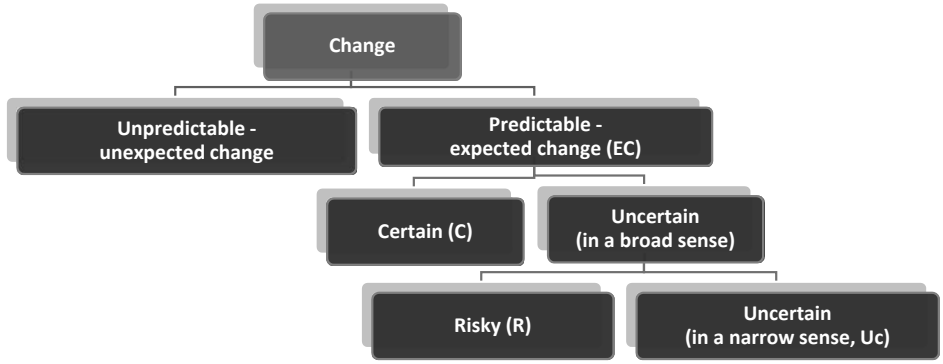

Figure 4. Types of change based on predictability

Source: author

23 A foundational study by Luce and Raiffa (1957) was used to define the basic categories of decision theory. See for example: Hirshleifer – Riley (1992).

24 A 0% probability naturally means that the change is unexpected.

25 Niall Ferguson (2008) presents the difference between uncertainty and risk in detail in the context of the formation and operation of financial markets.

Within the set of expected changes, based on the time period that elapses (temporally) (ECT), changes can be predicted in the short term (ST), medium term (MT), or long term (LT), which are to be treated separately.

Formally: $F_{SE, Bf, ECC, ECP, ECT}$, where ECT {ST, MT, LT}

The set of expectable changes relevant to social futuring has three temporal elements: short-term expectable change (ST), mid-term expectable change (MT) and long-term (LT) expectable change.

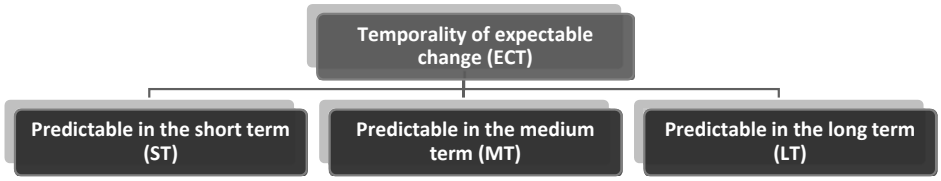

Figure 5. Types of predictable changes based on temporality

Source: author

6. SUMMARY

"The behaviour of people often go through three phases when
they are thinking about the impacts of future technologies:
First, they worship the attested ability they offer to solve old problems;
then, they are frightened by the new, serious risks of these novel technologies;
and finally, they realise that the only feasible and responsible way is
to carefully designate the path of development
by which the benefits can be reaped and the dangers can be avoided."
Ray Kurzweil

In this paper, we have attempted to define the concept of social futuring and classify it using multiple parameters. Having started out with a minimal definition of the notion, we elaborated on the ideal-typical definition of social futuring using predefined concepts. Thereafter, classifications of the forms and types of social futuring were made according to various features. A complex network of concepts was constructed to make the ambiguous notion more precise, all the while keeping an eye on the possibility of later operationalization; our future target being the creation of an empirically and methodologically well-founded social futuring index.

The result of creating the conceptual framework can be summarized in the following analytical formulas:

$$F_{SE, Bf, ECC, ECP, ECT?}$$

where

$$SE \{O, I, Se, R, C, So, N, ...\}$$
$$Bf \{Pa, A, Ra\}$$
$$ECC \{EGp, T, SE, CS \ldots\}$$
$$ECP \{C, R, Uc\}$$
$$ECT \{ST, MT, LT\}$$

In other words, in the course of the conceptualization and classification of social futuring, starting out from the ideal-typical definition we should take the following steps:

1. we must define the social entity (entities) clearly, (i.e. organization, institution, settlement, region, country, society, nation, etc.), the futuring of which we seek to examine;

2. we must decide which basic form or basic forms (proactive, active, reactive) of social futuring we seek to investigate;

3. we must choose the type and number of expectable change(s) (in a content-based sense; i.e. ecological-(geo)political, technological, socio-economic, cultural-spiritual) in order to examine how the entity can prepare for them;

4. we must identify the predictability (certain, uncertain, risky) of the expected change to be able to analyze what preparations would be the most adequate;

5. we must identify the temporal frame (short-term, mid-term, or long-term) that best matches the preparations for expected change.

In the light of these observations, the research project ConNext 2050 – which includes further steps regarding how to create a social futuring index (SFI) – can be summarized using the following formula:

$$F_{SE,\ Bf,\ ECC,\ ECP,\ ECT'}$$

where

SE {countries}
Bf {proactive, active, reactive}
ECC {ecological-(geo)political, technological, socio-economic, cultural-spiritual}
ECP {uncertain, risky}
ECP {long-term}

We close the paper in the hope that we have managed to illuminate and clarify the multi-layered concept of social futuring by creating the analytical concepts based on which – on top of the normative foundations of the research – we may commence comparative empirical research into social futuring, centered on a social futuring index.

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SOCIAL FUTURING – A NORMATIVE FRAMEWORK[1]

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This paper shows the logic of the normative aspects underlying social futuring, defined as a social entity's creative intention to comprehend the world, its ability to get things done, and to control its destiny. We assume that the ultimate goal of social entities is to enable a good life in a unity of order that is worth preserving and reproducing. We start with the concept of "personhood" for both human beings and social personae. We review ancient and modern formulations regarding the *summum bonum* and other concepts with regard to the balance between the needs of social entities and their individual members. Focusing on the *oikeiósis* enterprise, we distill four necessary and sufficient features of human life (Attachment, Care [Material Advancement and Freedom], Security, and Contentment). We suggest that these features provide an appropriate normative basis for measuring the status and evaluating the changes in the state of affairs of a social entity. Finally, we provide an overview of the pillars and social layers that may create the basis for the development of the Social Futuring Index (SFI).

Keywords: social futuring, good life, normative aspects, Social Futuring Index

JEL codes: O10, Z10

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1. INTRODUCTION

The purpose of this paper is to explain the normative aspects and logic of the social futuring concept. We assume that the ultimate aim of social entities is to enable a praiseworthy life for their individual and institutional members. Therefore, our central issue of analysis is the "good life in a unity of order" that is worth living, preserving, protecting and reproducing.[2]

Social futuring is a measure of a social entity's creative intent to comprehend the ever-evolving world, its ability to get things done to preserve and reproduce its way of life, and to control its destiny in general.

The necessary conditions for a social entity's social futuring are that the given entity is self-conscious and constitutes[3] itself, permanently operates in a functional way, and organizes actions that influence its functioning and environment in the future. The sufficient conditions of social futuring are that a given social entity is able to facilitate/create changes, or to prepare itself to manipulate changes, to exploit future changes, or to manage the risks of future changes.

The study of human development is an interdisciplinary[4] endeavor ultimately driven by implicit and explicit moral and metaphysical considerations. Historically, reflections on the worthwhile life, the image of man and the human condition have been formulated from philosophical, religious, scientific and artistic perspectives.[5]

Philosophy ultimately deals with the issues of "how one ought to live [well]; what course of life is best; [what is] the right conduct of life,"[6] and the nature and proper operation of the unity of order that enables a good human life.

[2] This paper is a contribution to the development of the Social Futuring Index (SFI). For the analytical background of Social Futuring, see Szántó (2018). For the philosophical background of personhood and human condition in the context of social futuring, see Ábrahám (2018).

[3] Constitutedness in an ontological sense means the essence and existence, potency and actuality of an entity. In political philosophy it means an entity's peculiar social persona, a unity of order with a character of its own, animated by a distinguished way of thinking.

[4] According to Tamás Roska "we need a certain level of abstraction in different fields to understand broader relationships […] The key intellectual ingredients [of] comparative advantage, are […] a broad philosophical, artistic and historical background […] understanding of […] modern science developed in the Mediterranean area; […] capacity for a high level of abstraction, including the quantitative sciences; […] moral integrity and self-discipline" (Kodolányi 2012).

[5] Our views on these perspectives have been significantly inspired by the work of Tarnas (1993).

[6] Plato's Gorgias, 492d and 500c; Republic, 352d. Plato and Aristotle are quoted as published at http://www.perseus.tufts.edu, unless otherwise indicated.

From the religious perspective, transcendental principles provide the fundamental framework for comprehension and interaction and have been an integral and valued aspect of the identity of civilizations, permeating every sphere of life throughout history. Nevertheless, Western civilization has been an exception, as it seems to be undermining its own religious and transcendental foundations, particularly in the last 300 years.[7]

The modern scientific perspective is a detached, strictly rational, methodological approach intended to free humankind from the limitations set by Nature, and to change the world. Modern science claims neutrality with regard to ultimate values. Thus, when science faces ultimate choices between values, the risk of reducing persons to physiological processes arises, with all the potential unintended consequences.

Historically, the arts have also been a unique guide for human comprehension through endeavors that inspire man's aesthetic sense and emotions.

The philosophical, religious, scientific and artistic perspectives of comprehension cross-fertilize and prevail upon each other[8] over time, as exemplified historically by Christianity assimilating elements of ancient Greek philosophy, or the arts invigorating worldviews during the Renaissance, or natural sciences overcoming philosophy, religion and the arts altogether during modernity. Despite such contests, we can argue that sophisticated philosophical, religious, scientific and artistic reflection is a necessary condition for any entity that aspires to a thorough self-consciousness and identity.

Social futuring is a new multidisciplinary perspective[9] that builds on the findings of the fields mentioned above to map out the characteristics that enable en-

[7] "Since the development of the Greek thought […] the tendency of Western civilization has been towards rationalism and hence away from the religious life […] no such marked turning away from religion is to be found in the history of the world outside the West" (Braudel 1963: 23).

[8] Philosophical, religious, scientific and artistic achievements from time to time can be, but are not necessarily, in conflict with each other. "Not to act in accordance with reason is contrary to God's nature… modifying the first verse of the Book of Genesis, the first verse of the whole Bible, John began the prologue of his Gospel with the words: 'In the beginning was the λόγος' […] God acts, σὺν λόγῳ, with logos. Logos means both reason and word – a reason which is creative and capable of self-communication, precisely as reason […]. In the beginning was the logos, and the logos is God" Pope Benedict XVI (2006). Another example is the Islamic world of the 9-11th centuries, which was, in many respects, the most active area with regard to scientific and philosophical achievements (e.g. the works of the ancient Greek philosophers and "scientists" were translated into Arabic in that period).

[9] Social futuring should be distinguished from other academic efforts such as forecasting and foresighting (Monda 2018); from various discursive approaches about the future (Aczél 2018); and from ecological-economic sustainability studies (Kocsis 2018).

tities to preserve their way of life. Social Futuring is measured by a composite Social Futuring Index (SFI) based upon a range of transparent indicators. We think that there are ways of life in which human persons can fulfill their material, intellectual, spiritual and psychological needs and, in general, flourish better than in others, and are thus worth preserving and reproducing (Haldane 2009: 37–50). In this paper, we elaborate on the constitutive qualities of this worthwhile, or, in other words, "good life" in a unity of order as a conceptual framework or standard (Strauss 1953: 35−80) according to which the changes in the SFI scores may be interpreted. Such analysis may help social entities to systematically reason about alternative courses of action for shaping their futures.

In Section 1 we start by examining the aspects of personhood, a notion that harmoniously integrates certain features of human persons and social entities. We present an illustrative overview of the formulations about the good life in a unity of order, or *summum bonum* (highest common goods), based upon the thoughts of arguably the greatest moral philosophers: Plato, Aristotle, Augustine of Hippo and Kant, followed by the thoughts of a few outstanding thinkers who, ultimately, reformulated the ancients' normative concepts throughout modernity. In Section 2, building upon these findings, we outline a specific normative basis on which the status and changes of the SFI can be evaluated. We use the overarching term worthwhileness to represent the universal features of a good life in a unity of order. Finally, we identify the pillars in which a series of indicators will culminate in the context of different social layers.

2. PERSONHOOD, SUMMUM BONUM AND SOCIAL FUTURING

2.1. Human Person and Social Persona

2.1.1. Human Person

The subject of social futuring is the social entity, an organism as understood based upon the concept of personhood.

Personhood in the context of individuals alludes to the exceptionality of human beings among other sentient things. Besides material constitution it implies cognition,[10] intentional activity and self-consciousness, and an awareness and recognition of the self's state of mind (as distinguished from others), thus permits

[10] "'Person' signifies what is most perfect in all nature […] And because subsistence in a rational nature is of high dignity, every individual of the rational nature is called a 'person'" (Aquinas, *Summa Theologiae*, I, Q. 29, A. 3).

reference to oneself as *I*. Being *I* pre-supposes mutual reflection about other persons, since *I* makes sense only if there is a *You*. The communication[11] between *I* and *You* through language creates the social relationship between persons.

Persons, while parts of various social entities, are existentially and psychologically individual in nature, "*both* wholes and parts – *wholes as selves, parts as social selves*." (Haldane 2009: 226). The art of a worthwhile life is about finding the right balance between the individual self and social circumstances. The human person is a rational,[12] matrimonial,[13] self-communicative, social[14] being endowed with free will.[15] Only human persons, living in a social lifeworld[16] can assume responsibility, rights and duties, based upon a perception of what is good or bad, right or wrong, just or unjust. Reason, free will and the resultant moral sense allow persons to have hopes and ambitions, to set goals and, with effort and luck, actualize their potential.

11 "Person" in Latin is "persona" rooted in "personare"; i.e., "sounding". "Speech […] is designed to indicate the advantageous and the harmful, and therefore also the right and the wrong; for it is the special property of man […] in distinction from the other animals that he alone has perception of good and bad and right and wrong and the other moral qualities, and it is partnership in these things that makes a household and a city-state" (Aristotle, *Politics,* 1253a).

12 A human being's "soul […] in itself [is partly] possessed of reason, [and partly] capable of obeying reason" and "naturally desire[s] knowledge" (Aristotle, *Politics*, 1333a; *Metaphysics*, 980a).

13 "The investigation of everything should begin with its smallest parts, and the primary and smallest parts of the household are master and slave, husband and wife, father and children; we ought therefore to examine the proper constitution and character of each of these three relationships […] mastership, marriage, and thirdly the progenitive relationship" (Aristotle, *Politics*, 1253b).

14 "Man is by nature a political animal" (Aristotle, *Politics*, 1253a). "Man is by nature a social being" (Aristotle, *Nicomachean Ethics*, 1097b). "Nobody would choose to have all possible good things on the condition that he must enjoy them alone; for man is a social being and designed by nature to live with others; accordingly, the happy man must have society, for he has everything that is naturally good. And it is obviously preferable to associate with friends and with good men than with strangers and chance companions. Therefore, the happy man requires friends" (Aristotle, *Nicomachean Ethics,* 1169b). As friends and good men are concerned, Augustine of Hippo explained "Since you cannot do good to all, you are to pay special regard to those who, by the accidents of time, or place, or circumstance, are brought into closer connection with you" (Augustine of Hippo, *Christian Doctrine*, XVIII).

15 "Man has free-will […] acts from judgment […] he judges that something should be avoided or sought […] this judgment […] is not from a natural instinct, but from some act of comparison in the reason, therefore he acts from free judgment and retains the power of being inclined to various things […] and is not determinate to one. And forasmuch as man is rational is it necessary that man have a free-will" (Aquinas, *Summa Theologiae*, I, Q. 83, Art. 1).

16 "The world in which we live—Lebenswelt [Lifeworld], to use Husserl's term—the world of interpersonal attitudes" (Scruton 2017: 46, 37).

Human persons' habituation requires social – predominantly family – nurturing. Attachments imbibed in childhood are essential for bodily, psychological, intellectual and spiritual stability throughout a lifetime. Ways of doing things and ways of thinking unfold through nurturing, in parallel with the development of an understanding of our own way of life and thinking, differentiated from the ways of life and thinking of others, and even from the way of life of one's ancestors. The absence of proper attachments may deprive individuals of the ability to develop meaningful relations with persons and entities during adulthood.[17]

2.1.2. Social Persona

The social self emerges in various associations referred to as *Us*. A social persona is a specific unity of order[18] resting upon resilient, albeit evolving, values and norms that characterize its way of life and thinking. Norms and values, embodied in customs, rules and processes, frame members' interactions to comprehend, reason about and organize their lifeworld via the enjoyment of rights and benefits, and to fulfil the proportional duties required by the entity.

The intellectual history of humankind in various civilizations[19] can be described as a quest for a bonding framework of comprehension about the human condi-

[17] Nobel-laurate James Heckman and Stefano Mosso (2014) summarize the literature on "determinants and consequences of parental actions and environments on child outcomes and differences in investments received by children of different socioeconomic status" as follows: "Family environments during the early years and parenting are critical determinants of human development because they shape the lifetime skill base […] Later-stage remedial interventions are generally less effective, especially if they target IQ. Interventions aimed at disadvantaged adolescents can be effective if they target the enhancement of noncognitive capabilities and provide valuable information that helps them make wise choices."

[18] "To establish virtuous living in a multitude, three things are necessary. First of all, that the multitude be established in the unity of peace. Second, that the multitude thus united in the bond of peace, be directed to acting well. For just as a man can do nothing well unless unity within his members be presupposed, so a multitude of men lacking the unity of peace will be hindered from virtuous action by the fact that it is fighting against itself. In the third place, it is necessary that there be at hand a sufficient supply of the things required for proper living" (Aquinas, *Kingship to the King of Cyprus*, 118). "Unity of man is brought about by nature, while the unity of multitude, which we call peace, must be procured through the efforts of the ruler" (Aquinas, *Kingship to the King of Cyprus*, 118). Peace is not a one-off act but a continuous balancing act of goodwill: "a certain natural equity [that] obliges a man to live agreeably with his fellow-men" (Aquinas, *Summa Theologiae* II-II. Q. 114. A. 2).

[19] The terms civilization and culture are often used interchangeably. For the purposes of the Social Futuring project, we use both terms with "at least a double meaning […] denot[ing] both moral and material values, […] connoting human excellence or superiority" (Braudel 1995: 5-7). Max Weber defines "'order' (*Ordnung*) as obligatory or exemplary ways of acting to which actors orient their actions. Orders have a certain continuity to them; sanctions are

tion, the establishment of an image of man, and the creation of social settings in which the needs and interests of individuals can be satisfied in relative harmony with those of the community, and vice versa. In what follows, we examine the *summum bonum* connecting human and social personae. While the social futuring concept is applicable to organizations such as family, civic associations, businesses, cities, and countries, we focus on political communities in this paper.

2.2. Summum Bonum and Politeia[20]

2.2.1. The Ancients

Aristotle asserted that the goal of human life is to attain "eudaimonia" (usually translated as happiness, but literally meaning "good spirit") and that

> the Good of man is the active exercise of his soul's faculties in conformity with the best and most perfect virtue or excellence (areté) […] and is adequately furnished with external goods, and goods of the soul and goods of the body […] throughout a complete lifetime […] Men do not acquire and preserve the virtues by means of these external goods, but external goods by means of the virtues. (Aristotle, *Nicomachean Ethics,* 1098a-b, *Politics*, 1323a).

Socrates asserted that this can be attained in the natural order of social life: "gods and men are held together by communion and friendship, by orderliness, temperance, and justice, […] this is why they call the whole of this world by the name of order, not of disorder or dissoluteness" (Plato, *Gorgias*, 508a).

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also connected to them […] A civilization […] is a cultural order, to which actors orient themselves and which consists of economic, religious, political, artistic and scientific elements. By being oriented to the order, the actions of the actors are provided with a general meaning" (Swedberg 2010: 15–30). Morris (2013: 3–6) uses "Social development [as a term referring to] social groups' abilities to master their physical and intellectual environments and get things done in the world; […] the bundle of technological, subsistence, organizational, and cultural accomplishments through which people feed, clothe, house, and reproduce themselves, explain the world around them, resolve disputes within their communities, extend their power at the expense of other communities, and defend themselves against others' attempts to extend power." Morris adds a caveat, namely, "social development scores (do not) imply anything about the moral, environmental, or other costs of social development." It is important to note the difference between the concepts of social development and social futuring, as the latter's main concerns are exactly the long-term "costs" of the preservation and reproduction of a social entity.

[20] Politeia means "issues of the community/polis"; that is, public affairs or "res publica" in Latin.

Since "the most supreme […] partnerships […] aim at the most supreme of all goods,"[21] the *politeia* is prior in nature to the individual members. Hence, "all the various pronouncements of the law aim […] at the common interest of all […] either by excellence or in some other similar way; so that in one of its senses the term 'just' is applied to anything that produces and preserves the happiness, or the component parts of the happiness, of the political community" (Aristotle, *Nicomachean Ethics,* 1129b; *Politics,* 1323a). In Augustine of Hippo's summary, *politeia* (body politic or political community) is the "measure, form and order"[22] of the *summum bonum* and the common basis of mutual respect among members of an entity.

2.2.2. Moderns and Discontents

Many modern thinkers approach the human condition in a different way. Thomas Hobbes, while praising "the qualities of mankind that concern their living together in peace and unity," asserted that "there is no such *finis ultimus* (ultimate aim) or *summum bonum* as is spoken of in the books of the old moral philosophers" (Hobbes 1651: i. xi. 75). David Hume argued that "Reason is, and ought only to be the slave of the passions and can never pretend to any other office than to serve

[21] "Every state is as we see a sort of partnership and every partnership is formed with a view to some good […] the most supreme […] partnerships […] aims at the most supreme of all goods; and this is the partnership entitled the state, the political association […] while it comes into existence for the sake of life, it exists for the good life. Hence every city-state exists by nature […] for the city-state is the end of the other partnerships, and nature is an end […] Again, the object for which a thing exists, its end, is its chief good" (Aristotle, *Politics*, 1252a-b). "The city-state is prior in nature to the household and to each of us individually. For the whole must necessarily be prior to the part; since when the whole body is destroyed, foot or hand will not exist except in an equivocal sense […] all things are defined by their function and capacity […] It is clear therefore that the state is also prior by nature to the individual; for if each individual when separate is not self-sufficient, he must be related to the whole state as other parts are to their whole […] therefore the impulse to form a partnership of this kind is present in all men by nature" (Aristotle, *Politics*, 1253a). "The virtue of the state is of course caused by the citizens who share in its government being virtuous […] since for each individual to be virtuous entails as a consequence the collective virtue of all. But there are admittedly three things by which men are made good and virtuous, and these three things are nature, habit and reason. For to start with, one must be born with the nature of a human being and not of some other animal; and secondly, one must be born of a certain quality of body and of soul" (Aristotle, *Politics*, 1332a).

[22] "Three things, measure, form, order, are […] generic goods, whether in spirit or in body […] where they are absent, there is no good […] [and] if there had been no order there, some would not have ruled, others been ruled; they would not have lived harmoniously in their element; in fine, they would not have had their members adapted to their places, so that they could not do […] things" (Augustine of Hippo, *On the Nature of Good*, iii and lxi).

and obey them" (Hume 1738: II. iii. 3). Jeremy Bentham maintained that "Nature has placed us under the governance of two sovereign masters, pain and pleasure. It is for them to point out what we ought to do, as well as to determine what we shall do" (Bentham 1789: Chapter I, Section I).

Immanuel Kant's rational, autonomous but nevertheless socially embedded moral person is supposed to follow a so-called categorical imperative:[23] "Act only in accordance with that maxim through which you can at the same time will that it become a universal law," and "act so that through your maxims you could be a legislator of universal laws." Supposing "the will of every rational being as a will that legislates universal law" establishes that "one should always treat human persons as ends and not as a means"[24] and that "each must […] so conduct himself as if everything depended on him."[25]

While Socrates and Aristotle emphasized the natural order of virtuous human persons within the politeia through participation, rights and duties, thinkers of the Enlightenment professed the autonomy of the individual. This latter – if taken to its logical conclusion – implies the risk of viewing individuals as apolitical and asocial beings; mere biological systems driven by pain and pleasure. As a consequence, politics and the moral sense are downgraded to mere instrumental means, contractual procedures with the limited objective of creating mutual security for the individuals who happen to exist at the same time and place.

[23] Such a concept claims universal validity because it seems to require the respect of a person, without previous culturally anchored religious or other commitments.

[24] This imperative resembles the ancient maxim, "So always treat others as you would like them to treat you; that is the Law and the Prophets" (Matthew 7:12) and is expressed in other canonical formulations of several civilizations such as the Confucian maxim: "What you do not wish upon yourself, extend not to others" (Confucius 12.2). However, Kant suggests that "practical reason has the right to conduct us, we shall not look upon actions as binding on us, because they are the commands of God, but we shall regard them as divine commands, because we are internally bound by them. We shall study freedom under the teleological unity which accords with principles of reason; we shall look upon ourselves as acting in conformity with the divine will only in so far as we hold sacred the moral law which reason teaches us from the nature of actions themselves, and we shall believe that we can obey that will only by promoting the weal of the universe in ourselves and in others" (Kant 1781: Appendix, Chapter II. Section II).

[25] "To found a moral people of God is, therefore, a work whose execution cannot be hoped for from human beings but only from God himself. Yet human beings are not permitted on this account to remain idle in the undertaking and let Providence have free rein, as if each could go after his private moral affairs and entrust to a higher wisdom the whole concern of the human race (as regards its moral destiny). Each must, on the contrary, so conduct himself as if everything depended on him. Only on this condition may he hope that a higher wisdom will provide the fulfillment of his well-intentioned effort" (Kant 1793: AAVI 100-101).

Imre Madách (1862) succinctly captures this dramatic change in the creed of the enlightened man: "My God is me, whatever I regain is mine by right. This is the source of all my strength and pride!"[26] In Friedrich Nietzsche's words (1883), "Formerly all the world was insane […] [but now we] are clever […] we have discovered happiness."[27] With the Enlightenment, things have changed, "the world was not what it seemed […] ideas of time and distance, right or wrong, law and justice, and the nature of man's behavior in society, were not to be trusted."[28]

[26] "The best modern parable of progress." See also The Economist (2009). Imre Madách (1862: Scene III and XII) describes the general confusion over the desolation caused by the enlightenment thus:
"ADAM: What country is this, and what nation have we got to?
LUCIFER: Those old ideas exist no more. / Wasn't country a paltry conception? Originally begotten by prejudice, / Then cherished by narrowness and rivalry.
Now the whole earth is one country. / All now are comrades with a common aim,
And the calm course of their faith ordered life / Has for its guardian—Science which they revere.
ADAM: My soul's ideal is then accomplished, / All now is well, as I desired it should be. There is only one thing I regret—country. / That idea might, I think, have remained, Under this new regime. Man's heart / Needs limitation, the boundless frightens it,
It loses in intensity if it is dispersed, / Man clings to what is past and what will be;
I fear that the inspiring force of this great world / May not replace that of his father's tombs. Who for his family will shed his blood / Will the more readily bewail a friend…
Tell me, what then is the idea / Which is able to unite these people
And inspire them for one common end?
SAVANT: With us it is the will to live."

[27] Friedrich Nietzsche published the first part of his "Thus Spoke Zarathustra" in 1883: "I show you THE LAST MAN: 'What is love? What is creation? What is longing? What is a star?'—so asketh the last man and blinketh […] 'Formerly all the world was insane,' […] [but now we] are clever and know all that hath happened […] 'We have discovered happiness,' say the last men, and blink thereby […] They have left the regions where it is hard to live; for they need warmth. One still loveth one's neighbour and rubbeth against him; for one needeth warmth. Turning ill and being distrustful, they consider sinful: they walk warily […]. A little poison now and then: that maketh pleasant dreams. And much poison at last for a pleasant death. One still worketh, for work is a pastime. But one is careful lest the pastime should hurt one… Every one wanteth the same; every one is equal: he who hath other sentiments goeth voluntarily into the madhouse" (Nietzsche 1883–1891).

[28] "At the beginning of the 1920s the belief began to circulate, for the first time at a popular level, that there were no longer any absolutes: of time and space, of good and evil, of knowledge, above all of value. Mistakenly but perhaps inevitably, relativity became confused with relativism […] Nearly all the major creative figures [Marx, Freud, Einstein and Nietzsche] had already been published before 1914: […] the world was not what it seemed […] our ideas of time and distance, right or wrong, law and justice, and the nature of man's behavior in society, were not to be trusted […] Marxist and Freudian analysis combined to undermine […] the highly developed sense of personal responsibility, and of duty towards a settled and objec-

As Max Weber observed[29] in the 1890s:

> The fate of our times is characterized by rationalization and intellectualization and, above all, by the 'disenchantment of the world.' Precisely the ultimate and most sublime values have retreated from public life either into the transcendental realm of mystic life or into the brotherliness of direct and personal human relations […] If one only found the right concept of the beautiful, the good, or, for instance, of bravery, of the soul […] then one could also grasp its true being. And this, in turn […] opens the way for knowing and for teaching how to act rightly in life and, above all, how to act as a citizen of the state. (Weber 1918)

2.2.3. Moderns after the 1960s

The twentieth century endured large-scale social engineering experiments and a sweeping broadening of the concept of absolute individual human rights. Modern science became the *ultima ratio* in public affairs; aesthetic or religious values lost their authority to inform the good of man[30] (Manent 2001: 19). These developments reignited the debate about the meaning of a good life in a unity of order, as opposed to the enlightenment-inspired, pure reason-based atomist view of the human being.[31]

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tively true moral code […]. But it needed the desperate convulsions of the great struggle, and the crashing of regimes […] to give modernism the radical political dimension […] the sense of a ruined world on which it would construct a new one […]" (Johnson 1999: 7-59).

29 Max Weber earlier stated: "I believe that we must renounce human happiness [Glücksgefühl] as the goal of social legislation. We want something else and can only want something else. We want to cultivate and support what appears to us valuable in man: his personal responsibility, his deep drive towards higher things, towards the spiritual and moral values of mankind" (Weber 1993: 339–340).

30 As Otfried Höffe argues, the arts in particular, even in their own self-understanding, seem to have abandoned any measures of being good or beautiful, and as such lost significance in the Westernized parts of the World: "In the West, art itself had to fight for and gain its own liberties. That happened as people slowly progressed in achieving personal freedoms. Over the course of several centuries, art grew independent of controls. It is no longer expected to be truthful, or even moral. None of these pretenses apply. Instead, simply falling under the category of 'beauty', art has managed to carve out its own territory. Kant described that concept with the term 'disinterested pleasure,' which implies that just as church and state are separated in the West, our understanding of art is also independent of church, state and even aesthetic ties" (Höffe 2016).

31 A narrow cosmological concept of atoms seems to rule social sciences, notwithstanding Leo Strauss' objection: "The fact that the atoms [material objects as compounds of particles] are beyond good and bad does not justify the inference that there is nothing by nature good or bad for any compounds of atoms, and especially for those compounds which we call 'man.' In fact, no one can say that all distinctions between good and bad which men make or all human preferences are merely conventional. We must therefore distinguish between those human desires and inclinations which are natural and those which originate in conventions. Furthermore, we

Liberal-egalitarian views are dominated by the image of the rational, centerless, thus radically free individual of beliefs and desires, endowed with absolute rights, operating in a multitude ordered by contractual procedures. "This kind of life […] entails no other obligations than those freely chosen by an individual because of his humanity and individual identity."[32] John Rawls – arguably the most influential liberal-egalitarian thinker – positioned justice as the ultimate good championed by liberal welfare societies, to be followed by lesser (non-liberal, still decent, well-ordered, hierarchical) forms of polities. In Rawls' understanding, *summum bonum* is attainable[33] subject to (i) the assignment of human rights to all members of society, (ii) a decent consultation hierarchy, and, (iii) a sincere and not unreasonable belief that the law is guided by a common good idea of justice. Social cooperation between free and equal persons is aimed at "the primary social goods… rights, liberties, and opportunities, and income and wealth […] [and] a sense of one's own worth" (Rawls 1971: 79). The inevitably conflicting ideas about "good" are to be distilled into an "overlapping consensus," that, in turn, will save people from the "great evils of human history" (Rawls 1999: 6).

must distinguish between those human desires and inclinations which are in accordance with human nature and therefore good for man, and those which are destructive of his nature or his humanity and therefore bad. We are thus led to the notion of a life, a human life, that is good because it is in accordance with nature" (Strauss 1953: 94–95).

[32] "The libertarian political principle […] enjoy[s] the support of rational philosophy […] as follows: Once an individual chooses to live, that individual has committed himself to living well or properly, namely, in accordance with his nature; libertarianism is the political theory which best takes into account man's nature, namely, his essence as a free, rational living being whose conduct can only be made morally worthwhile by the individual himself by sustaining his commitment. This kind of life, with all of the diversity and universality […] should be chosen by each individual. This kind of life involves an array of human virtues (honesty, productivity, prudence, courage, fortitude, justice, self-respect, etc.) […] [which] must be sustained and practiced by choice and their precise interpretation must be adjusted to the individual's own case" (Machan 1998: 121).

[33] Human rights take primacy over good and reason: "The philosophical tradition has accustomed us to the idea that anybody who is willing to listen to reason – to hear out all the arguments – can be brought around to the truth. This […] 'Socratism' […] contrasted with the claim that our point of departure may be simply a historic event, is intertwined with the idea that the human self has a center (a divine spark, or a truth-tracking faculty called 'reason') and that argumentation will, given time and practice, penetrate to this center. For Rawls' purposes, we do not need this picture. We are free to see the self as centerless, as a historic contingency all the way through. Rawls neither needs nor wants to defend the priority of the right to the good as Kant defended it" (Rorty 1991: 266–267).

The Rawlsian welfare-based view implicitly pre-supposes an affluent society, a subject of the ultimate modern social science: economics[34] (Robbins 1932: 16) for which *politeia* is about managing tensions between human ambitions and scarce resources.[35] Lack of equilibrium destabilizes the political community: "Robbery and Violence are Injuries to the Person of the Common-wealth" (Hobbes 1651: i. xv. 75). Therefore, economics for utilitarians is about peace and mutual security rather than a moral order,[36] discarding *oikonomia* (household management) with the family at its center in favor of a focus solely on the individual.[37]

[34] In Lionel Robbins's classic definition: "Economics is the science which studies human behavior as a relationship between ends and scarce means that have alternate uses." "The prospect that economic logic may pervade the study of all branches of human behavior is as exciting as any development in the history of economics, or, for that matter, in the history of science" (Stigler 1988: 191–205). See also Raditzky and Bernholz (1987). Stigler's view is squarely opposed to Wicksteed's (1910: 160) who argued that in "the very widest definition of the economic life, or the range that should be covered by economic study, would not be taken to extend to the administration, or distribution among varied claimants, of personal and inalienable qualities and powers that flow directly towards their ultimate purpose or expression. The widest definition of Economics would confine their scope to things that can be regarded as in some sense exchangeable, and capable of being transferred or applied according to order and agreement. No one would regard the principles upon which I balance the claims of devotion [to God] against those of friendship, or of either against the indulgence of my aesthetic appetites, as within the range of economic science."

[35] This implies a series of practical mechanisms of justice in exchange in the case of private goods, and distributive justice in the case of common goods. Another mechanism for the distribution of wealth is called a *gift*. As Augustine of Hippo explained, the general logic applicable to both distributive justice and gifts is this: "Further, all men are to be loved equally. But since you cannot do good to all, you are to pay special regard to those who, by the accidents of time, or place, or circumstance, are brought into closer connection with you. For, suppose that you had a great deal of some commodity, and felt bound to give it away to somebody who had none, and that it could not be given to more than one person; if two persons presented themselves, neither of whom had either from need or relationship a greater claim upon you than the other, you could do nothing fairer than choose by lot to which you would give what could not be given to both. Just so among men: since you cannot consult for the good of them all, you must take the matter as decided for you by a sort of lot, according as each man happens for the time being to be more closely connected with you" (Augustine of Hippo, *Christian Doctrine*, XXVIII).

[36] Other voices (e.g. that of John Maynard Keynes, in the observation below) do not seem to prevail in mainstream economics: "Economics, more properly called political economy, is on the side of ethics. Marshall always used to insist that it was through ethics that he arrived at political economy […] and nearly all English economists […] reach economics that way. There are practically no issues of policy […] which do not involve ethical considerations" (J. M. Keynes' letter to William Temple, in Phelps (1985: xv)).

[37] Wicksteed suggested that economic inquiry should be started with the most complex person, the Mother's real-life problems, who lives in the web of interpersonal and institutional relationships, manages her family's scarce resources, and most importantly, the ultimate limit: her available time. She centers her decisions on human persons as ends since "all human action,

In contrast, the ultimately Aristotelian-Thomist position maintains that:

> we are in some respects social beings, a genuine aspect of whose telos is participation in shared ends […] one's political nature is not independent of that 'second nature' which results from being born and raised within particular social groups sharing aesthetic, moral, philosophical, and religious inclinations communicated to successive generations in part through the cultivation of a complex sensibility. Real-world political personae rest upon these cultural identities […] the characteristic values of given communities [as] these might be expressed in the political order of a state (Haldane 2009: 231−232).[38]

2.3. The State of Play

Social entities, however abundant, always face an objective or subjective scarcity of resources, resulting in peaceful or violent conflicts for control. The management of entities has historically produced various forms of *politeia* from tribes

including economic activity, is done by persons and for persons […] economic activity is not ultimately undertaken by 'individuals' for 'utility'" (Mueller 2010: 129).

[38] For the sake of full disclosure, we must mention the eternal "theological-political" question problem in Leo Strauss' formulation: "Man cannot live without light, guidance, knowledge; only through knowledge of the good can he find the good that he needs. The fundamental question, therefore, is whether men can acquire that knowledge of the good without which they cannot guide their lives individually or collectively by the unaided efforts of their natural powers, or whether they are dependent for that knowledge on Divine Revelation. No alternative is more fundamental than this: human guidance or divine guidance" (Strauss 1953: 74). Other thinkers offer further alternatives to the Rawlsian image of society, suggesting a natural-law-informed model of politeia. Charles Taylor (1992: 31−38) argues that "The ability for an individual to make choices and have freedom only exists within a social structure/community […]. Liberalism's core political value of the primacy of rights, affirms the capacities that were nurtured in a society, therefore the obligation to belong to a society should be as fundamental as the assertion of rights […]. However, by asserting the primacy of rights, one cannot always claim an equally fundamental obligation because at times the assertion of an individual right is achieved at the expense of the society... to assert the [primacy of] rights to the point of destroying a society, deprives the environment for nurturing the required human capacities as well as prevents future individuals in exercising the same capacity, therefore rights cannot be ensured if individual rights are taken as a priority at the expense of society." In Robert P. George's view, a decent society is characterized by "respect for the human person – the individual human being and his dignity; the institution of the family; a fair and effective system of law and government"; in addition, dynamized by "institutions of research and education; and business firms and associated institutions" (George 2013: 3–8; 82–84). See also Taylor (1989; 1991), MacIntyre (1999), Ricoeur (1986). Beyond political philosophy, other social sciences also offer alternatives to the mainstream scientific individualistic explanations. In sociology, Polanyi (1968 [1957]) and Granovetter (1985) have introduced the concept of embeddedness, emphasizing the significance of social relationships and socio-economic institutions.

through city-states to empires and nation states.[39] The strength of social entities becomes evident when they face internal or external challenges that require a response. Norman Davies (2011) found that dissolution of political entities in general occurs when "outside pressures may be present, but the essential event[s] pertain to a catastrophic malfunction at the centre; a vacuum is created, the constituent parts disengage, [the elaborate machinery is incapable of responding], and the whole is destroyed."[40]

The fate of emerging or disappearing social entities depends on their ability to comprehend the ever-evolving world and to get things done. "The choice may be limited, but what an immense privilege to be able to choose!"[41] (Braudel 1963: xxiv). Social futuring is an endeavor to map out the characteristics that enable entities to make choices and preserve their way of life.

We have briefly highlighted the Western formulations of *summum bonum* and other ways of balancing the needs and interests of social entities and their individual members. We found no consensus either with regard to the definition of a good life in a unity of order, nor regarding the primacy of the individual versus community, nor about the sources of the values and norms of a social entity.[42]

39 The nature and organizing principle of the different forms varies between city-states' dynamism of direct public debates, war, freedom and authority; empires' military might, peace, rule of law, security of property, and limited liberty; and modern representative democracies' commercialization and commercial warfare in the form of nation-states with increasingly heterogenic populations (see Manent 2013). Manent also attributes special importance to Augustine of Hippo's "City of God" (Civitas Dei), representing the better nature of human beings that virtually co-exists with the earthly human society (Civitas terrena), as a never achievable but always righteous ideal. "City of God" is not to be mistaken for the utopian universal state on Earth. For Dante Alighieri, in contrast to Manent, the City of God is attainable on Earth and can ultimately evolve: "We must now determine what is the end of human society as a whole [...]. [O]bserve that as Nature […] creates for one end the individual, for another the family, for another the village, for still another end the city, for another the kingdom, and finally for an ultimate end, by means of His art which is Nature, the Eternal God brings into being the human race in its totality" (Dante 1559).

40 In Davies' analysis, the potential sources of dissolutions are as follows: "external, internal, voluntary and involuntary factors […] via mechanisms [of] implosion, conquest, merger, liquidation and 'infant mortality'" (Davis 2011: 732-739).

41 "The true [persona] of action is he who can measure most nearly the constraints upon him, who chooses to remain within them and even to take advantage of the weight of the inevitable, exerting his own pressure in the same direction. All efforts against the prevailing tide of history – which is not always obvious – are doomed to failure […]" (Braudel 1967: 445).

42 In the absence of a consensus, modern development programs anchor their rationale in some view of human development. "In 1990 the first Human Development Report introduced a new approach for advancing human wellbeing. Human development […] is about expanding the richness of human life, rather than simply the richness of the economy in which human beings live" UN Human Development Program (s.a.). The index refers to Amartya Sen's

However, the fact that we know of a number of social entities that have successfully preserved themselves over longer periods of time suggests that there exists a *modus vivendi,*[43] a lasting integration of communities. Therefore, we can conclude that some communities are better than others at satisfying the needs and interests of individuals in relative harmony with those of the community, and vice versa. There are ways of life through which individuals can afford a relatively good life in a unity of order which they are prepared to protect, preserve and reproduce. We can further conclude that such entities are bound together by shared norms and values and a shared morality. "Morality demands a care for happiness other than one's own […] Each of us stands at the centre of a series of concentric circles [of other human persons] […] [in a] process [of] *'oikeiósis'*, which means home-making" (Kenny − Kenny 2006: 184−185). A human life is a quest to create an *oikos,* a good life in a unity of order for the individual and for those they care about.

3. WORTHWHILE LIFE, PILLARS AND LAYERS

3.1. Worthwhile Life

The practical goal of the social futuring project is to develop the Social Futuring Index (SFI), a composite measure of social entities consisting of a number of indicators in four pillars. The SFI scores will be interpreted from the perspective of the worthwhile life as a standard. Worthwhileness is chosen as a properly precise

(1999: 3−14) argument that "the ends and means of development require examination and scrutiny for a fuller understanding of the development process; it is simply not adequate to take as our basic objective just the maximization of income or wealth […] economic growth cannot sensibly be treated as an end in itself […] viewing development in terms of expanding substantive freedoms directs attention to the ends that make development important, rather than merely to some of the means that, inter alia, play a prominent part in the process." The Catholic Church calls for "integral development as development of each man and of the whole man" (Pope Paul VI 1967). Integral development requires the integration of various sectors, such as the economy, politics, family life, religion, science, and the arts. Comprehensive philosophical, economic and psychological "considerations […] on the nature of happiness lead [Anthony and Charles Kenny] to believe that overall human well-being has three main constituents, which we will call welfare, contentment, and dignity" (Kenny − Kenny 2006: 8; see also Kenny 2011).

[43] Modus vivendi as a "respectable and responsible arrangement given our common fallibility discerning practical truth" (Haldane 2009: 260). "A neither ideal, nor absolutely unacceptable state of affairs, a bearable earthly imperfection and a relative and deficient practicality, a benevolent state of affairs and happiness" (Johan Huizinga, cited by van der Lem 1993: 152−154).

yet broad enough term that embraces alternative concepts of the good of man (excellence as defined by virtue, duty or utility ethics).

Based upon our intellectual journey, we conclude with reference to four necessary and sufficient features of worthwhileness; namely, attachment, care (material advancement, freedom), peace and security, and contentment. The sequence is not intended to allude to any hierarchy: different philosophical, sociological, biological or psychological considerations can result in other sequences.

3.1.1. Attachment

Attachment is chosen because it is essential for healthy bodily, psychological, intellectual and spiritual human development. Lack of proper attachments in childhood may deprive an individual of the ability to develop meaningful and satisfying interpersonal relationships, affiliations and belongings to social entities in adulthood.[44]

The primary and most formative mode of social existence for human beings is the family (Haldane 2009: 171), the place of rearing, nurturing, education and the reproduction of human beings. It is the family where human persons become conscious of what relationship, dignity, equity, authority and hierarchy are; what is good and bad, just and unjust; what is love and what is generativity (a desire to care for others) (see Erikson 1986 [1950]: 247−274); what is a gift (giving based upon love), and also reciprocity (exchange based on self-interest).

Since the family is the starting point of the human enterprise of *oikeiósis,* we consider the proper functioning of the family to be a fundamental and essential feature of the worthwhile life. In absence of *oikos,* there is nothing to preserve, protect and reproduce.

3.1.2. Care (Material Advancement[45] *and Freedom)*

Human beings require bodily goods as instrumental means of survival. The provisioning and maintenance of material goods must by necessity entail the accepted practices of production, distribution and acquisition, use and disposition of private or public goods; scalable management knowledge; and, therefore, an image of wealth and the nature and value of work. By virtue of differences in human

[44] On the psychological study of and experiments related to attachment, see Cassidy − Shaver (2016); Ainsworth (1982: 3–30); Ainsworth et al. (1978); and Bowlby (1969).

[45] We could have used the term "prosperity" here instead of material advancement. We opted for the latter because prosperity connotes a general well-being rather than intergenerational material advancement. The original meaning of prosperity in Latin (*prosperāre*, based on "pro spere" meaning pro (for) + spēs (hope)), is to succeed, to flourish in general.

needs, abilities and luck, the desirable and possible level of equality (through markets, appropriations, social policies, etc.) is a key concern in the political community on an intra- and intergenerationally just and generative basis.[46]

Human freedom is a unique attribute of human beings based upon their rational nature. As Abraham Lincoln noted: "we never hear of the man who wishes to take the good of being a slave."[47] Freedom is the capacity and ability of self-determination to actualize one's potential and to establish self-worth. It is the basis of one's dignity as a person and a prerequisite to providing and caring for the self and other persons. Freedom is the capacity of a person to control their destiny and contribute to the future of the entities they belong to.

Since material advancement and freedom require a certain predictability, we consider the proper functioning of a judicial system an essential element of a worthwhile life, in the absence of which one cannot provide for oneself and others, and as a consequence can possess no valuables that are worth preserving and reproducing.

3.1.3. Peace and Security

A social entity ceases to exist if security is not provided that enables its reproduction. Without peace and security, men and women cannot raise children, nor provide for themselves or others. Peace and security is the minimum substance of a "unity of order." Without order, the generativity of a social entity is severely hindered since its energy is usurped by efforts to establish it. In the absence of internal and external peace and security, individuals and social entities are incapable of making predictions, and hence unable to set goals or influence their future.

3.1.4. Contentment

Contentment is a state of mind, an attitude towards life, and a prerequisite of generativity. Contentment is about being free of unhealthy and unproductive societal comparisons. Traits such as envy and contempt disintegrate the tissues of social

[46] Debates about necessity, convenience or excessive wealth, and corresponding questions about desirable and possible levels of equality point to the problem of limits in two senses. First, entities, however rich, are still subject to an absolute scarcity of available resources and goods. Second, even the richest entity cannot share its wealth equally with everyone in the world and still have enough for its own members to live on. See also Mueller (2010: 36–37).

[47] It is "so plain that no one, high or low, ever does mistake it, except in a plainly selfish way; for although volume upon volume is written to prove slavery a very good thing, we never hear of the man who wishes to take the good of it, by being a slave himself" (Lincoln 1854).

life, undermine trust, impede creativity, and obstruct the deployment of human capabilities (Schoeck 1987). In the absence of some level of contentment, mere material advancement and freedom in security is inefficient at promoting the reproduction of life beyond the sheer biological urge.

The four features are independent of each other in the sense that they may display, to an extent, different dynamics, and the attainment of one might be sacrificed for another. However, the four features, to an extent, presuppose the existence of each other. The well-balanced attainment of attachments and belongings, material advancement and freedom, peace and security, and contentment is a necessary condition for any entity aspiring for a good life in a unity of order that is worth preserving and reproducing.

3.2. Detecting Worthwhileness, Interpreting the SFI

The SFI is based upon a range of transparent indicators that inform four pillars which capture the critical fields that influence the ability of social entities to set goals, get things done, and preserve their way of life for the future. The pillars are applied to four layers of social entities based upon our concept of personhood as elaborated in Section 1 (see Figure 1).

The pillars are the following:

1. Ecology and Geopolitics. Geographical position; climate; natural resources (water, arable land, energy capture); physical and virtual communication (defense and interconnectedness); characteristics of the political community.

2. Technology. Science and technology-driven changes in the natural and human world; role of work as a formative ingredient of human life; changes in the nature of human activities (e.g. robotization, artificial intelligence, nanotechnology).

3. Socio-Economy. Demographic trends (preservation and reproduction of populations); urbanization; social mobility; economic competitiveness and labor markets; management of human and social capital, education, healthcare, sports, structure of time.

4. Culture and Spiritual Aspects. The image of the human person, way of life and thinking, identity, self-consciousness, psychological structures, mentality, attitudes, ethics, social propensity to trust and cooperation; secular or religious values and norms exposed to the challenges of mass societies and global communication.

The layers of social entities are the following:

1. Fundamental Cells. Family and closely-knit permanent entities by birth or strong commitment; in general, kin.

2. Civic Associations and Organizations. Foundations, charitable and voluntary organizations; voluntary (chosen) entities within which participants consider each other close in some crucial respects.

3. Social and Business Organizations. Business ventures, corporations, trade unions, lobby organizations, multilateral agencies, cities; voluntarily (chosen) entities based predominantly upon exchange and material incentives.

4. Politeia or Body Politic. Tribes, countries, nations, civilizations: entities to which participants adhere and belong to on the basis of a common and unique identity, sets of values, ways of life and thinking that establish the integrity of the community.

The nature of the participation in and belonging to entities varies from layer to layer, based on strength of ties, rights and duties, and material and non-material incentives.

The indicators[48] that inform the pillars will be selected in a way that they meaningfully approximate the constitutive qualities of worthwhileness based on which the SFI scores of social entities will be interpreted. The major challenge for our endeavor is to depict the realistic status of preservation and reproduction of the ways of life under consideration.

Mass movements of people, goods, services and capital in modernity offer new opportunities and risks for any given entity. However, slow developments and changes are often obscured at higher levels of statistical aggregation.[49] In Fernand Braudel's (1963) formulation, "a civilization attains its true persona by rejecting what troubles it in the obscurity of that no man's land which may already be foreign territory. Its history is the centuries-long distillation of a collective personality, caught like any individual between its clear, conscious objective and its obscure, unconscious fate, whose influence on aims and motives is often

[48] In constructing the SFI, besides the publicly available data sources we intend to extensively rely on information that is available through the methods of network science. From a bottom-up perspective, human life is a continuous 24/7 flow of time in a multifaceted lifeworld. Network science provides information on the actual activities and time allocation of human beings that deepens traditional statistics-based knowledge. The 24/7 cycle is a convenient frame in which to measure core activities such as physiological provisioning, socializing (friends and family), working, learning, reading, listening to music, playing sports, playing, contemplating, and idling, or dropping out through modified states of mind (such as alcohol or drugs).

[49] Two mistakes social scientists are prone to commit is averaging data that are qualitatively different and comparing non-comparable units. For example, a recurring error amongst historians, as Pomeranz (2000: 3–10) points out, is comparing the most advanced regions of a civilization with the whole of another and drawing a conclusion with regard to the superiority of the former.

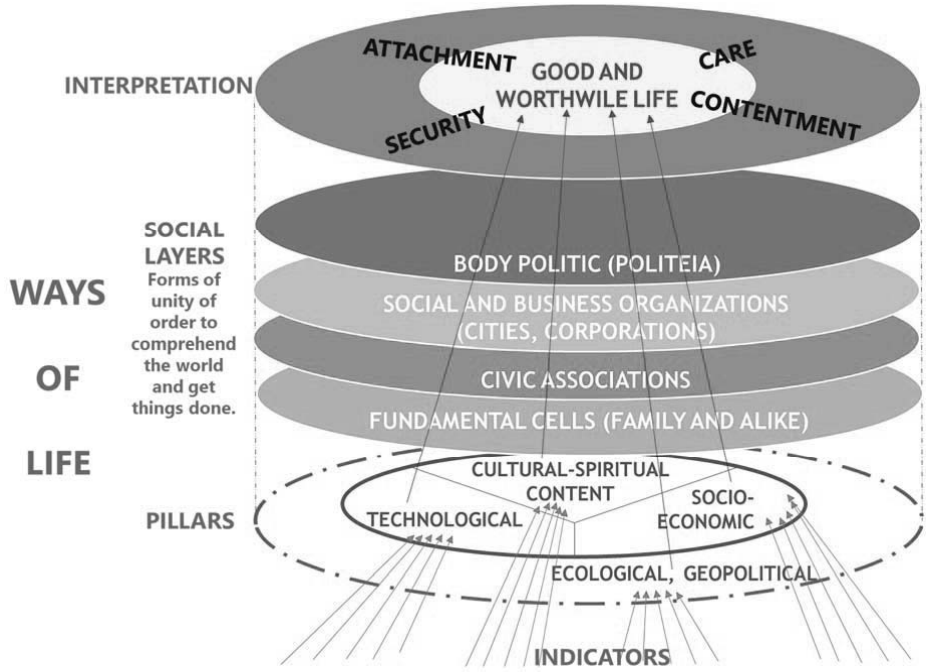

Figure 1. Interpreting ways of life as depicted by the SFI

Source: author.

unobserved" (Braudel 1995: 31−32).[50] The twenty-first century is not different: Thomas Hylland Eriksen (2013: 9−10) highlights the key opportunities and risks; namely, whether "it is possible to be a good Norwegian citizen who is committed to the democratic values of society without sharing the majority's *way of life* in every respect"? Whether or not one "see[s] a possibly irreconcilable conflict between the Muslim faith and Norwegian identity"? Whether "there is a need to expand the conceptualization of what it meant to be Norwegian […] [with] a concern to strengthen social cohesion in the country through common values"?

[50] Braudel clearly differentiated between the true persona of a social entity and a partial assimilation of technical aspects of life: "The history of civilizations […] is [a] continual mutual borrowings over many centuries, despite which each civilization has kept its own original character. […] Even supposing that all the worlds' civilizations sooner or later adopt similar technology, and thereby partly similar ways of life, we shall nevertheless for a long time yet face what are really very different civilizations" (Braudel 1995: 8).

4. CONCLUSION

I hope that this paper has shown the logic of the normative aspects underlying social futuring, defined as a social entity's creative intent to comprehend the world, its ability to get things done, and to control its destiny. I also hope that the paper demonstrates our determination to be as transparent in the interpretation of the SFI as possible via disclosure of our philosophical and (social) scientific underpinning.

We have assumed that the ultimate goal of social entities is to enable a good life in a unity of order that is worth preserving and reproducing. We started with a concept of "personhood" for both human beings and social personae. We reviewed ancient and modern formulations regarding the *summum bonum* and other concepts with regard to the balance between the needs of social entities and their individual members. Focusing on the *oikeiósis* enterprise, we distilled four necessary and sufficient features (attachment, care [material advancement and freedom], security, and contentment) of human life. We suggested that these features provide an appropriate normative basis for measuring the status and evaluating the changes in the state of affairs of a social entity. Finally, we provided an overview of the pillars and social layers as a basis for the development of the SFI.

There are many ways of life. Scholars and lay people alike sense that some entities are better than others at satisfying the needs of individuals and communities. Some entities seem to be better at creating relative harmony between individual ambitions and those of the community, and vice versa. Our aim with the social futuring project and the SFI is to contribute to an informed discussion about where we stand in relation to living worthwhile human lives, and how we can create a home that is worth preserving and reproducing.

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SOCIAL FUTURING – A DISCURSIVE-CONCEPTUAL FRAMEWORK

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"Social futuring" is a neologism that locates a new meaning. The paper aims to frame and interpret this new meaning of/reference to social futuring in comparison to preexisting, conceptually related terms: resilience (optimism), future proofing, and future orientation. These are singled out as key concepts of individual prosperity, the future orientation of society and culture, and strategic planning (especially technological planning). Also, they provide fine examples of the semantic category elements that also appear in the interpretation of social futuring: a) change, and b) attitudes to change, c) vision as a condition, d) entity/agency (individual, social or cultural level, or of an instrumental type), and e) (motivated/strategic) action. Through systematic comparison, the characterizing differences and similarities can be drawn out and exhibited to prove the unique nature and relevance of social futuring in academic and professional discourses.

Keywords: social futuring, meaning, future, skills, resilience, future orientation, future proofing

1. PROLOGUE

> "Probably no society has ever been more concerned with meaning than the one in which we live. Never before have so many people felt such an urge to make sense of the world they live in and of the lives they are leading. They find this sense not so much in themselves as in the discourse, which is the entirety of everything that has been said and written by the members of the discourse community to which they owe their identity. It is communication, this verbal interaction with others, which reassures them about their notions and ideas, and in which they find interpretations they can accept, rework or reject, and in which they can recognise themselves."
>
> *Teubert* (2010: 1)

The term *social futuring* is a neologism that locates a new meaning. It was formulated by researchers of the Social Futuring Center[1] to mean a social entity's capacity, ability and fitness to envision and enact changes and so to prepare itself for the beneficial managment of the future. But where does social futuring integrate its meaning? Partly in social discourses and procedures, partly in common interpretations, and partly in individual mind-sets. Consequently, every new item of language raises the problem of the relation between language and meaning and its discursive aspect. What causes a new term to denote a concept and how does it acquire a meaning? Where does it get its sense from, and why, how, and in what situations do people start to use it?

This paper sets out to compare – through systematic semantic and conceptual analysis – the neologism social futuring with concepts (terms) that already exist in academic and professional discourses with respect to two semantic categories, "ability" and "future." It relates the meaning of social futuring to resilience, future-orientation and future proofing by identifying shared semantic category elements to exhibit the unique, distinguishable reference this new term holds. With differences and similarities exposed, answers to the following questions can also be drawn: (1) What does social futuring refer to (What social cases, phenomena, and behaviors are taken to be part of the term)?; (2) What does social futuring express (How is it conceptualized and defined)?; (3) What is meant by social futuring (inside and between disciplines, and areas of expertise – i.e. contexts and fields of discourse)?

[1] The Social Futuring Center is a multi-disciplinary research unit of Corvinus University of Budapest (CUB). Social futuring is a term and method formulated in 2017 by the Center.

Revealing the conceptual and discursive differences between social futuring and the selected terms, the paper aims to present the characterizing features of the meaning, discourse, and communication of the term social futuring.[2]

In what follows, the paper will briefly highlight first the scholarly paradigms explaining the relation between language and meaning and thus single out the terms and the semantic-conceptual category elements to base systematic comparison on. Then, it shall first respectively and later comprehensively compare social futuring with resilience, future orientation and future proofing. This comparison will be founded by definitions and interpretations of each chosen term. Since the concept of social futuring has already been expressed[3] as being operationalized to formulate the Social Futuring Index, the comparative sections will also include relatable descriptions of measures and indices respectively relevant to the terms addressed.

2. LANGUAGE AND MEANING

The millennium-old literature about the links between language and meaning includes some illuminating insights and fundamental disagreements. This paper, however, is not written to spell out the debates between those views or to take sides. Within this conceptual-discursive framework of social futuring, I limit myself to presenting the three main approaches to the link between language (linguistic expression) and meaning.

According to the first approach, meaning is found in language itself, and the expression (or signifier) transmits the information, so objective realia (i.e. the objective outer world) can be approached and described using conventions. In essence, meaning is a correspondence between symbols (words), events, and things that occur in the world; a relationship of reference. An essential aspect of this objectivist approach is that conceptual systems reflect the structure of the world that is independent from humans. From this perspective, we should take the term social futuring to mean a correspondence with things objectively existing and happening in the world in answer to the question "What does social futuring refer to?"

[2] I am indebted to Zoltán Oszkár Szántó, János Csák, Eszter Monda, Balázs Szepesi, Róbert Gál, Tamás Kocsis, Loránd Ambrus, Judit Sass, and Ágnes Veszelszki, all researchers at the Social Futuring Center and the Institute of Behavioural Science and Communication Theory at Corvinus University of Budapest, for their constructive comments and guidance that helped me finalise this paper.

[3] See www.socialfuturing.com.

Proponents of the cognitive approach (Barsalou 1992; Kövecses – Benczes 2010) state that meaning exists in the human mind and has a conceptual nature, and that our words represent our mind and thinking, the categories[4] and frames that appear in it. This cognitive/experientialist view does not look at language as a special, inborn capacity but as a function of the mind; an operation that represents our conceptualization. Hence, meanings (ideas) matter more than words,

[4] From the cognitive perspective, people place things and events around them in different "meaningful »groups«, i.e. categories. (…) Categorisation is an inborn ability shared by all people, wherever they live and whichever culture they belong to" (Kövecses – Benczes 2010: 25). Cognitive psychology usually considers this as a process involving five steps. The first is to identify the structural characteristics of an entity. The second is to search for categories/concepts that are structurally similar to the entity. The third is to select the category/concept that is most similar to the entity. The fourth is to draw conclusions about the entity. The fifth is to store information about categorisation (Barsalou 1992: 26, cited by Kövecses – Benczes 2010: 26). The process starts by identifying the characteristics that constitute the concept, continues by making a comparison, and ends by drawing a conclusion. In other words, it involves the logical activity of analysis, verification, and creativeness to arrive at a definition. A classical model of this was devised by Aristotle in *Organon* (*Categories, Hermeneutics or On interpretation* / *Categories, De intrepretatione*, 1963), by which entities in the world can be defined by classification as genus and species and by identifying their necessary and sufficient conditions. Categorisation is described in different terms by the prototype model, which offers an explanation for concepts that are harder to comprehend using the classical method. In prototype theory, the members of a category are not linked by characteristics but, to use a term of Wittgenstein's, by "the principle of family resemblance" and they are parts of sets organised around the prototypes (Wittgenstein 1986: 31-32). Simply put, a prototype is what springs to people's minds when thinking of a concept; in fact, it is "the best example." But the concept itself is not the prototype. The properties of the prototype necessarily apply to the characteristic cases of the given concept, but not in all cases. A concept, then, is more than prototypical properties. The additional element is the core of the concept, which includes the critical properties of belonging to the prototype's category. Without core properties, a concept can be similar to the prototype but it will be essentially different (a kind, mature woman with grey hair who loves children is not a 'grandmother' if she has no children who are parents themselves. Likewise, a penguin does not chirp, yet we conceptualize it as a bird) (Armstrong et al. 1983). Psychology, then, essentially connects the cognitive model of classical categorization with the prototype model. The question whether prototypes are abstract mental representations or situative structures created during speech and expressed by language cannot be answered clearly. However, it is certain that research has observed a high number of individual and cultural differences in the prototype-based creation and interpretation of concepts. The third method of categorization may be giving examples, as we can interpret (and express or illustrate) a concept with specific examples or with their mental images. According to classical categorization, the concept of social futuring is a social entity's or agent's ability to benefit from future changes. According to prototype theory, its distinctive features include a social entity that acts, an ability (potential and possibility), and future changes. To categorize by examples, we can use the narratives of organizations, communities and countries, involving the way they previously coped with (in the normative sense) learning and success, and assumed risks.

and we do not (only) communicate words, but also concepts.[5] In this respect, the meaning of social futuring is an adjustment to the existing conceptual categories and frameworks, or the consequence of creating a new conceptual framework. Thus, the relevant question for the cognitive view is "What does social futuring express and what forms and functions of thinking can be used to describe it?"

The third approach looks at meaning from the perspective of human symbolic interaction and the discourse that arises out of it.[6] As its foundation, it considers the use of language as an observable social human behavior that is adopted as an interaction in the given situation and generates meaning for the experiences that we acquire in that situation.[7] The discursive view holds that human experiences can be communicated in words (and representations) provided by social discourses. In other words, there is no human conscience or meaning outside discourse. As Teubert (2010: 7) posits, "meaning is not what happens in our individual, monadic minds; it is something that is constructed within the discourse. Of course, each of us has individually learnt what words mean. But unless we actually use them in our contributions to the discourse, this passive knowledge will leave no traces." Discourse, then, is a social phenomenon, the social use of language in historical, cultural, and social contexts ("language in action").

5 Reflections and research on the link between language and thought have produced a number of basic theses in philosophy and statements about language in the past 2.5 millennia. Max 1968 (1998) gives a highly vivid caricature of two opposing views. Essentially, in one of them thought arises first and is put into words only afterwards. What we think is independent from language expression: language and thought are separable. The relationship is like clothes or dressing up to the body. A body is what it is without clothes, and words give it some character but clothes do not become actual parts. Likewise, thought is not built from language, nor the other way round. This can be called the dress-model. The other view, diametrically opposed to the former, holds that separating thought from language expression is like separating a being from its body, as no idea can exist without expression. Just as musical notes express a melody, language expresses thought. In this approach, thought in words is not dressed but is made and becomes real. Black calls this the melody-model (Black 1968: 67-74). Benjamin Lee Whorf goes as far as speaking about the primacy of language in the division of experiences and attributing meaning to them, with the claim that language is a conventional system which arranges the world and in which our experiences can mean something (Black 1968: 74).

6 Discourse theories and critical discourse analysis have an extensive literature. This summary refers to the works of Foucault (1972; 1982), Halliday (1978), Blommaert (2005).

7 "Symbolization constitutes objects not constituted before, objects which would not exist except for the context of social relationships wherein symbolization occurs. Language does not simply symbolize a situation or object which is already there in advance; it makes possible the existence or the appearance of that situation or object, for it is a part of the mechanism whereby that situation or object is created. [...] Meaning is thus not to be conceived, fundamentally, as a state of consciousness, or as a set of organized relations existing or subsisting mentally outside the field of experience into which they enter; on the contrary it should be conceived objectively, as having its existence entirely within the field itself" (Mead 1934: 78).

Discourse can also be interpreted as a variety of social language (register) that expresses and implements synchronic and diachronic contexts, scenes, structures, roles, situations, and social relations, norms and value systems, of which our meanings (interpretive frameworks) are derived. Discourse looks at language as an entity or process that exists in between, and not inside, people. Following this perspective, then, meaning is not supplied by its relation of reference to objective reality, and is not carried by language or the mind, but is generated in human relationships, interactions, and social participation. Discourse is something through which reality becomes accessible. However, such reality is not independent and objective realia are only a social construction; they are maintained and shaped by discourse. Regarding this approach, the questions about social futuring are "What do we mean by it in a community or scene? What topics, modes of speech, and situations can we relate it to, and why?"

Social futuring, then, may mean a part of reality, a set of abilities for managing and creating the future that exists and for which we have conventionally used this designation. This set of abilities belongs to a social entity and enables it to enact and cope with future changes (in proactive, active, and reactive ways) (Szántó 2018). Also, the term may mean a new framework for our concepts (categories) related to the future and abilities. It may mean a vision, a strategy, a scenario, or foresight (Szántó 2018; Monda 2018), and the related social agency and its ability. Finally, it may signal the introduction of a new lexicon for the future, enabling us to think, talk, and, under certain conditions, decide about a normatively defined future social existence, its agents and areas (Csák 2018; Ábrahám 2018).

In the light of all this, coining a new term involves more than just adding another entry to the dictionary or terminology. This is because it affects the mind, reality, and action, and, as a consequence of their dynamics, the past and the future society (its perspectives and areas; Csák 2018). From a semantic point of view, the term includes the act of signifying, the act of arrangement from a syntactic perspective, the act of action from a pragmatic point of view, and the virtue of participation in the shaping of common affairs from a political point of view.

In the following sections, the terms and at times indexes of *resilience*, including *optimism*, *future orientation*, and *future proofing* will be dwelt upon in relation to social futuring, within the meaning-categories of "ability" and "future," showing the synergies and characteristic differences. These are singled out as key concepts of individual prosperity, the future orientation of society and culture, and strategic planning (especially technological planning): ecological thinking about social existence, to put it more concisely. Also, these three pre-existing terms provide a fine example of the category elements[8] that also appear in the

[8] A comparison of the four concepts is illustrated in Tables 1, 2, and 3.

meaning (interpretation) of social futuring: change and the attitude to change, vision as a condition, entity/agency (individual, social or cultural level or of an instrumental type), and (motivated/strategic) action.

2.1. Ability

Eufrosinia Kersnovskaya spent four years writing her memoirs about the period 1941–1953 in 2,200,000 characters, accompanied by 680 drawings. She wrote three manuscripts in samizdat copies. Her gargantuan work is made even more exceptional by its subject matter – the story of a woman born to a family of gentry, who worked as a farmer in Bessarabia and was later exiled to Siberia as a Gulag convict, then sentenced to death for her escape, later commuted to time in a labor camp; the fate of a person who never asked for or was granted clemency, and was not rehabilitated. Excerpts from the book, filling more than 600 pages in print, were first published in 1990 in *Ogoniok*, then in *The Observer*, but Kersnovskaya never saw the first complete Russian edition (published after 2000) as she died at the age of 86 in 1994. Her book *How Much is a Human Worth?* is nowhere near as famous as *The Gulag Archipelago* by A. I. Solzhenitsyn, holder of the Nobel Prize in Literature, although Kersnovskaya's work was no poorer than that of the renowned Russian author with regard to the length of her conviction. Admittedly, her writing lacks any political character, purpose, or interest. Kersnovskaya's novel is not a description of survival techniques and may not be considered a prison break guide. It is about a fulfilled, morally guided life (Csák 2018; Ábrahám 2018), even if this life had to be spent working in a Siberian sawmill, a prison cell, a mine, and a pathology unit. Kersnovskaya's story is a chronicle of flexibility that describes the future in a value-saturated way and human life in a normative way; a presentation of an ability for which science has a special term: *resilience*.

2.2. Resilience (flexible coping)

In physics, resilience refers to materials or objects and their properties that regain their original shape after they have been bent or forced. In ecology, it means the capacity to resist perturbations, harm, and danger, and to recover rapidly. In people, it refers to "the ability to 'bounce back' after encountering difficulty" (Southwick – Charney 2010: 6) and expresses creative and flexible coping that involves learning and helps people to find their way back to their original or a better state of mind in the face of difficulty (Vaillant 2002). In physics, ecology,

and psychological discourse, then, resilience is used to mean flexible, beneficial adaptation to traumas, stress, and difficulties, which sometimes involves learning and development. The next sections will spell out the main referential, defining, and interpretive characteristics of scientific discourses that use the term resilience.

In the case of an individual or community (Adger 2000), resilience denotes a special type of coping strategy. Coping strategies are the responses of intellectual, emotional, and behavioral components that are efficient at reducing unwanted (e.g. mental or physical) burdens (Synder – Dinoff 1999). This ability may be better in some areas of life and worse in others. An individual may have a hard time coping with work-related trouble and stress but may manage family problems with greater ease, flexibility, and personal benefit. This ability may also change with age, but its development and existence do not only depend on the individual. Healthy adaptation or preparation (as in case of proactive coping, Greenglass et al. 1999) is significantly determined by individual dispositions, social relationships, the processes of socialization, institutional structures, and cultural forms. Tests and indexes that have been developed to measure personal and age-related resilience (the Connor–Davidson Resilience Scale, the Response to Stressful Experiences Scale, the Dispositional Resilience Scale-15, the Resiliency Scale for Children and Adolescents, RSCA Global Scales and Index) use self-reporting or assessments primarily to find out how people cope with the challenges of reactivity, assertiveness, attachment, control and problems, each of them considered a factor in resilience (Prince-Embury 2008; Prince-Embury – Saklofske 2012).

Southwick et al. (2010) interviewed resilient subjects, people like Kersnovskaya who had experienced exceptional and dramatic events in their lives and analyzed their responses to identify the main sub-skills and elements of resilience. They identified ten[9] coping aspects and called them resilience factors. These include realistic optimism, facing fear, moral compass, religion and spirituality, social support, resilient role models, physical fitness, brain fitness, cognitive and emotional flexibility, and meaning and purpose. All of these factors are involved in research into resilience as measurable and testable personality traits, characteristics, and skills (e.g. you can test for the generation and level of noradrenalin or norepinephrine and employ psychological tests such as the Life Orientation Test, Optimism Test, and measurements, such as the Global Assessment Tool-GAT).

[9] Seligman et al. developed the details of the concept of resilience for the US Army – an organisation whose members are usually exposed to a great deal of trauma and stress. Developed to measure resilience, the Global Assessment Tool (GAT) detects fitness in the fields of emotions, family relationships (attachment), social skills, and spirituality (Vie et al. 2016).

Less than two decades ago, in 2000, architecture also started to use the terms resilience. In this discourse, resilience for planning is expressed by the following general basic theses:

- Diverse and reliable systems are more resilient.
- Simple, passive, and flexible systems are more resilient.
- Endurance increases resilience.
- Resilience presupposes interruptions (of continuity) and a dynamic future.
- Resilience can be found in and adopted from nature.
- Locally available, renewable or recycled resources are more resilient.

In sum, a resilient built environment uses local raw materials and work; uses little energy; has a great capacity for future flexibility and adaptability; is characterized by a high degree of endurance and reliability; is responsively planned in environmental terms; is sensitive and responsive to change as a characteristic; and exhibits a high degree of diversity in its components and characteristics (Applegath et al. 2010; Rich 2014; cf. Kocsis 2018).

2.3. Optimism

The property and conceptual category of *optimism* is a key component of the ability to be resilient. It is used to mean a future-oriented attitude that includes the individual's hope and confidence that events that will happen will be advantageous for them. Such an attitude may be a non-situational, stable personal trait (dispositional optimism) that usually characterizes individual views about the future, but it may be situational (situational optimism), which becomes manifest in certain situations but not in others.[10]

The intimate link between resilience and optimism is primarily reflected in the way people think about the causes of things (events) that affect them, and as they explain the "whys." Seligman (1995; 2006) calls this way of thinking the "explanatory style" (cf. Dweck 2016) and contends that it develops as early as childhood and does not change even in adulthood without intervention. Depending on its type, attributive thinking may make the individual active or passive with respect to a future event. This claim has also been confirmed by experiments involving learned helplessness. The original test involved three groups. One was exposed to a significant noise burden that members were unable to stop and that ceased by itself whatever members did. The other group was able to eliminate the

[10] Interview surveys (Southwick et al. 2010) show that either of these two types may be sufficient and efficient for building resilience.

noise by pressing a button four times. The third group had no such acoustic effect. In the second stage of the test, all three groups had a chance to control the noise using a device – they only had to do something about it. The findings showed that the group that previously had been able to control the noise and the one that was not exposed to such effects learnt (again) how to eliminate the noise. The group that had found it could not control its situation by any means the first time voluntarily adopted a passive attitude and tolerated the noise (Seligman 1967; Hiroto 1974).

Learned helplessness is a response of giving up based on the experiences of an individual or a community: a behavioral reaction derived from the conviction, developed by learning or experiencing that whatever an individual does, it may not influence their situation or the outcome of the events. Of course, the arguments a person uses to justify that her action is pointless make the difference. Rotter (1966) suggests there are two such types of human thinking: in one, the individual thinks their own actions will lead to the outcome of a situation (internal control); in the other, individuals attribute outcomes to external factors, thinking that these do not depend on them, but rather on luck, accident, or fate (external control). In experiments with learned helplessness, the latter variant was shown to be activated by the giving up demonstrated in a test situation (subjects that had previously been unable to eliminate a disturbing noise in any way did not even try to in a subsequent situation). Scholars found something similar in tests involving verbal predictions about success in the performance of skill-related tasks (Klein – Seligman 1976). In such cases, helpless subjects hardly changed their expectations as they attributed success to external circumstances even in tasks in which they could have used their abilities. They thought that even cases that could have been solved with the application of their abilities were a matter of chance, and maintained this idea despite the fact that in post-test questionnaires they gave similar answers to non-helpless subjects about the significance of individual abilities and actions in a skill-related task (Abramson et al. 1978).

When explaining something bad or good that happens to them, people usually express their ideas in three dimensions: permanence, pervasiveness, and personalization.[11] Permanence is a time-related factor: the extent to which a person con-

[11] Tests undertaken by Carl Dweck (2016) with schoolgirls and boys revealed that, in addition to the narrative mode of attribution, teachers' praise and qualifying communication play a key role in shaping adaptive (growth) and non-adaptive (fixed) mind-sets. After a failure, girls said they were "not good at" the task while boys said they "weren't listening" or "didn't care about" the task. The former attitude fixes the mind-set and considers the mistake the individual's failure, thereby reducing willingness to act or change. The latter approach is just the opposite. Dweck's tests showed that the difference lies, among other factors, in the reasoning behind the teacher's praise or reprimands transmitted in school communication. Girls

siders an event as permanent. If they consider a bad state or event as permanent, they will more readily stop taking action against/for it. Scholars look at people's statements and communication and what permanence they conceptually refer to as a starting point. The statement "Hungary's population is diminishing" expresses permanence and, indeed, some sense of unstoppable continuity, whereas the statement "Hungary's population will decrease unless we do something about it" refers to a current, changeable, and ultimately temporary situation. In the first case, the sense of permanence considerably reduces individual (community) motivation to do something about it right now or in the future. When it comes to good events, permanence has the opposite effect. In such cases a general statement encourages optimism and the ability to act in accordance "We were lucky today" is a less optimistic statement than "We're usually lucky."

The other dimension is pervasiveness, the spatial property. If we look at a bad event as a universal case that applies to everything (all elements of the subject matter concerned), our willingness to look for a solution will be considerably reduced. By contrast, if we specify its place, we may be more willing to find a solution. "The internet is harmful" is a universal statement, whereas "The internet contains both harmful and useful sites" is a specific statement that does not increase helplessness, as opposed to the previous one. In the case of events perceived as good, any expressions of optimism must again be interpreted the other way round. If the statement universally validates a positive thing, it expresses a higher degree of motivation. For instance, from the statements "I'm good at mathematics" and "I'm a good learner" the second is more optimistic.

The third dimension is personalization, which means a person's agency, control, or lack of control. Considering something bad as the consequence of external events and considering something good as the outcome of our own acts can express an optimistic style. The reverse of this may indicate pessimism or helplessness, as in "I haven't studied enough" vs. "No one cared about my education," cf. "I only studied well because of my teachers" vs. "I was always good at studying" (Seligman 2006).

While optimism usually promotes willingness to act and a search for solutions, no one can behave resiliently without actually recognizing the truth of a situation and rationally identifying negative factors in the face of a specific problem. Therefore, scholars (Schneider 2001; Reivich-Shatte 2003; Southwick –

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are often assessed using statements such as "You're not really good at math," and boys with statements like "Why weren't you listening when you had to count?" This communicative and socialisation effect/problem may be especially significant in education for jobs that require IT skills in the fourth industrial revolution, and in the support of social clusters and groups that are considered to be particularly exposed to the loss of certain jobs.

Charney 2010) emphasize the importance of realistic optimism. Realistic optimists also take into consideration any negative information that is relevant to problem solving and do not focus on maintaining good feelings, often biased and unsupported by reality checks, which optimism supports. In terms of resilience, then, realism and optimism cannot be contradictory concepts, especially in terms of economic and political institutions and agencies.

So far, this presentation of realistic or resilient optimism has focused on the individual. However, in addition to ecological, physical, and psychological discourses, optimism indicators and indexes have also appeared in business, economic planning, and strategic decision-making. These also lay great emphasis on making comparisons between perspectives and expectations with actual situations. Business optimism indexes convert to figures the responses and data of companies about economic performance and related expectations and perspectives, including expectations about sales, profit, number of staff and orders, general economic perspectives, actual revenues, planned capital investment, expected credit conditions, and human resource hiring plans.[12] Clearly, these indexes do not (or only barely) apply to psychological research findings and do not measure/indicate pervasiveness, permanence, or external-internal control. However, they rely on foresight to express the optimism of business actors. In other words, optimism also expresses the future orientation of resilience.

2.4. Definitions of measureS and indICES of resilience

The Child and Youth Resilience Measure (CYRM/ARM)[13] considers resilience – a socio-ecological construction – as:

[12] A few examples: Dun and Bradstreet's Index of Business Optimism measures optimism among Indian business professionals. Conducted on a quarterly basis since 2002, this survey explores the expectations of companies and enterprises in terms of growth. The measurement and index provide a picture and short-term forecast of the performance of the Indian economy and seek to offer guidance about the turning points in India's economy. The US Small Enterprise Composite Optimism Index is constructed by the National Federation of Independent Business (NFIB) with monthly surveys to find out about the status of small enterprises. The IBD/TIPP (Investor's Business Daily – TechnoMetrica Market Intelligence) Economic Optimism Index is a monthly poll that rates the relative economic conditions in the US, and is comprised of three sub-indexes: a six-month economic outlook, a personal financial outlook, and confidence in federal economic policies and procedures.

[13] Developed within Canada's International Resilience Project to evaluate child and youth resilience, the Child and Youth Resilience Measure aims to assess resources that may serve to strengthen the capacity for resilience. The most important pillar of resilience measurement is the type and promotion of attachment.

a) the individual's ability to gain access to the psychological, social, and cultural resources that support their own welfare,
b) the capacity of the individual's social system to provide such resources, and
c) the ability of individuals, their families and communities to distribute such resources in culturally meaningful ways[14].

By contrast, certain indexes of resilience in business enterprises and urban development define resilience as:

- improvements in ability to minimize exposure to disasters and changes that disrupt processes, and to manage these in a beneficial way,[15] and
- the ability of individuals, communities, organizations, companies or systems to survive, adapt and progress (in the face of enduring or temporary difficulties of tensions).[16]

2.5. Discussion: resilience and social futuring

The meaning of resilience as reflected by the above definitions and discourses is linked to social futuring in multiple ways. Both refer to an acting entity and express its capacity, potential, and character with respect to changes. Both present agency from the point of view of change. Just as a resilient subject copes with future states and events, social futuring also describes a social entity's future-oriented activity and management of change. However, the two concepts differ in that resilience most typically sees change as a disruption of some predictable continuity and not primarily as a future event. Another difference is that it

[14] Resilience is defined as: (1) The capacity of individuals to navigate their way to resources that sustain well-being; (2) The capacity of individuals' physical and social ecologies to provide those resources; and, (3) The capacity of individuals, their families and their communities to negotiate culturally meaningful ways to share resources (Ungar 2016: 3).

[15] Accordingly, the FM Global Resilience Index shows and measures the level of ability to cope with natural, technological, and cultural disasters in a beneficial way, and the level of stability. Published annually at a national level (130 countries) as the equally weighted composite of 12 drivers since 2017, this index covers the categories of economy, risk quality, and supply chains, and monitors production, political risk level, oil intensity, urbanization risks, natural hazards/damage exposure, type of natural risks, type of fire hazard, inherent cyber risk, corruption monitoring, infrastructure quality, local supply quality, and supply chain transparency (FM Global 2018).

[16] Developed by Arup with sponsorship from the Rockefeller Institute, the City Resilience Index went through a pilot stage starting in 2016 in five cities. The index contains 52 indicators obtained from the evaluation of responses to 156 questions (Rockefeller Foundation 2013).

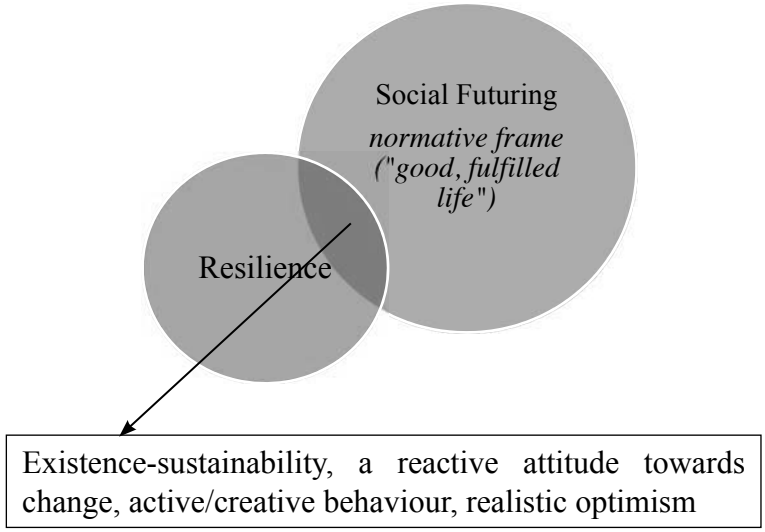

Figure 1. Conceptual-discursive intersections 1

Source: author

usually sees change as a negative event: a type of shock or stress in discourses that must be tolerated and must or may be coped with advantageously. Social futuring interprets change as an opportunity (risk) within a complex normative framework. A further difference is that social futuring always relates capacity to a social entity and not to the individual. While resilience addresses both the personal and the social level (Adger 2000). In addition, there is a difference in that the general concept of resilience does not involve the ability to create the future and to adopt a future vision, whereas this constitutes a proactive type in social futuring (Szántó 2018). Finally, making sure that the agent/entity will survive is a dominant objective in the concept of resilience but without defining any further normative framework for such survival. The concept of social futuring derives the values of coping and adaptation, a new discursive dimension, precisely due to its normative framework. The most important differences and similarities in the conceptual-discursive elements are summarized in Figure 1. A comparison of category elements is presented in Table 1.

Individual, business, and global resilience indexes considerably differ from the Social Futuring Index (yet to be released) in terms of dimensions and categories of measurement. First, the latter is not aimed at evaluating global values as it seeks to indicate the given social entity's ability. Second, its (ecological-geopolitical, technological, socioeconomic, and cultural-spiritual) measurement pillars merge the dimensions of resilience indexes and make them multiple layered. Third, with

Table 1. Comparison of category elements 1*

	Concept of change			Attitude to change			Vision as a condition	Entity/ agency				Action	
	Disruption, risk	Process	Opportunity	Reactive	Active	Proactive		Individual	Social	Cultural	Instrumental	Motivated	Strategic
Social futuring		X	X	X	X	X	X		X	X	X	X	X
Resilience	X			X	X			X	X			X	

Source: author

* I am indebted to Eszter Monda for proposing the summarizing table and for creating the first draft table.

its normative approach to the good future and good life, the Social Futuring Index breaks away from mainstream economic and political discourses (dominated by the concepts of risk assessment and competitiveness, among others) and creates its own framework, a new discourse for describing the social potential that is about, and shapes, the future.

Accordingly, resilience can also be viewed as an important concept associated with social futuring, proactive, active and reactive social futuring (Szántó 2018). However, conceptually, it is not a synonym of the latter and cannot replace it discourse-wise.

2.6. Future

"What if perception is less about the registration of what is present than about generating a reliable hallucination of what to expect? What if memory is not a file drawer of photographs, but a changing collection of possibilities? (…)What if happiness is not the report of a current state, but the prediction of how things are going to go? What if morality is not evaluation of the present action, but the prediction of character and its thrust into the future?" (Seligman et al. 2016: x). These questions were asked in the introduction to a book published in 2016. Seligman et al.'s *Homo Prospectus*[17] is an important sign of the construction of

[17] A 'homo prospectus' is necessarily 'socialis,' too. As Seligman et al. (2016: 7) put it, a distinctive feature of homo sapiens is the ability to combine unique far-sighted behavior with the also-unique ability to live and learn together with others.

a new psychological, evolutionary, and social narrative. This narrative seeks to identify the relationship between humans and the future. The way this scientific work that integrates cognitive, clinical, evolutionary, and philosophical considerations was born and accepted shows that there is something in the "academic air." In the intellectual ambitions and scientific approaches of the last decade, humans living in and oriented to the future have increasingly appeared, no longer as fiction but in the scope and contexts of empirical phenomena.[18] Indeed, some studies have described a cultural behavior that forgets about the past and is open to accepting novelties from much earlier. It is no exaggeration to say that we are witnessing a change in an interpretive and discursive framework;[19] a shift that is extending the dimensions of individual and social life for science, and places its perspectives in the future.[20]

[18] Michel et al. (2011) used the method of culturomics (i.e. computational lexicology), to analyze a digitized corpus containing 4 percent of all books printed in English between 1800 and 2000. Culturomics aims to explore cultural phenomena and changes (vocabulary, use of terminology, cultural memory, etc.) as reflected in language and its use in a quantitative analysis of cultural trends. Regarding attitudes to the past, the researchers found that the texts were less and less about the past as historical time progressed. The past went out of fashion as the data lines reflected an increasing rate of oblivion. Moreover, the texts were increasingly focused on the present, while analysis of the periods 1840–1880 and 1880–1920 showed that the time it took for novelties to be accepted halved as the new more rapidly became a part of culture.

[19] Frames select and highlight some elements of perceived reality to make them dominant in a communicative situation. Frames may define problems, identify (name) causes, express moral judgements, and offer certain solutions. They determine the convictions, perceptions, and thinking of communicators (Entman 1993: 52–53).

[20] Of course, this approach is not completely new either. One characteristic of religious and spiritual discourses is their use of descriptions of the relationship between the present and the future to guide people. The principles underlying the regulations of monastic orders – the first treaties of management theory – essentially aimed at steering adherents to an (eternal) future in harmony with the teachings of the Christian Church and religion. Among the typical problems encountered at the monastery, the Rule of Saint Benedict emphasizes the sins of sloth and procrastination, considered cardinal sins, and the need for wisdom capable of comparing the present with what is desired for the future, including the need to be: 1. wise and considerate (a wise man is one who sees things according to their reality and with accuracy) 2. mature and sober, 3. modest, 4. humble (and hence enterprising, as the biggest enemy of enterprises is pride), 5. non-irascible, 6. just (not violent, humiliating, abusive of power), 7. flexible (not slothful, procrastinating, cumbersome, hesitant), 8. not lavish, 9. fearful of God, and 10. fatherly (Grün 2004).

2.7. Future orientation

Studies about individual approaches to the future use multiple terms, including future time orientation, future time perspective, and possible selves.[21] Future orientation primarily expresses such components of the attitude to the future as time extension (the time horizon in which the individual thinks in advance), the continuity between past, present, and future, and attitudes to the future (for definitions, see Monda 2018).

The concept of the future is based on culturally determined attitudes to time. In western cultures, this is quantitative and linear. To comprehend time, we create and use language units and concepts (minutes, hours, days, and weeks). These convert time to quantitative units, something that is measurable and calculable, and make its passage linear. Linearity arranges dimensions of time, comprehending and conceptualizing temporality as a continuum. From this perspective, the future is determined by the past and the present. In contrast, non-western mentalities do not break down time into abstract units and thus come closer to living with natural time through a more qualitative approach. The latter concept of time is cyclical and reflects the life of nature. In this view, the focus is always on the present and, in fact, the future does not necessarily mean the new but the recurring (Passig 2004). According to Ben Baruch (2000, cf. Passig 2004), in today's technological societies these two conceptions of time are complemented by a third one, socio-cultural time, with performance as its category of interpretation. The individual conceptualizes the future in terms of some performance that they must complete and achieve. The desire for this results in future orientation, our relationship with the future. This interpretation of time includes the imagination of the future as something that is not brought about by the passage of moments but by the achievement of our goals. From this perspective, the past and the future depend on behaviors in the present, and the future penetrates into the present through acts, decisions, and discourses, and vision is a dynamic idea shaped by awareness of the present.[22]

According to Nurmi (1989), future orientation is a multidimensional process of motivation, planning, and evaluation. In this framework of definition, motivation means the individual's interest; planning means the way in which future

[21] Markus and Nurius (1986) introduced the concept of future egos; i.e. the ideal 'I' that an individual wants to become, will become, and does not want to become in the future; in short, the positive and negative ideas of the future ego.

[22] Cf. the presencing model of organisational management, based on the work of Senge et al. (2005) and Otto Scharmer (2009).

goals are achieved; and evaluation means the extent to which a goal that has been set by the individual is achieved.

In his definition of eight dimensions, Trommsdorff (1983) explains future orientation through referring to 1) the expansion of vision, 2) its details, 3) its conception, 4) motivation, 5) the area (of life) to which the vision relates, 6) emotional attitudes, 7) the control that the individual thinks they possess, and 7) the process of events. Future orientation, then, *refers to* the attitude and faculty of humans (and culture) regarding the future, *expresses* the mindset and way of action through which the conception of the future appears, and *is used to mean* such culturally and individually determined complex behaviors which determine culture and the individual, and in which we can suppose a future orientation.

The authors stress that the ability to imagine the future, progressing towards the future, and the arrangement of future possibilities (the intuitive, affective, and informational behavior that looks at the future) are distinctive features of humans.

However, as has been mentioned, thinking about the future and future orientation depend on factors external to the individual mind, including culture, social norms, and socialization. Their development receives a major boost from safe attachment, positive self-image, education and teaching, the communication that takes place in all of these, and the discourses that shape reality and express and frame experiences. Also, it is intimately linked to motivation, the skill of goal setting, and satisfaction (Seginer 2009; Dweck et al. 2014). In addition, scholars have sought to identify other specific factors. Chen (2013) looked at how spoken language and its expressions of time affect speakers' future-oriented economic behavior. His starting point was the fact that languages that refer to time dimensions using separate grammatical forms locate the future farther from their users and detach it from the present. In languages where there is no such marked grammatical separation, speakers can perceive and express a much closer and more active link between the present and the future. Chen's findings proved that this is in fact the case, as speakers of languages with obligatory tense markings adopt future-oriented behavior (e.g. in terms of saving, smoking, and health preservation) less often. However, it would be wrong to suppose a direct causal relation between linguistic structures and future orientation. It is more likely that language also reflects its users' ideas, mindsets, ways of life, and future orientation. Moreover, it is also vital to notice the importance of linguistic expression in thinking about the future. Petutschnig (2015) explored a different link: that between the tax system and attitudes to the future. His initial proposal was that taxation may affect individuals' lives and thinking about the future. In his study, he collected data from 58 countries using Google, converted this into the Future

Orientation Index, and used it to make a comparison between tax systems. He concluded that profit tax, value added tax, and a high-rate personal income tax on low income discourages future-oriented behavior, whereas it may encourage it in the top tax brackets.

2.8. Future Orientation Index

The Future Orientation Index (Preis et al. 2012) explores future orientation using trends in information seeking by looking at Google searches for specific years written in Arabic numbers. The FOI expresses the extent to which internet users worldwide (by country) in a given year are more interested in information available from upcoming than previous years. Specifically, the 2010 FOI is based on a comparison between searches regarding the years 2011 and 2009. The FOI values can be compared with the given country's GDP, among other things. So far, the measurements have revealed a clear correlation between the two: the bigger the GDP per capita, the greater the willingness to look into the future. What may explain this, in addition to the natural connection between welfare and trust in the future, is that a future orientation may also make the economy more successful. Another explanation is that the type of searches and internet infrastructure may be determined by a country's economic situation. What is special about the FOI is that it is methodologically unfit for cultures that are culturally bound in terms of language and numeration and that are outside the digital divide.

2.9. Discussion: Future orientation and social futuring

The meaning and professional/scientific discourse of the two concepts share the approach to the future as an essential category. However, this rather involves an attitude, a way of action or planning in the case of future orientation, whereas social futuring is more about strategic action. Likewise, it is a common feature that a condition of future orientation is vision, the imagination of the future (its existence or lack thereof), and the conception of change as a process. Future orientation looks at the individual as a culturally embedded entity, whereas social futuring looks at the individual only as a social entity/agent, which is a partly similar approach (supposing a broader context) and partly different (the existence of the individual level). A possible difference between the two concepts and their use is that future orientation usually comprehends the future as a perspective in time, whereas social futuring comprehends it as a way of coping with changes.

Also, with respect to the future, social futuring uses its normative frameworks to define a good life, identified by future orientation research as a condition of attitude. The conceptual-discursive intersections are shown in Figure 2. Category elements are presented in Table 2.

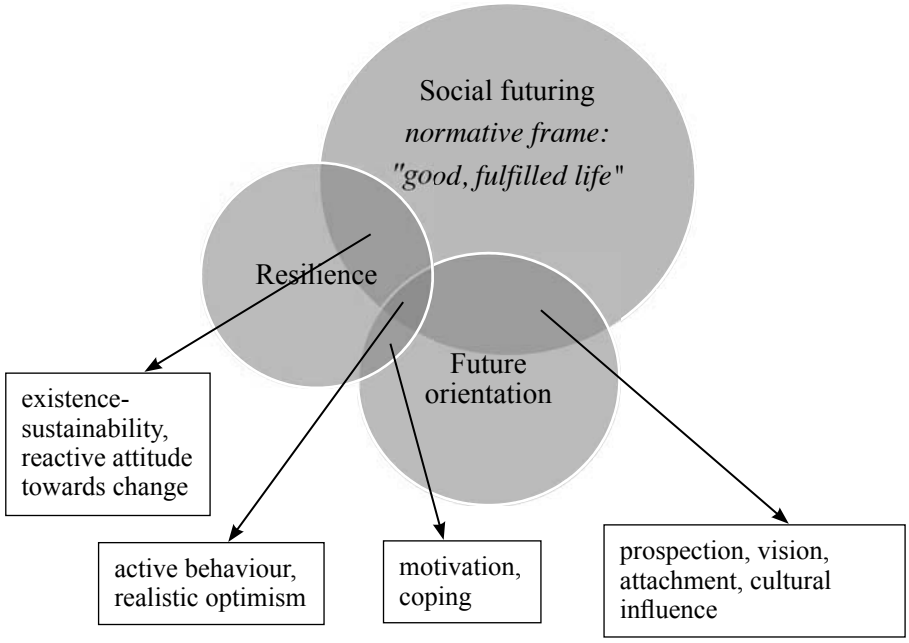

Figure 2. Conceptual-discursive intersections 2

Source: author

Table 2. Comparison of category elements 2

	Conception of change			Attitude to change			Vision as a condition	Entity/agency				Action	
	Disruption, risk	Process	Opportunity	Reactive	Active	Pro-active		Individual	Social	Cultural	Instrumental	Motivated	Strategic
Social futuring		X	X	X	X	X	X		X	X	X	X	X
Resilience	X			X	X			X	X		X	X	
Future orientation		X			X	X	X	X		X		X	X

Source: author

2.10. Future Proofing: Investing in the future

In 1504, Piero Soderini, a member of Signoria, the government of Florence, commissioned two of the greatest artists to paint frescos on opposite wooden walls in the Council's chamber (Salone dei Cinquecento) of the Palazzo Vecchio. One artist was Leonardo da Vinci, and the other Michelangelo Buonarroti, hired to depict the Battle of Anghiari and the Battle of Cascina, respectively. Michelangelo finished his sketches but never started to paint his fresco as he soon left again for Rome to work on a commission by the Pope.

In contrast, Leonardo considered his fresco his life's masterpiece, and when he learnt about the defects of the technique he used for painting *The Last Supper* that became visible within a few years, he decided to experiment again. Specifically, he opted for encaustic (wax) painting, as used in the Greco-Latin classical period, because it preserved colors better, while da Vinci wanted to make the dynamic scenes magnificently vivid and colorful. He worked a lot with cartoon while experimenting by mixing wax into his pigments as a replacement for tempera in minor paintings. However, in the Old Palace, oil and wax did not dry fast enough; even his oil flowed off, and the wall's surface was too big. This prompted da Vinci to speed up the drying process. He made a big fire in the tall chamber of more than seven meters in height, hoping that the 30-degree heat at floor level would dry the picture and bind the colors. However, what was 30 degrees on the floor was much hotter several meters above this. *The Battle of Anghiari* simply melted off the wall and Leonardo da Vinci left his project unfinished. Admittedly, as Giorgio Vasari wrote in reference to critics, "It is clear that Leonardo, through his comprehension of art, began many things and never finished one of them" (Vasari [1550] 1912–1914: 92). Was this outcome a deficiency of encaustic painting, or was Leonardo too bold? Was this technique, first used centuries before, really suitable for fulfilling an order in the sixteenth century? The wax technique has been used ever since, and its tools are sold to present-day artists in hobby stores. Is its endurance due to its flexibility of use?

Of course, *future proofing* is not a Renaissance term, and is not even primarily associated with painting techniques. In addition, it does not mainly refer to endurance but to a kind of preservation that is capable of flexibly managing new circumstances, to the reduction of future obsolescence, and to the preservation of investments in the long run. In the case of *The Battle of Anghiari,* the encaustic technique did not become future proof within this conceptual framework. While the established technique has survived until today, it is scarcely considered capable of being improved.

The term future proofing first emerged in the electronics industry at the end of the last century within the context of data storage and computer electronic plan-

ning. In this sector, the primary use of future proofing is to support technology's spread, endurance, and safety through use of flexible systems (Barreneche 1995; Rich 2014).

In the early 2000s, architecture adopted the term and used it in reference to a new approach to the planning and preservation of built environments as a synonym of sustainable planning. In the professional discourse of architecture, future proofing is used to mean the strategic procedure of looking into the future and developing methods to minimize the negative effects of the future and to benefit from the positive effects of sudden and unexpected changes (Rich 2014: 32). While future proofing primarily expresses protection, resistance to the negative effects of the future, and typically a kind of successful preservation over time, the term includes the notion of adaptation to change.

Rich describes 12 principles of future proofing encapsulated in advice about procedures for historic buildings. The following list contains those that are most relevant to social futuring:

- Prevent decay: There is a need to use materials that resist rather than generate decay, and to prevent the mixed use of enduring and less enduring materials.
- Promote understanding: There is a need to make people understand the role that built environments play in cultural heritage and to signal them with fine interventions that distinguish the original from the new.
- Encourage flexibility and applicability: These two characteristics are equally important in built environments and the related attitudes as they serve to help built environments survive in consumer culture over a longer time.
- Extend time of use: Regular maintenance work can help to keep built environments a part of sustainable society, economy, and culture.
- Reinforce: There is a need to protect buildings from the effects of climate change, extreme weather, natural risks, and energy scarcity.
- Increase endurance and reliability: Rebuilding must use materials that are as enduring or reliable as, or even more enduring and reliable than, those used for the original project.
- Reduce obsolescence: Planned obsolescence is unacceptable. There is a need for proactive steps to prevent physical, functional, and aesthetic obsolescence.
- Understand the benefits of preservation: It is worth considering the long-term benefits of a decision to intervene rather than demolish.
- Local and healthy: There is a need to use materials that are locally available, renewable, non-toxic, and can be used in the future.
- Diversify: An ecologically resilient system is one that prevents any of its features from becoming dominated and preserves its diversity. It can have

multiple abilities and uses, and it can become an organic part of the human ecosystem.
- Plan in advance: There is a need to aim at the optimum use of materials and timing in construction to prevent further interventions.

In the terminology of technology management, future proofing is used to mean far-sighted planning for minimizing the risk of technological investments. The point of future proofing is that investors should prevent the creation of new technologies that are unfit for improvement, but promote the creation of flexible open-ended systems that adapt to changing needs. The economic consideration underlying future proofing is based on the fact that the replacement of obsolete technologies may lead to painfully expensive and unprofitable technological redundancies, as may sudden adaptation to rapid change also lead to expensive technological redundancies. Future proofing is, then, the logic of informed strategic formulation and development based on well-grounded foresight.

In the case of organizations, future proofing refers to a given future-oriented way of promoting common thinking. Its use in the given organization is to appropriately interpret business and economic changes and future scenarios, and to develop the most efficient responses to them.

Scenarios are not forecasts or statements that may be derived from trends rooted in the past. They are more like various and often highly different "future stories" that prepare the organization for sudden trend disruptions and unexpected changes. Scenarios can help create a kind of non-determined, future-oriented common imagination, narrative and discourse, by which organizations can change their mental models and thinking schemes. Organizations use scenarios to express their fears and goals (desires) for the future but also their attitudes to their respective competences and their value propositions.

Foresight is, in essence, the identification of long-term trends in a specialty area that enables stakeholders to start strategic research in their respective areas. Foresight does not determine what will be/happen in the future but outlines possibilities and charts routes for the former.

The key element of future proofing in technological development is road mapping; i.e., a process which shows the most probable way, goals, and temporal aspects of technological development. It can also work as a common reference and discursive framework for various industries (cf. discourses about the complex changes of the fourth industrial revolution), giving a context of interpretation to the operative and strategic steps of organizations (Birchall – Tovstiga 2002).

Future-proofing may also refer to states, embedded in discourses about the duties of the state and governments, their management styles, ways of decision-making, and responsibility in relation to topics such as demography, environment

(protection), economy, technology, and cultural conflicts. From this perspective, future proofing may mean an awareness/approach that helps to build resilience. This may enable the state as a social agent to cope with any future change. Moreover, the term may mean a type of management based on this attitude by which risks (opportunities) can be managed efficiently and advantageously (Boston et al. 2014).

The broader professional scientific use of the term future proofing gives prominence to the semantic component "preservation." This preservation perceives the need for, or process of, renewal, and considers that the existence of a particular subsystem, principle, or phenomenon will remain important in the future. In this regard, the term invariably implies the influence and involvement of new (digital, network, connected[23]) technologies. Specifically, future proofing in education identifies the transformative effect of new technologies and methods of preparing for the future (Rowan – Bigum 2012). In the news industry, it looks at the new platforms of preserving and spreading news. The latter type seeks to find out what these platforms can preserve for the future; i.e., how much we will be able to learn about present-day events (the "first draft" of history, as the authors term it) from preserved news (Hansen – Paul 2017).

2.11. Discussion: future proofing and social futuring

Future proofing does not only differ from social futuring in its name. The difference between these concepts lies in two features that are much more essential. One is the technological and business context of future proofing and the much broader socio-cultural context of social futuring. While the former may be defined as a way of thinking or organizational procedure that attempts to prevent obsolescence (investment) damage as a result of inflexibilities and obsolescence, the latter may be defined as a pattern of capacities and abilities that serve the good life and prosperity of societies (Csák 2018) and its conditions (Szántó 2018). However, both concepts are of a strategic nature. The other difference is the value proposition. In future proofing, this is the result of a competitor analysis, in ad-

[23] "But what if we are already connecting all the continents together today? What will our planet look like once we have built seamless transportation, energy, and communications infrastructures among all the world's people and resources—when there is no geography that is not connected? A better term for it might be 'Connectography'" (Khanna 2016: 12). "If humankind is indeed a single data-processing system, what is its output? Dataists would say that its output will be the creation of a new and even more efficient data-processing system, called the Internet-of-All-Things. Once this mission is accomplished, Homo sapiens will vanish" (Harari 2017).

dition to the examination of the organization's vision, mission, and competences. Thus, this means creating, not setting values. In contrast, social futuring defines individual and social life on a normative basis so it derives its value proposition from stating these and outlining the possibilities for preserving them, not from comparison or competition with other values.

The further conceptual discursive intersections and comparisons of all four concepts are set out in Figure 3 and Table 3.

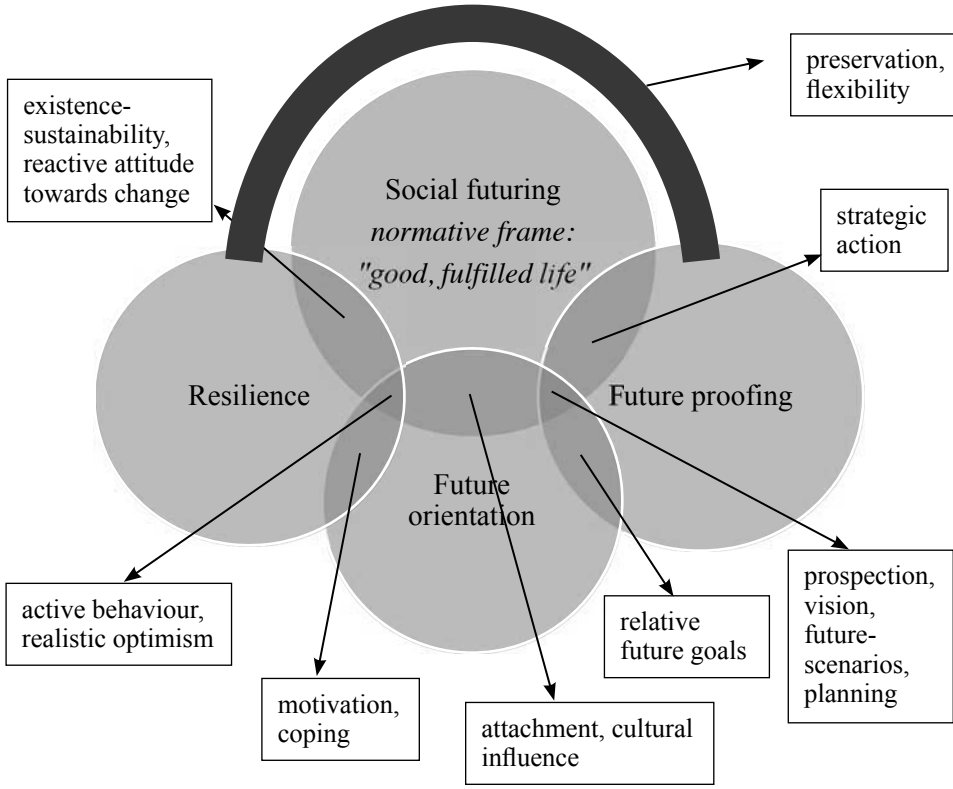

Figure 3. Conceptual-discursive intersections 3

Source: author

Table 3. Comparison of category elements 3

	Conception of change			Attitude to change			Vision as a condition	Entity/agency				Action	
	Disruption, risk	Process	Opportunity	Reactive	Active	Pro-active		Individual	Social	Cultural	Instrumental	Motivated	Strategic
Social futuring		X	X	X	X	X	X		X	X	X	X	X
Resilience	X			X	X			X	X			X	
Future orientation		X			X	X	X	X		X		X	X
Future proofing	X	X			X	X	X			X			X

Source: author

3. EPILOGUE

The term social futuring expresses a new concept, establishes a new meaning, and may launch new discourses. Its coinage requires that its necessity be justified; an analysis that may assign its place and job. As a new concept, social futuring may also be a competing or complementary term; an overarching or specifying framework for the existing elements of scientific and professional discourses. Accordingly, this paper has examined three preexistent constructs/terms to refine and distinguish elements of the definition and measurement of social futuring. Introducing the unique meaning, novel perspectives, characteristic traits, and discursive capacity of social futuring both as a reference to reality (social entity, future change), as a term (an ability and capacity in the conceptual sense of the word, which identifies, evaluates, and prepares for types of future changes in various dimensions), and as an interpretive framework (the prosperity and good life of individuals and societies) this paper was intended to be a humble contribution to further discussions.

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SOCIAL FUTURING – IN THE CONTEXT OF FUTURES STUDIES

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The goal of this paper is to show how the methodology and approach of futures studies could be useful in the research of social futuring. First of all, I define futures studies and social futuring and analyse the evolution of futures studies to show how methods have changed and how they could prove useful in the field of social futuring. Furthermore, I examine individual and organizational future orientation and the related "foresight maturity model" that is linked to the idea of social futuring. I compare future orientation indices (e.g. SOFI, JKB) and point out the pros and cons of each. In addition, I also show what kinds of measurement and indices of future orientation could be used in the analysis of individual, organizational and national social futuring. The findings provide support for the argument that foresight methodology provides an appropriate toolkit for social futuring research.

Keywords: social futuring, futures studies, futures research, foresight, methodology, future orientation

JEL codes: O10, Z10

1. INTRODUCTION

"I believe in excellence. It is a basic need of every human soul.
All of us can be excellent, because, fortunately,
we are exceedingly diverse in our ambitions and talents."
Edward Teller

Social futuring[1] is a complex term that denotes the capability of social entities to determine the future. In social futuring, conjunctive (or complex) necessary conditions include lasting survival, functional operation, the creation of a vision, and strategic implementation, whereas disjunctive (or alternative) sufficient conditions include the influencing of changes, making the most of opportunities, managing risk, and implementing changes. The concept of social futuring with its necessary and sufficient conditions has been defined in detail by Szántó (2018) and Csák (2018) in a framework of analysis that presents the various forms in which social futuring appears. The term social futuring expresses a new concept, establishes a new meaning which is precisely defined by Aczél (2018).

Another reason for the complexity of social futuring is that it can be interpreted and applied to the case of different social entities, which may be organizations, institutions, localities, regions, countries, groups of countries, societies, or nations (Szántó 2018).

Research into social futuring seeks to answer the following questions, among others: How can a civilization survive in the long run? How can a country create and implement a vision? How can an organization achieve its goals? Different social entities continuously ask questions about the futures that are related to their social futuring.

If social entities recognize their capability to consciously alter their attitude to the future and shape the future, they have a chance to create a future that will be beneficial to them. Research into social futuring aims to define the key competences used for consciously changing the future. The quote above by Edward Teller warns us that people have different ambitions and talents, thus they are differently able to satisfy their basic human needs; that is, they may become excellent in various ways. In the light of this quote, social futuring can be interpreted as a condition of excellence of any social entity covering its capability to consciously change its future, to create a vision, and the ability to manage and generate changes for implementing its vision.

[1] I am indebted to Petra Aczél, János Csák, Attila Korompai, Erzsébet Nováky, and Zoltán Oszkár Szántó for their valuable comments on an earlier version of this manuscript, made at a workshop discussion. However, I accept sole responsibility for this final version.

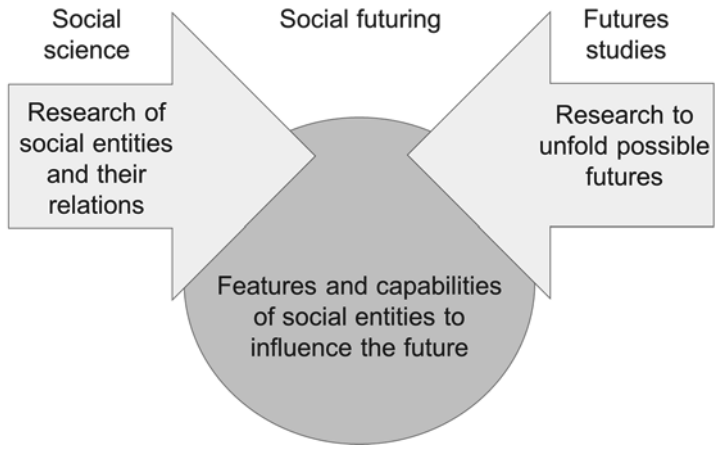

Figure 1. Social Futuring as a part of social sciences and futures studies

Source: author.

My aim as a futurologist is to see how futures studies can contribute to the analysis of social futuring and make it more established in terms of methodology. As capacities are intimately linked to the interpretation and management of changes in this research, I study how the interpretation and management of changes have developed and how they can be applied to social entities. On one side, research into social futuring involves social science to identify characteristics of social entities. On the other side, futures studies can provide some frames of the future, and a way of approaching and methodological toolkit for the analysis in social futuring (Figure 1). The two disciplines are intimately linked to each other and include social futuring at their intersection.

2. FUTURES STUDIES AND CHANGES

How can social futuring utilize the means of futures studies? This study describes the evolution in the approaches, methods, and procedural logic of futures studies to reveal how we can use all this knowledge for research into social futuring.

Futures studies travelled a long way in terms of both approaches and methods over the past more than fifty years. In studying this evolution, one can observe

[2] 'Futures studies' is the formal name of the discipline. In the plural, 'futures' emphasizes that the future may take different forms and a wide variety of futures may occur, therefore uncertainty exists.

that the domain where the future is interpreted has become broader, the number and types of methods have become more diverse, and it has become increasingly important to involve the social entities that shape and determine the future in the research process.

The approach in futures studies includes not only the probable future but also a significant number of alternative futures. The methodology of futures studies[3] has developed from data-based methods of prediction to methods of foresight that rely on both quantitative and qualitative information.

According to Conway (2013), foresight is the ability to systematically think about the future and to make decisions in the present. This term denotes an ability that may be developed by the individual, an organization, or society.

I will look at each stage of development of futures studies till the so-called "foresight generations," to see how the results of futures studies can be applied to research in social futuring, how changes can be managed, and how new changes can be implemented. According to Miles and his research team (2008), there are five distinct stages that have continuously improved existing knowledge, consistently supplementing each other. The first stage is about technological forecasting, its purpose was to identify the expected changes and to explore the probable future. In the second stage the earlier period was extended with the search for unexpected changes. Beside quantitative methods, qualitative methods were also applied in futures studies. The goal of the third stage was the involvement of the relevant social groups. Its broader approach was supported to identify a so-called desired future and to think about what would be the most desired for different kind of stakeholders. The fourth stage, political foresight, was characterized by the emergence of computer-assisted global solutions and top-down initiatives. In the fifth generation, bottom-up initiatives and rapid changes are becoming dominant.

Futures studies has searched for an answer to a particular type of challenge at each stage of its development, with different approaches and methods in every period. Besides the methodological categories established by Miles et al. (2008), I will explain, in addition to the framework of interpretation, what processes were assigned to each generation and what future they sought to research and define. The literature does not define the exact periods but I specify the approximate limits of each period based on the dates when the methods were adopted and applied.

In order to interpret and manage changes, let us first look at each type of change that may be applied to researching social futuring. Note that the types of change

[3] I am indebted to Professor Erzsébet Nováky for contributing to this chapter with her professional thoughts and advices.

named in this chapter are not completely the same as the types identified in earlier stages of this research[4] (Szántó 2018), but are they conflicting either. My goal is to further specify the previously identified types, to place them in context, and to possibly widen their scope in light of the existing knowledge of futures studies. In categorizing changes, I have taken into consideration and partially used those applied in futures studies,[5] as proposed by Nováky (2006).

Changes may be identified in terms of their probability, efficiency, reversibility, familiarity with effects, manageability (controllability), the time in which the process is completed, its extension in space, and related attitudes.

The first question to be asked for forecasting is whether a change is expected or unexpected The probability that an expected change will occur is important in the sense of understanding how certain or uncertain its occurrence is. Basically, futures studies never states that an event will certainly occur, but our research into social futuring incorporates a type of certain change as a possible extreme case, too.

The probability that some change will occur can be estimated by methods of prediction, projection, and forecasting. In prediction, we know by a statement made in advance that a change will predictably occur. For instance, prediction may refer to a predetermined production output of a factory ("Next year we will make 1,000 lights"). A projection is a mechanical extrapolation that can seldom be applied except to simple phenomena. One projection could be the determination of the sales figures of a retail outlet where, all other conditions being equal over some years, possession of data from the past several years allows for the establishment of an expected future value. A forecast is different in that it includes an exploration of connections between factors and an identification of breaking points, thus it also allows for the determination of more complex and non-mechanical future conditions. In the case of prediction change is determined by the actor. For projection, the change is influenced by the stability of influencing factors over time under consideration. In the case of forecast, various influencing factors are considered to determine the probability that some change will occur, therefore its value also depends on the method that is applied. Forecasts can be made with a host of mathematical and statistical methods.

An analysis of any change should include its effects, as people must prepare in time for changes involving profound effects. There is a need to make the effects

[4] The types of change defined by Szántó (2017) are the following: expected, unexpected, certain, uncertain (in a broad sense), risky, uncertain (in a narrow sense). Of these types, this study is only concerned with the predictable and unpredictable types.

[5] The types of change defined by Nováky (2006) include quantitative/qualitative, desirable/undesirable, reversible/irreversible, cyclical/non-cyclical, stability-increasing/stability-decreasing, natural/human intervention, and long-term/short-term effect.

of any change objectively measurable and to provide guidance to management. Measuring the magnitude of any change may depend on several factors. It may be fundamentally determined by the quantitative and qualitative characteristics used for its description, and by the period that it relates to. For instance, a quantitative analysis may show considerable difference in outcome depending on whether the Earth's temperature is forecasted to rise by one or three degrees. A qualitative analysis will produce considerably different results depending on whether the health status of the Hungarian population is forecasted to stagnate or deteriorate. Results of an examination of a defined period will show considerable differences depending on whether the effects of a relationship established by a country with a new international partner will have effects in a few years or multiple decades. It should be emphasized that when a change occurs (or before this happens) it is often difficult to assign a period to its effects. In the case of the former example, it is hard to calculate the longevity of a new partnership, as its maintenance and dissolution will depend on a host of other factors. Accordingly, even with the simplest categorization, the effects of scale of any change may be large or small.

In scenario analysis, any change is evaluated from two perspectives: the impact of the change and the probability of its occurrence. If a change has a high probability of occurrence and a large impact, it is definitely a good idea to prepare for it. If the change has a small probability of occurrence and a large impact, it may significantly influence the development of different outcomes. Unexpected events of great impact are "wild cards," the occurrence of which may involve considerably different outcomes. In attempting to prepare for the expected and the unexpected outcomes that occur due to wild cards, we should consider a considerable number of outcomes. Both expected and unexpected changes with small impacts are able to generate different outcomes, as the joint effect of several minor changes may generate a completely different type of future. Indeed, a small change may generate essentially different outcomes in the long run.

After examining the probability of the occurrence of changes and their impact, it is recommended to look at them in the following order:

- expected changes of large impact;
- unexpected changes of large impact;
- expected changes of small impact;
- unexpected changes of small impact.

Once the changes we wish to deal with are identified, we must ascertain whether their impact can be explored. This depends on a number of factors. The same change may occur in different environments, or may have completely different effects under various conditions. Also, the change may be completely new. In

many cases, even if we speak about a new change, we can use several methods to identify the effects.

When considering preparation for change, it is also vital to know if the change will take place at a fast, medium, or slow pace. This feature is also important because if you do not prepare for a particular change (i.e., lack a strategy for responding to it), then it will be even more vital how much reaction time you have for its management.

In addition to the time that a change takes, it is important to look at its geographical scale and scope. If a change affects an entire region or country, you may expect that the management of such change will primarily affect local people (directly). For instance, impact studies can be used to prove the demographic effects of a change (such as an exodus in the case of a war) and its economic effects (worsening export opportunities for other regions due to an unfavourable economic situation), by which different but directly affected partners can be mapped. If the geographical scale and scope of a change affects a major region, different social entities will share a common fate and will equally contribute to managing the change. It is probably easier to manage change in partnerships, collaborations, and associations.

As it is impossible to prepare for an unpredictable change, one must also see how much reaction time is available for its management. A related question is whether the original condition may be restored after a change. If the change benefits a social entity, the question is irrelevant. If the social entity finds the previous condition more favourable and wants to restore it, they must decide if the change is reversible or irreversible.

Joint analysis of the preceding types of change helps to identify 128 different types of change, as the binary branching of the seven types results in 2^7 kinds of combinations (cf. Figure 2). The present analysis is not aimed at categorizing these with accuracy, but at finding out:

- which of these changes are worth examining further;
- which of these changes we can cope with; and
- to what extent we can cope with them.

It is best to address changes that are expected and which have a large impact if we are required to choose only one to manage, or the order in which they should be managed (in the case that resources are finite). In the face of changes that must be managed as a priority, the next task is to identify the level where the effect of the change can be explored. If we know that it is worth looking at changes, and we can quantify their impact, we need then to focus on the extent to which we can manage them. This depends on the occurrence of the change in time, its geographic dispersion, its reversibility, and the attitude to change.

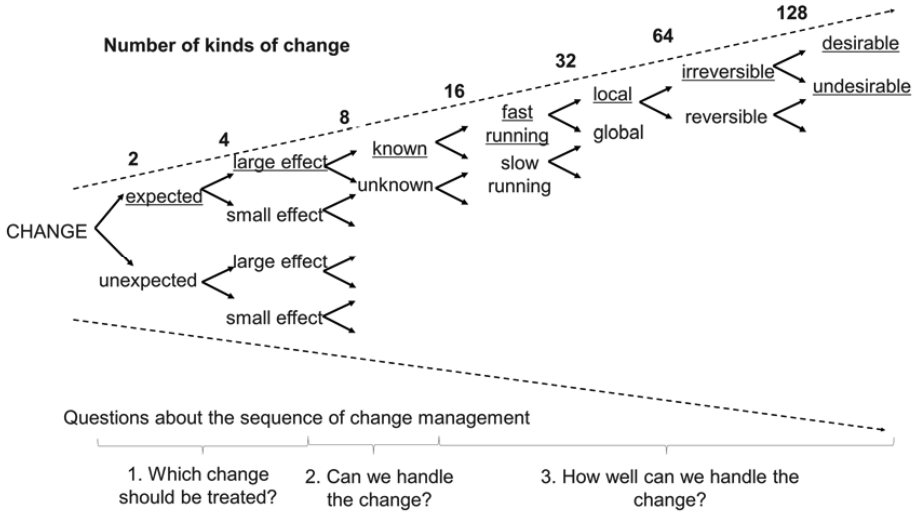

Figure 2. Types of change and number of combinations

Source: author.

A desirable change is an opportunity which may mean, if managed, a competitive advantage and an opportunity to implement a vision. An undesirable change is a risk which may lead to, if unmanaged, a disadvantage, and may impede the implementation of a vision. In our research, both types of change are considered important, as both of them are vital for achieving our vision and may be important for meeting the further conditions of social futuring.

2.1. Technological forecasting: expected, known changes

The period of technological forecasting took place approximately between 1950 and 1965, when the identification of expected, known (*ex ante* predictable) changes was the focus of futures studies. The development of futures studies speeded up at the time of economic growth and the energy crisis as well as the approximation to the year 2000. The first stage was shaped by a group of technological experts in the 1950s and 1960s through the expression of technological forecasts. Since its inception, futures studies has been multidisciplinary, based on several sciences, and its research is a complex multi-factor issue. Futures studies is concerned with the problems, questions and other issues that complex systems such as present-day social, environmental, technological systems (that often have global actors) give rise to. A complex system can be described as one with mul-

tiple characteristics (Kindler – Papp 1977) that have a high number of elements, with different relations between them (Kindler 1973).

In the period defined above, futurologists sought to outline the most probable "business as usual" scenarios to make forecasts. Forecasting methods can be applied to processes that may be called relatively stable. Change may also occur under stable conditions, as lasting past trends survive into the present, and there are few unexpected turns or breakpoints. A stable situation is the one where processes and trends continue, and are predictable with a high level of cognoscibility (Nováky 2003). Forecasting methods rely on quantity, data, figures, numbers, current trends, or expert opinions, and aim at forecasting the probable future (Besenyei et al. 1982; Markridakis 1990; Kosugi et al. 2004).

Expert forecasting methods started to spread from the second half of the 1970s (Hideg et al. 1997), but were developed as early as the 1960s and 1970s. In forecasting, experts used trend calculations, mathematical modelling, and statistical methods to identify future conditions to which people should adapt (Hideg 2007).

In social futuring research, it is important to measure social futuring across different social entities based on expected changes. Data are usually measured at the national level. In addition, a country's social futuring determines that of any social entity that lives in it. This is why it is in our plans to create an index for examining social futuring in countries. This calls for the identification of the structure and indicators of the index. We aim to calculate the past and present values of the Social Futuring Index (SFI), and to estimate values that the index may produce for the probable future. For this, the appropriate means include trend calculation, mathematical and statistical methods, modelling, and expert estimates.

The methodologies and tools of this period of futures studies are suited to managing predictable changes that we are cognizant of and about which we have information. I believe this period laid the foundations for futures studies, and although several new methods are in use today, the methods and approaches developed and used during the initial steps are still relevant at present.

The time horizon of our research into social futuring is 2050, so it is a real challenge to determine indicators with respect to the index that will persist to apply in the future. For instance, ICT devices will change, just as means of transport may also change; moreover, numerous technologies will transform markets (block chain will transform financial markets; self-driving technology will transform the vehicle market; MOOCs [massive open online courses], e-learning, and IT technologies will transform education; the Internet of Things and big data will transform health and industry). Therefore, we cannot select specific technologies as indicators. It is more appropriate to measure the level of innovation and spread of new technologies.

We usually have data about expected changes, so their integration into the index is an easier task. The real challenge is to integrate unexpected changes, as these cannot be mechanically integrated as indicators into the index. Unexpected changes can only be examined if they are determined by experts at certain intervals (e.g. yearly) after estimation of their effects on each factor in the index.

2.2. Technological foresight: unexpected, known changes

In the period between 1960 and 1985, technological foresight expanded the framework of analysis by identifying unexpected changes. In the 1960s, various countries established academic organizations and institutions that still determine the direction of futures studies. It was in this period that futures studies became an officially recognized branch of science. The multidisciplinary approach survived, relying on approaches and toolkits of several branches of science at the same time.

With respect to the methodology of futures studies, it should be noted that in this period it was found that forecasting had requirements and limitations related to the use of the methods of futures studies (Kristóf 2006). The primary use of forecasting using a long timescale was widely criticized due to its excessively deterministic approach to the future (Berkhout – Hertin 2002; Smil 2000) and to technological change (Geels – Smit 2000). However, the limited use of forecasting helps us to understand complex processes (McDowall – Eames 2006).

As a result of rapid technological development, the sole use of the methodology of forecasting is becoming less and less appropriate, and the methodology of foresight is required when situations become uncertain or unstable. One of the reasons for the decline in quantitative forecasting is that processes are too complex for modelling and there are no clearly correct answers (Bishop – Hines 2012; Lüdeke 2013). The approach that the methodology of foresight takes involves so-called exploratory scenarios, where the question "What could happen?" is the centre of interest (Vergragt – Quist 2011).

The scope of objective methods has been expanded with subjective procedures, such as the Delphi questionnaire, scenario writing, and workshop techniques (Hideg 2007) which were developed between the 1950s and 1970s (Bradfield et al. 2005; Riggs 1983). The goal of scenario writing is to chart alternative paths that may inform strategy making. Trend-Impact Analysis was developed in the 1970s, and refers to the extrapolation of historical data. Cross-Impact Analysis means, in essence, the analysis of the probability of event pairs by which an entire system of relationships may be explored. The Delphi technique is one of a group of expert-questionnaire-based techniques whose goal is to explore group

opinions and salient values. The future workshop techniques also originated in the 1950s, based on work by Robert Jungk. This method is suitable for use in collaborative group work.

Besides the quantification of the SFI, thinking about alternatives is important in the study of social futuring. In calculating the index, I believe we must not only plan to determine the probable expected future, but also to see how the occurrence of some events may alter the value of the index. This requires impact analyses and expert interviews to help us analyse social futuring in its broader context and to identify new phenomena and newly emerging trends (including so-called weak signals). For instance, one exciting development of this era is artificial intelligence; we need to analyse its potential consequences so that we can rapidly develop a strategy, and perhaps prevent unexpected events.

This period of study had a focus on the examination of unexpected changes, as these can result in bifurcation (splitting into two parts) and hence increase the number of relevant alternatives. Futures studies has moved away from examining known, data-relevant changes to less known changes as it is always harder to identify the effects of new phenomena than those about which we already have information. This has to be reflected in social futuring.

2.3. Social foresight: desirable and undesirable changes

The third generation of futures studies is represented by so-called social foresight, lasted between 1985 and 2000, and was primarily concerned with investigating desirable and undesirable changes. A focus on value sensitivity was typical from the beginning of futures studies, but at this point greater emphasis was laid on the collaborative creation of vision and the exploration and coordination of stakeholder interests and values.

This stage can be characterized by its participative nature, whereby the scope of experts came to include further groups of stakeholders. In participative futures studies, the future is mapped with the participation of experts and lay people (Nováky 2011). Participation occurs through contributions from groups associated with the given area (Inayatullah 2013; Kreibich et al. 2011) who have relevant knowledge and experience. Participation is necessary because the future is not only defined by the past, but also by people who shape the future and whose activity is relevant.

In addition to participation, a key factor is normativity. These two characteristics play a key role in futures studies and are linked to each other. Normativity means that the future is value-sensitive. Deciding on what vision a social entity imagines greatly depends on that social entity's values.

Initially, foresight mainly appeared at regional level (villages, towns, and major regions) and in the education sector, while later the need arose for its application in the examination of the effects of globalization.

This generation of researchers developed an increasing number of collaborative techniques aimed at trying to develop a common future and vision together with stakeholders (if this fails, we talk about shared vision). The methods of futures studies are geared to systematically exploring the future, supporting the management of changes, raising awareness of the consequences of decisions, and strengthening and encouraging participation in shaping of the future. This generation also witnessed a rise in the number of workshop methods and their widespread use.

Research into social futuring includes an ideal-typical formulation of social futuring based on Szántó (2018). Futures studies suggests that an ideal-typical formulation should be developed in a way that it could represent the highest possible number of stakeholder groups and help to bring about changes that they desire, and prevents undesirable changes. From the perspective of futures studies, if a vision is created by a wide range of stakeholders, then the development of that future may be efficient because stakeholders support, accept, and identify themselves with it. The desirable future should also appear in the values of the index. As the desirable future and vision mean something different for each country, in my view we can only measure how much the given country has striven to develop a vision that is appropriate for the highest possible number of social entities that are involved. This is a difficult enterprise because it also depends on the stakeholder groups whose interests are mapped. More specifically, a dictatorial country would be assigned a worse value in this regard than a democratic country, but it is not at all certain that it is really more capable of social futuring for this reason. As we seek to look at social futuring in many countries and social entities, we also need to measure the capacity to develop and implement a vision. According to the logic of futures studies, there is a need to identify and map stakeholder interests.

It would be worthwhile making vision development and implementation measurable to see if there is a link between the index values, the groups involved in developing the vision, and the interests of such groups.

It is possible to determine the future value of the index, including desirable changes, in a mechanical way (e.g. using 95% confidence interval estimation), where the top value is the best alternative. This is also the approach adopted by the first generation of researchers.

A data-based approach may be complemented by looking at the specific steps that are taken and programs launched by each country to influence the value of the indicators determined in the index. The analysis may be extended with expert

interviews where the respondents know the policies, planning documents, and other strategic measures of the countries concerned.

The index should measure the extent to which stakeholder interests are mapped, the detail in which a vision is created, the way in which a strategy is built to create desirable changes, and the extent to which the vision is taken into consideration when formulating the strategy.

2.4. Political foresight: local, regional and global changes

The fourth generation of foresight, called political foresight, arose in the period between 2000 and 2010 without identifying a clear-cut type of change. The main characteristic of this time was the emergence of computer-assisted global solutions and top-down initiatives which actively tried to identify and cope with local, regional, and global changes within regional programs.

This period was stimulated by issues of sustainability and terrorism. Large organizations and institutions, such as the EU, began to deal seriously with the issue of forecasting. An increasing number of people were selected for involvement as stakeholders. Also, this period witnessed an attempt to synthesize knowledge and disciplines.

The Foren (Foresight for Regional Development) Project included a practical guide involving the use of the foresight approach for regional development. In this guide, foresight means a systematic participatory process including future intelligence that creates a mid- and long-term vision to support current decisions and actions (Gavigan et al. 2001).

Foresight methods have increasingly caught on, as proved by the diversity of the European Commission's foresight activities, by which it supports the emergence of global networks,[6] the implementation of technological and social research programs,[7] online websites, the organization of international conferences, the promotion of the sharing of foresight knowledge, and workshops announcing support for foresight policy decisions among the EU's member states (Boden et al. 2010).

The flexible top-down approach has increasingly gained ground and large organizations have tried to use the methods of futures studies to research the big tasks of the future together with stakeholder groups and to encourage them to consciously shape the future.

[6] See http://foresight.jrc.ec.europa.eu/projects.html.

[7] See the European Foresight Platform, EFP.

As futures studies strove to involve an increasing number of areas during its evolution, it is fair to say that it became an inter-, trans- and multi-disciplinary science; i.e., one that uses and synthesizes the knowledge of two or more different areas and officially belongs to the span of several branches of science, but also to a combination of different areas (Dror 1974; Kreibich et al. 2011). Futures studies is capable of analysing knowledge from different areas by involving a wide range of methods (Masini 1993; Toffler 1980).

When researching social futuring, this period reminds us that different decision-making organizations have a key role as they are able to activate participants and may shape the future together with them.

Research should improve understanding of how social entities of different types can cooperate and how much they can add to their social futuring in this way. A social entity may be a part of many other social entities, just as a Hungarian family may belong to several communities and workplace teams, and is also a part of a country and the European Union. If these social entities are capable of cooperating and setting common goals, they will be increasingly able to increase their social futuring.

Another key message from the fourth generation of research into social futuring is that one of the most important areas of use of the research materials created in this field is decision-making, whether at a national, regional, or global level.

There are several ways to involve futures studies in decision-making. Many examples can be followed. For instance, Finland's parliament has its own board for futures studies (Committee for the Future, *Eduskunta*), which cooperates with different social groups to prepare a report every four years to determine future trends using the principles and methods of futures studies. This report is sent out to all political parties, so they can freely use the parts that fit their programs.

The South African government uses software to create a long-term world model as local decision-makers examine the possible effects that individual political decisions may have. To this end, they use a piece of software (available online) called "International Futures" that represents 186 countries and involves a database containing 3,000 data series that is useful for research and political projects. The model focuses on three major fields: human development, i.e., individual capacity (such as health-care, education, and welfare); social development, i.e., relationships with others (such as democracy and governance); and bio-physical development, i.e., relationships with technology and each other (such as the biological and physical environment, and sustainability) (Hughes 2016).

Another example of this approach is a series of online video talks that Canadian government members held in 2017 with futurologists from different fields to increase their ability to make informed and innovative decisions about certain matters.

In many cases, research into the future is less transparent. Different strategic or innovative areas may hire consultants or research centres to examine the effects of a given decision or to make an industrial analysis.

The Social Futuring Index can also be made capable of tracking the number of foresight programs and participation in them (thereby indicating if a country develops a foresight program or participates in such EU, international, and global programs).

A general challenge is to make the index in the most automated way, preferably avoiding expert interviews. Also, the index should be unique and should contain alternatives and new ideas. We should accept that the more we seek to take new phenomena into consideration, the harder it will be to produce the index automatically.

2.5. Involving stakeholders in foresight: rapid unknown changes

The fifth generation emerged in the 2010s and has been around ever since. In my view it is resulting in an environment suitable for managing ever-faster, unknown changes.

The current environment is increasingly turbulent, complex, uncertain, and difficult to predict (Chermack 2011). With the development of IT and globalization, due to the acceleration of change and consequent uncertainty, there is a need for developing futures studies (Nováky 2005). Digitization is the right way to achieve more interactive, real-time participation. The circle of participants is continuously expanding. This stage of development is characterized by interactivity as changes are speeding up and becoming globalized, and as digitization promotes interactivity.

In terms of interactivity as a characteristic, it is important to involve stakeholders and to integrate permanent communicative avenues between stakeholders and changes. A key component of foresight is structured debate between stakeholders.

In the past decade, artificial intelligence, evolution-based modelling and algorithms, multi-agent modelling and chaos-related analyses have come a long way (Hideg 2007); they can be applied in futures studies as they help to forecast when we can expect a future that is markedly different from the present. We must prepare for unpredictable phenomena with large effects – the so-called wild cards, which may result in a very different future.

Currently, research into the future is more and more a bottom-up activity where different social groups and companies use the methods of futures studies to explore future options, opportunities, and challenges. An increasing number

of events and conferences include the future in their buzzwords and approaches because, as a result of accelerated changes, people increasingly want to keep pace with the changes and to prepare for alternatives, and even to shape their emergence.

A complex social network may mean a system where not only hubs, but also weak links are important. This is because weak links (low intensity or intense but temporary links) stabilize a system (Csermely 2005). From the perspective of futures studies, it is a key to analyze the networks created on the internet and the real world as this can help us to understand the links that should be created between social entities and their effects on social futuring.

In the fifth generation, bottom-up initiatives and rapid changes are becoming dominant. The products of social futuring research may be equally useful for different social entities. The more social entities identify ways of becoming capable of social futuring, the more probable the emergence of entities that wish to explore and understand changes and are capable of shaping and introducing changes.

This is why computer-assisted decision-support systems for foresight purposes are increasingly prevalent, including Shaping Tomorrow (2018), the Global Futures Intelligence System (GFIS 2017), and IKnowFutures (2018), which are capable of collaboratively offering dozens of integrated methods on a process basis so that users can research their respective futures. The users of such systems can be countries, organizations, companies, or other social entities.

Digitization has shortened processes and hence changes, including changes related to financial, business, and communication processes. In addition, it means every electronic operation may be stored, thereby allowing their processing. Big data technologies help us to map previously unknown correlations. Also, digitization expands complexity by enabling us to understand complex patterns using artificial intelligence and to interpret networks by applying network science (Bakacsi 2017). This period of digitization equips us with devices that revive the approach of the first data-based period and improve it so that we are capable of identifying and managing rapid and unknown changes.

2.6. Summary overview

The development of futures studies clearly reflects (Table 1) that the initially quantitative approach has been expanded with qualitative techniques with an increasing emphasis on the combination and mixed use of methods. The scope of stakeholders has been expanded and their activities and attitudes have gained in importance, suggesting that shaping the future is a task and duty for everybody.

Table 1. The development of futures studies

	1	2	3	4	5
Generation	Technological forecast 1950-1965	Technological foresight 1965-1985	Social foresight 1985-2000	Political foresight 2000-2010	Stakeholders involvement in foresight 2010-
Challenge	Economic growth, energy crisis	Population growth & environmental pollution	Globalization	Terrorism, sustain-ability	Digitization, turbulent environment
Intensifying quality	Multidisciplinarity, complexity	Interdisciplinarity alternativity	Participation, normativity	Transdisciplinarity	Interactivity
Methods	Quantitative methods	Qualitative techniques	Collaborative techniques, workshop methods	Top-down complex solutions	Bottom-up participatory solutions
Type of future	Probable	Possible	Desired	Shapeable	Shapeable

Source: author.

With respect to its characteristics, futures studies has become more diverse; an increasingly varied futures studies methodology has emerged, which is capable of outlining multiple types of futures depending on the given situation.

The methods and approaches of futures studies have given us the tools to determine the probable future, to look at its alternatives, to develop a vision with the participation of groups that shape the future, to develop interactive decision-making programs for this purpose, and to support the widest range of bottom-up initiatives that aim to actively shape the future. In exploring alternative futures, it is vital to interpret knowledge from multiple areas in a complex and integrative way, to integrate a participatory attitude, to explore stakeholder interests, and to support interactive communication.

2.7. The process of futures studies

To understand foresight, it is worth looking at its stages in detail, as this involves assigning tasks to each stage and creating a framework system for making foresight.

The general stages of the foresight process usually have two interpretations (Figure 3). The foresight process starts by defining the scope of a project and ends by developing the strategy. In one interpretation of the process, different stages are assigned to the collection of data required for foresight, to its development, and to the use of the results (Durst et al. 2015; Horton 1999; Sutherland

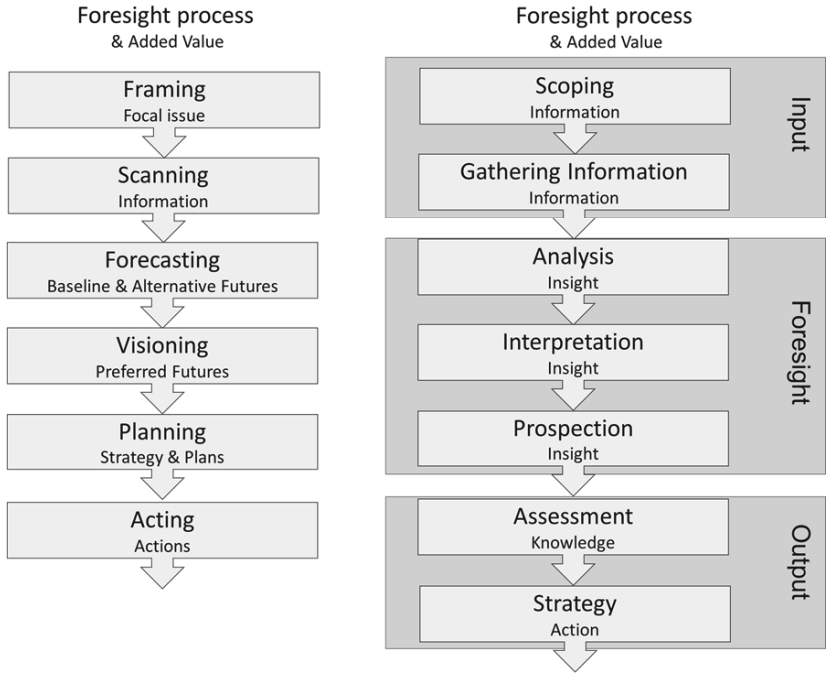

Figure 3. Two visions of the foresight process and added value

Source: Durst et al. (2015: 93) (left-hand side); Hines – Bishop (2015) (right-hand side).

2009; Voros 2003). The input stage of the process refers to the acquisition of input information required for foresight and includes the purpose of foresight as the formulation of questions and the extension of the foresight project, and the collection of information necessary for the given topic. Before such collection occurs there is a need to identify the source of information, which may include the internet, expert interviews, a literature review, etc. This stage is aimed at acquiring the greatest possible amount of relevant information as the potential basis for subsequent analyses. The foresight-development phase consists of three main steps including analysis, interpretation, and prospection. Analysis aims to structure, shape, and interpret data. Interpretation aims to explore underlying correlations, to reveal causes, and to define other options that may emerge. Prospection is concerned with what we may do and what stakeholders would like to do using strongly participatory methods. Decision-makers evaluate the results of foresight-development and elaborate their strategies accordingly.

The other approach uses a similar logic to identify the stages based on Hines and Bishop (2015). The framing stage corresponds to determining the project

Table 2. The development of futures studies (complemented with process steps)

	1	2	3	4	5
Generation	Technological forecast 1950-1965	Technological foresight 1965-1985	Social foresight 1985-2000	Political foresight 2000-2010	Stakeholders involvement in foresight 2010-
Challenge	Economic growth, energy crisis	Population growth & environmental pollution	Globalization	Terrorism, sustainability	Digitization, turbulent environment
Intensifying quality	Multidisciplinarity, complexity	Interdisciplinarity alternativity	Participation, normativity	Transdisciplinarity	Interactivity
Methods	Quantitative methods	Qualitative techniques	Collaborative techniques, workshop methods	Top-down complex solutions	Bottom-up participatory solutions
Type of future	Probable	Possible	Desired	Shapeable	Shapeable
Process logic	Forecast	Interpretation	Visioning	Planning	Acting

Source: author.

scope. The scanning stage involves the collection of the necessary information. In forecasting, experts analyse and interpret data and explore their quantitative correlations. Visioning also includes interpretation, but this involves the examination of qualitative characteristics to identify underlying correlations. Also, this stage includes prospection, the involvement of different stakeholder groups, and the exploration of their interests and ideas. The strategic planning stage means the establishment of alternatives and the building of paths to them, which may also be called strategy making.

The foresight process clearly shows the close link between the structure of each stage, its hierarchy, and the development of futures studies (see Table 2, which adds an additional row to Table 1 detailing the process steps). The first steps of the process (from framing to forecasting) are subject to technological forecast generation. In the second generation it becomes important to expand forecasting methods and to look for alternative ways, which corresponds to the interpretation stage. The third generation is related to the prospection stage in which we use participatory methods to identify what would be appropriate for most stakeholder groups. The fourth generation emphasizes the role of decision-makers and thus relates to planning. Bottom-up initiatives that encourage computer-assisted immediate action emerge in the fifth generation.

3. THE EXAMINATION OF FUTURE ORIENTATION

The concept of social futuring is intimately linked with the social entity's ability to know and prepare for future changes and to make a vision accordingly, on which it is willing to act. Futures studies has long been concerned with these areas within the scope of the future orientation of entities in future orientation research.

Future orientation may be examined on an individual, organizational, and national level. The extent of quantification is also different at each level (Figure 4). Scholars primarily use questionnaires to survey individual-level future orientation without a predetermined guide for their interpretation and evaluation. The questionnaire method is also the most appropriate at the organizational level, but here it is completed with an evaluation guide and grading. At the national level, the analysis may be made using indices.

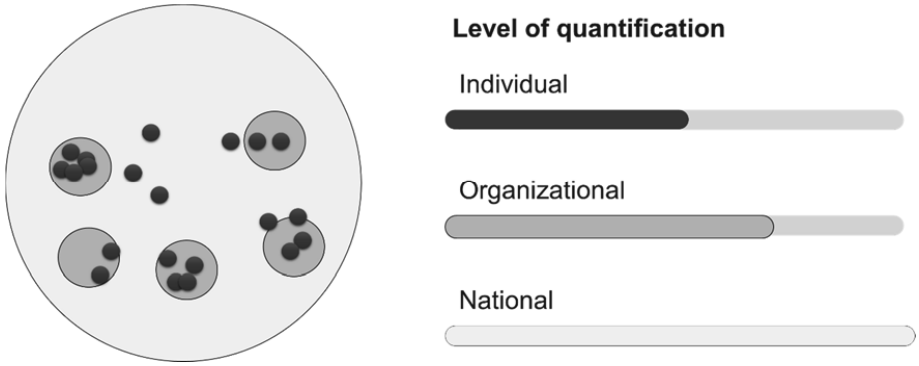

Figure 4. Level of quantification of future orientation

Source: author.

3.1. Future orientation on the individual level

Future orientation is a form and manner of expression of human thinking which is pervaded by presuppositions, ideas, and expectations regarding the future. To some extent, future orientation is characteristic of every person who is aware of the differences and links between the present and the future. Future orientation is a necessary condition for a person to be informed and find their way with respect to the cause, purpose, and consequences of the events in their environment and their activities (Hideg – Nováky 2008a 1).

A distinction may be made between active and passive future orientation, and positive and negative attitudes to the future.

On an individual level, future orientation relates to whether an individual is interested in, thinks about, acts for, and has expectations about the future. In the preceding sense, future orientation at an individual level is comprised of the following four components (Nováky – Kappéter 2002): (1) interest in the future; (2) thinking about the future; (3) expectations about the future; (4) action for the future.

Of these components, the individual only has an active future orientation if they act for the future. If they do not, their future orientation is passive (Nováky – Kappéter 2002).

The individual's future orientation can reach two extremes. A future-shocked individual is full of fears, goes blank, and does not think about or acts for the future. A future-oriented individual is interested in, thinks about, acts for, and has positive expectations about the future. The key components of future orientation include interest in, thinking about, action for, and expectations about the future (Hideg – Nováky 2008a; Nováky 2005). Samples from a future orientation survey of Hungarian society taken at different times show that Hungarian society is largely future-oriented (Hideg – Nováky 1998).

A positive attitude to the future means that an individual is able to determine their desired future and does their best to achieve it. Logically, a negative attitude to the future is the opposite: when the individual is unable to define or act for the desired future. In such situations the future is more of an escape route out of the present (Hideg 2003). There are similarities and differences between social futuring and future orientation (the meaning of social futuring and future orientation and its dissimilarity is defined by Aczél (2018)). The future proofed person is also a future oriented individual. According to the definition of social futuring, this term concentrates on the capability to manage and implement changes, not directly to interest in the future and think about the future and have expectations about it. Other differences between social futuring and future orientation are that the term of social futuring has a normative interpretation (normative standards are defined by Csák (2018)). Social futuring focuses mainly on the societal level, not on the individual.

3.2. Future orientation on the organizational level

An organization's future orientation may be measured with the Foresight Maturity Model, which helps to determine its level of maturity and how far it can get. The scorecards of the model may be linked to the previously presented process steps

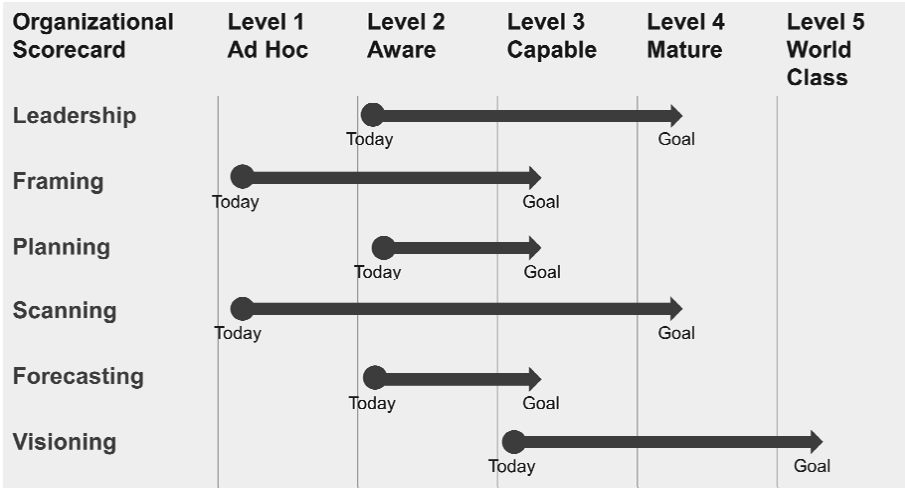

Figure 5. Scorecards and levels in the Foresight Maturity Model

Source: author, based on Grim (2017)

of futures studies, including the leadership index as an extra element (Figure 5) (Grim 2017).

The leadership index peaks when leaders are able to consciously and proactively encourage people to plan the future and when they create an environment in which the organization is able to cope with changes and introduce new changes, the results of foresight are immediately used for decision making, and the knowledge generated by foresight becomes the basis for corporate action.

When preparing a scorecard for framing, an organization is truly future oriented if it wants to identify the real root causes of a problem encountered during a project, and this creates the need for a task using foresight. In addition, the organization manages to determine measurable and documented goals with which all participants agree.

Scorecards for planning include the identification of consequences and effects of alternative futures and actions, the exploration of potential strategies and options, the selection and refinement of the strategy leading to an organizational vision, and the development of a plan containing the activities, processes, conditions, and communication required for adopting the strategy.

Scorecards for scanning relate to how the organization constructs the so-called domain map that determines the source and structure of the required information, the type of methods and tools used to collect the information that is important for the organization, and how it stores such information.

Scorecards for forecasting show how the organization aggregates information and creates a framework for developing further ideas. The scorecards also show the extent to which the stock of potential futures covers interest in the topic, and how the optimum number of alternative futures is fixed.

Scorecards for visioning show the extent to which the entirety of stakeholders has contributed to the developed vision, values, and aspirations, and the extent to which the vision fulfils its actual role; i.e., encourages the organization's members to make decisions with a real awareness of the vision that should motivate them in their everyday action.

3.3. Future orientation on a national and global level

The future orientation of individual countries can be measured by indices. The State of the Future Index (SOFI) has been constructed for the global and national level. SOFI asks the questions what factors influence the future, what points of intervention are there in relation to the future, and how the future orientation of decision-makers can be improved (Glenn et al. 2015).

The key areas of SOFI consist of the following 15 global challenges (GFIS 2017, see also Annex Figure 1): sustainable development and climate change, clean water, population and resources, democratization, global foresight and decision making, global convergence of IT, rich – poor gap, health issues, education and learning, peace and conflict, status of women, transnational organized crime, energy, science and technology, global ethics.

SOFI is based on the previously mentioned global collective intelligence system called GFIS, a project system of the Millennium Futuring research organization which contains foresight methods and has hundreds of registered experts who participate in different research projects. The index is a composite indicator consisting of 27 variables. SOFI aims to draw humanity's attention to global mega-problems, to improve their related complex understanding, and to encourage action, furthermore SOFI can be computed on the national level and in this case it aims to improve the exploration of the future developments of a given country.

The 2017 edition of SOFI shows that the world has in general continuously improved (Figure 6) but its pace of improvement is slower than in the last 27 years. In the next decade, the rate of future improvement will be 1.14% as opposed to the 3.14% of the period between 1990 and 2017. This is mainly the consequence of a slow recovery in the wake of the 2008 financial crisis and global recession. SOFI 2017 was significantly affected by terrorism, forecasts about which are fairly uncertain.

One of the benefits of the SOFI calculation is that it reflects the direction and intensity of various areas. The prediction is improvement in 18 areas and decline in 11 areas (cf. Figure 2). Here are the predicted positive changes: increasing GNI per capita, decreasing poverty, increasing foreign direct investment, slightly increasing freedom, increasing number of women in national parliaments, increasing share of high skilled employment, significantly increasing school enrolment, increasing literacy rate, adult total, increasing electricity from renewables, increasing energy-efficiency, increasing improved water sources, increasing number of physicians, increasing health expenditure per capita, decreasing prevalence of undernourishment, decreasing mortality rate, increasing life expectancy at birth, population growth, increasing number of internet users.

While there are more areas in which improvements are expected, those heading in a negative direction are very important. Here are the predicted negative changes: increasing CO_2-equivalent mixing ratio, decreasing renewable internal freshwater resources, stagnating forest area, decreasing biocapacity, insignificant increase in R&D expenditure, some increase in the social unrest indicator, increasing unemployment, increasing income inequality, significantly increasing terrorism incidents, significant increase in the number of wars and serious armed conflicts, increasing corruption in the public sector.

SOFI was computed for some countries, for example Azerbaijan, Kuwait, South Korea and Turkey. In the case of Azerbaijan in 2011, 24 developments and 20 variables were selected by experts and then assessed by a larger group of experts using a Real-Time Delphi questionnaire method.

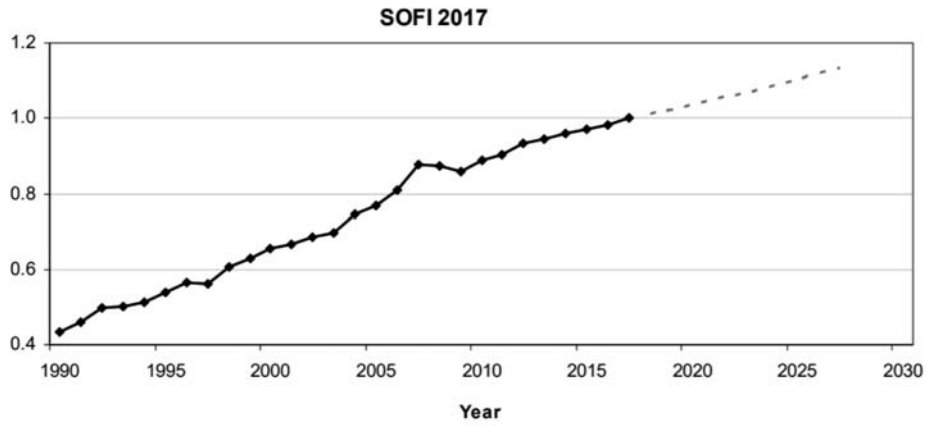

Figure 6. The State of the Future Index (SOFI) 2017

Source: Glenn et al. (2017: 4).

The so-called FEI index,[8] shows a country's development, both external and internal, and that which determines its future, consisting of three parts: F for future potential, E for external potential, and I for internal potential. Of these values the most relevant for research into social futuring is the Future Potential Index (F index). The F index contains the components of the long-term sustainability of general economic welfare. The E index is concerned with the factors that influence a country's world market positions and international competitiveness. The I index represents the factors that determine the quality of life of domestic actors at a given moment (Bartha et al. 2013).

Of the 28 indicators of the FEI Index, 11 belong to F, which includes factors that are vital for long-term sustainability and competitiveness, such as corporate social responsibility, labour culture, energy efficiency, educational expenditure, ageing, development of renewable resources, people's health status, environmental sustainability, R&D expenditure, R&D potential (number of researchers and patents), and the efficiency of the educational system (Bartha et al. 2013). These are the indicators that result in positive changes in the long run and that should be specifically looked at as part of research into social futuring.

4. SUMMARY: LINKS BETWEEN FUTURES STUDIES AND SOCIAL FUTURING

In the context of futures studies, the term *social futuring* means a field of research that seeks to explore preparedness for the future. The term *futuring* can increasingly be used as a new name for futures studies. The World Future Society, one of the most renowned international organizations of futures studies, uses the term *futuring* to designate futures studies. A book published by this organization in 2004 is entitled *Futuring: The Exploration of the Future*.

Social futuring and foresight are closely related concepts, but their meanings are different. Foresight is the capacity of individuals, organizations, and societies to think about, forecast adopt an attitude to, and make decisions about the future. Social futuring is not concerned with social futuring at the individual level, as its goal is to look at the social futuring of social entities consisting of multiple persons. Another property of social futuring is that it determines a few necessary and sufficient conditions and considers them as applicable to many social entities, whereas research into social futuring within futures studies usually makes a distinction between organizational and social futuring and creates concepts and

[8] The original Hungarian name is the JKB index.

selects elements for analysis accordingly. Another important difference concerns emphasis and goals. Specifically, research into social futuring aims to explore the social futuring of social entities, for which foresight methodology provides an appropriate toolkit.

The quantification of social future orientation indices by itself is not enough to link futures studies and social futuring: there is also a need to examine the paradoxes that exist among individual factors (such as the coexistence of improving economic indicators and a declining productivity rate) (Aczél 2018). Also, it is a good idea to compare the future orientation of individuals, organizations, and countries, the level of their cohesion and willingness to cooperate, the factors that determine the level of cooperation between individual social entities, and the way in which this affects social futuring in other entities.

In social futuring research, measurement is indispensable. We want to do this by creating a global index. The index values are best determined by trend analysis

Table 3. The development of futures studies and an interpretation of its link to research into social futuring

	1	2	3	4	5
Generation	Technological forecast 1950-1965	Technological foresight 1965-1985	Social foresight 1985-2000	Political foresight 2000-2010	Stakeholders involvement in foresight 2010-
Challenge	Economic growth, energy crisis	Population growth & environmental pollution	Globalization	Terrorism, sustainability	Digitization, turbulent environment
Intensifying quality	Multidisciplinarity, complexity	Interdisciplinarity alternativity	Participation, normativity	Transdisciplinarity	Interactivity
Methods	Quantitative methods	Qualitative techniques	Collaborative techniques, workshop methods	Top-down complex solutions	Bottom-up participatory solutions
Type of future	Probable	Possible	Desired	Shapeable	Shapeable
Process logic	Forecast	Interpretation	Visioning	Planning	Acting
Social futuring research	Trend analysis, modelling	Impact analysis, simulation, expert workshops	Creating vision by workshops, conferences	Impact analysis of political decisions	Creating corporate, societal programs
Social futuring index	Defining of probable values of index	Analysis of probable and possible alternatives of index	Achieving the maximum value of the index	Creation of index by decision makers	Creation of index on the level of corporates, communities

Source: author.

and modelling methods. Also, further steps must be taken for a deeper and more diverse understanding of social futuring. In addition, to be able to forecast the index values, it is necessary to analyse alternative pathways describing diverse visions, where the "if... then" steps reflect multiple scenarios.

The recommended methods include scenario building, simulation methods, and expert workshops. Afterwards, with the selection and active participation of stakeholder groups, there will be an opportunity to create a vision that combines potentially shared points and interests, preferably leading to a consensus solution. The vision shall only really be efficient if its common acceptance becomes measurable in the values of the index.

Decision-makers should be encouraged to make sure they communicate about active social futuring. In this process, they should look at the potential values of the index and answer the question how and to what extent they can contribute to shaping social futuring. The commitment of decision-makers to social futuring may be greatly enhanced if they see the extent to which the specific values of the index are altered by political decisions and their future effects.

There is a need to support bottom-up programs and initiatives that help organizations and other social entities to shape and increase social futuring; these programs represent the right area for surveying the practical application of social futuring.

The basic forms of social futuring are proactive, active, and reactive (Szántó 2018). Reactive if it is adaptive regulated by feedback mechanisms, active if it is resilient regulated by feedback and predicted mechanisms, and proactive if it is foresighted regulated by feedforward mechanisms. It should be emphasized that a social entity may be active if it prepares for the predictable future and its alternatives. If a social entity wants to be proactive, it must create a vision for introducing new changes and must be capable of influencing future changes. Social entities that bring about big changes are able to develop an alternative that is markedly different from the present and that is no longer based on the existing system. In such cases, forecasting methods are usually not used because no new system can be built on old data. In this case, the new type of thinking involves the so-called "backcasting" method rather than "forecasting," meaning imagination and dreaming about the future and then taking this back to the present. This method also requires planning but does not build on existing knowledge to the same extent as forecasting. Proactive social entities can become increasingly capable of social futuring if they develop their capabilities by thinking over and for elaborating different types of alternatives, innovation, and implementing a version of the future which differs from the present.

Researching social futuring poses real challenges because the topic is so broad and there are so many methodologies, covering a multitude of issues. Thus, the following years will provide an opportunity to apply the methodologies mentioned above in a well-considered way. The number of applicable methods will be narrowed down as further directions for research take shape.

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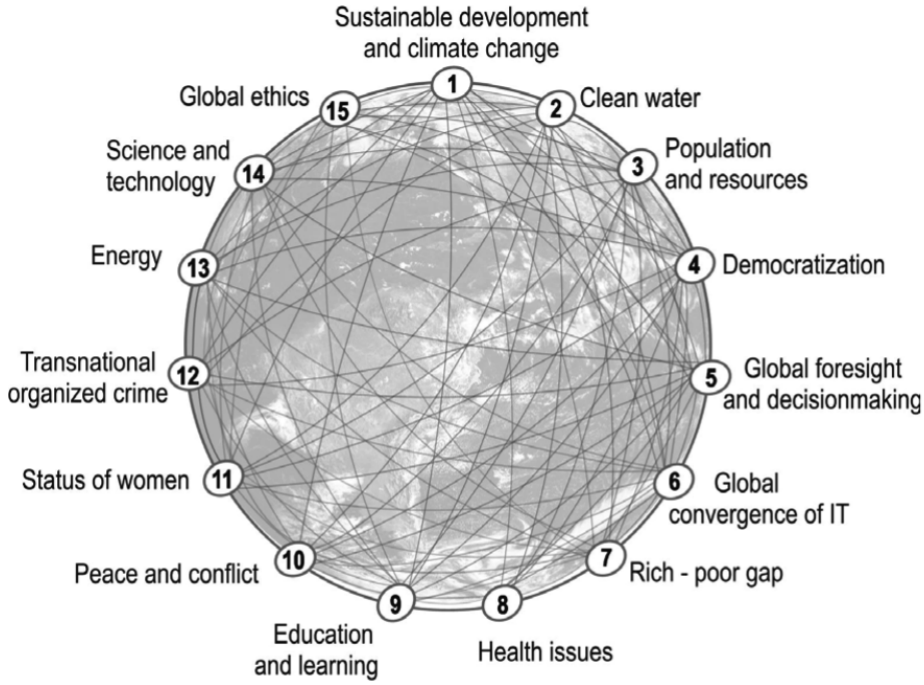
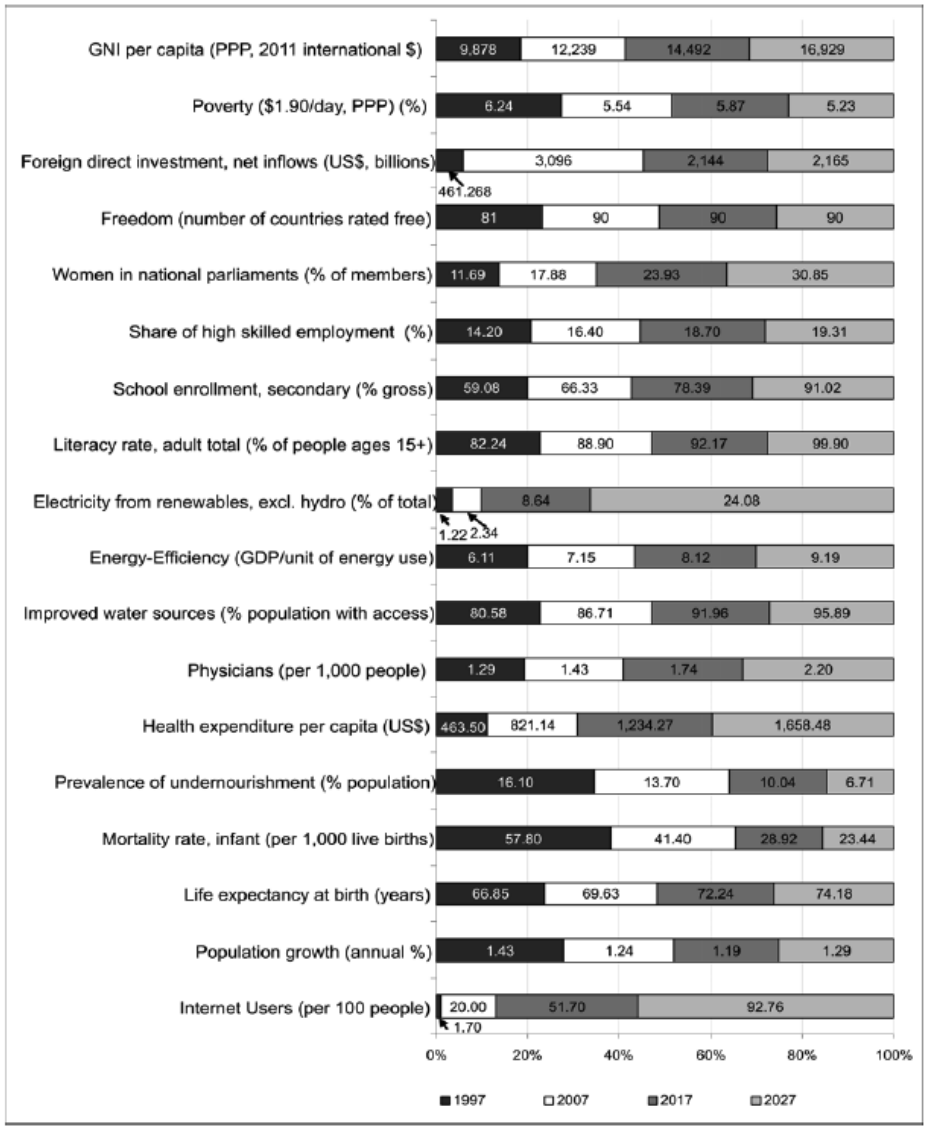
ANNEXES



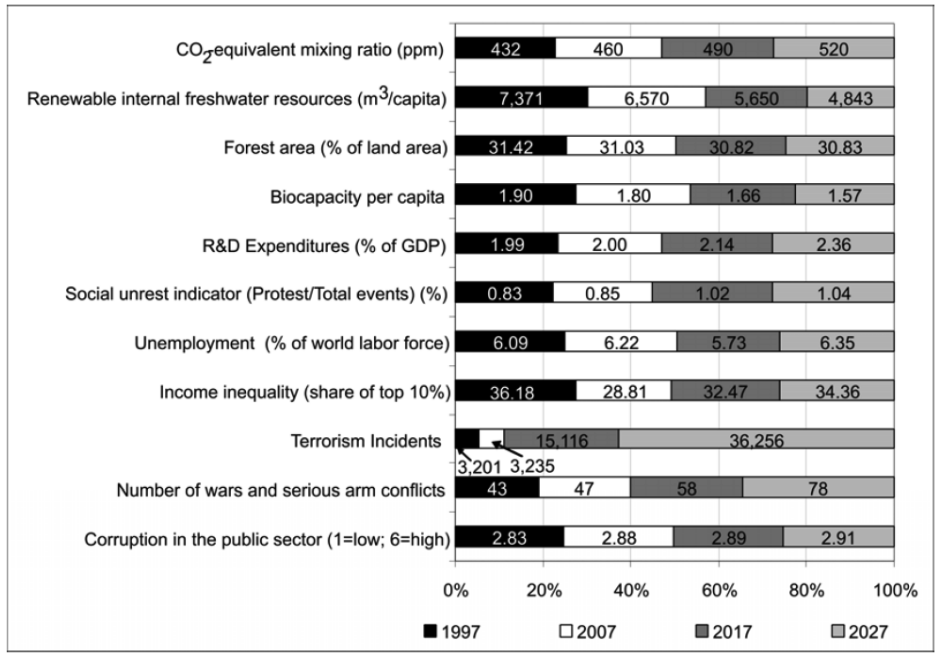
Annex Figure 1. SOFI areas

Source: GFIS (2017).



Annex Figure 2. Positive changes based on the State of the Future Index

Source: Glenn et al. (2017: 14).



Annex Figure 3. Negative changes based on the State of the Future Index

Source: Glenn et al. (2017: 15).

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FINITE EARTH, INFINITE AMBITIONS: SOCIAL FUTURING AND SUSTAINABILITY AS SEEN BY A SOCIAL SCIENTIST

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In a historical sense, humanity has accomplished its mission: it has populated Earth and has used its riches and resources to its own benefit. However, from an environmental perspective, Earth has a limited amount of resources, placing restrictions on these high expectations. Accordingly, humanity clearly needs to identify new ways of living, and make efforts to develop new goals. In light of this situation, it is worth exploring what the connection is between the more or less well-known concept of environmental sustainability and that of social futuring. Is there any overlap between the two concepts, and how can one evolve from the other? Can we identify any local-level (dis)similarities regarding these two in practice? The significant potential inherent in human beings – the unfolding of which is evident on a historical scale – can make interpretation of this issue easier. In this context, it is worth identifying the cornerstones of social futuring so as not to impair human ambition by blaming it for using up the Earth's limited resources and causing natural disasters. The goal is to give humanity new direction and impetus, while retaining the intensity of earlier ambitions.

Keywords: sustainability, social futuring, ecological footprint, happiness, voluntary simplicity, strategy

JEL-codes: Q01, Q55, Q57

1. INTRODUCTION[1]

Is the future an opportunity or a threat? It is probably both. In terms of futuring, the former is envisaged to contrast with future-proofness, which presumes the latter. With regard to the natural environment, threat is the dominant sentiment felt nowadays. What will happen if we use up all or most of the planet's natural resources? What if the climate irreversibly changes? How will human civilization, as we know it today, survive? Our initial premise is a difficult one: we have to cope in a world that is based on a finite material environment. Looking down on planet Earth from outer space, we can see that the above premise is indeed correct.

Deeper analysis requires us (1) to provide a brief outline of the human ambition that has led to the present state of affairs; (2) to examine the relation between the common concept of environmental sustainability and the recent concept of social futuring; and (3) to demonstrate the potential in human nature which, we hope, may lead to the formation of a futurable structure. We shall attempt this from the viewpoint of a social scientist. The claim (i.e., that the natural environment is finite) is supported by natural sciences. Although the topic of sustainability necessarily requires a global focus at first sight, this study emphasizes "bottom-up" solutions rooted in the depths of human nature. However, since the human individual is also the basic "unit" of higher-level social entities, considerations of sustainability should be interpreted in this spirit at these higher levels as well. Potential "top-down" government policies will only be referred to briefly in relevant places; for further reading, we recommend political analyses conceived under the aegis of social futuring (for example, Ambrus 2017).

2. THE HUMAN AMBITION

> Be fruitful and multiply, and replenish the earth, and subdue it. And have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.
> (Genesis 1.27)

The simplest way to demonstrate the dominance of mankind on this planet is by describing the increase in global population over time. There has been spectacular growth from the prehistoric age to the present day. This population trend is

[1] The author is grateful to Petra Aczél, Loránd Ambrus, János Csák, Judit Gossler, Sándor Kerekes, Zsuzsanna Marjainé Szerényi, Eszter Monda, Zoltán Oszkár Szántó and Balázs Szepesi, who all contributed to the final version of this study. The author takes full responsibility for the overall paper however, including potential errors.

interpreted by many groups (mostly environmentalists) as a risk. True, we may regard overpopulation as a threat – although ecological cataclysms (that is, collapses of human populations) have so far only occurred sporadically and at a local level (see e.g. the collapse of civilization on Easter Island; Diamond 2004).

Regarding units of one billion people as absolute population growth, the human race reached the first billion by 1804. We had to wait more than a century for the next billion – until 1927. Then, at an ever-increasing growth rate, by September 2017 the global population was just over seven and a half billion, and the trend continues (Worldometer 2018). However, population growth is slowing. According to recent UN forecasts, global population will reach 9.4-10.2 billion by 2050, and 9.6-13.2 billion by 2100 (with a probability of 95%). Of course, estimates react very sensitively to even the slightest changes in expectations, a fact which is also mentioned in the UN report. For example, a change of only 0.5 fewer children born to each woman of childbearing age compared to the mean estimate would result in global population reaching 8.8 billion by 2050, and dropping back to "only" 7.3 billion by 2100 (UN 2017). In time, the global population will inevitably reach a maximum/saturation point, unless technological change based on *external control* (as discussed later) enables mankind to expand its ecological space considerably. However, this does not seem to be likely, since the size of the latter is already partly unsustainable.

Although population figures represent a spectacular index of the human race's dominance of planet Earth, it is worth mentioning that this increase has not solely been quantitative. There has been a qualitative increase, too: present-day average living standards – the affluence of the average individual – cannot be compared to that of the past. We may attempt to give a historical estimate of this phenomenon, even though it partly relies on a vague methodological basis (Tóth – Szigeti 2016). However, the magnitude of such estimates would be difficult to dispute.

"Replenishing" and "subduing" the planet – as a human project of historical scale – leaves barely anything to be desired either quantitatively or qualitatively. There have been proposals by significant groups of natural scientists to introduce a term for this new geological era: the *Anthropocene*. The date marking the dawn of this era has not been specified yet (Smith – Zeder 2013), although the start of the Industrial Revolution (between 1750 and 1800) seems likely. This was the era when mankind "learned" to consume fossil fuel resources on a large-scale. Since then, fossil energy has been spent, bringing both advantages and disadvantages, predominantly for peaceful purposes. The related field of study has had its own periodical, *Anthropocene*, since 2013. If the first phase of the human project ended so successfully, what challenge may the future pose to humanity? Does the need for environmental sustainability necessitate the launch of an entirely

different historical age with entirely different ambitions? We think it does, and elaborate further on this in Part 3 of this paper.

2.1. Environmental sustainability vs. social futuring

The various concepts of environmental sustainability have been discussed in depth by Kerekes and Szlávik (2003). The classic definition of *sustainable development* by Brundtland states that sustainable development is development that satisfies present generations' needs without making it impossible for future generations to satisfy their similar needs (World Commission on Environment and Development 1987).[2] Ecological economists amend this dynamic approach by adding a static limit: the total social-economic sphere (the product of global population and average consumption per capita; scale) must not exceed the carrying capacity of the planet (Georgescu-Roegen 1971; Daly, 1996; Harangozo et al. 2018; strong sustainability). The present study relies on the same arguments regarding environmental sustainability. "Carrying capacity" (instead of which, the term *ecological space* is used later as it is more palpable, in the author's opinion) may be increased via technological development (technological development serving for the expansion of ecological space), yet this expansion will prove partly unsustainable in the long run if it involves the use of non-renewable power sources. According to ecological footprint calculations, this state of affairs is valid globally.

According to Corvinus University of Budapest's Social Futuring Center, *social futuring* is an umbrella term, and the frame it offers may be filled in a plethora of ways. Lasting prevalence, functional operation, creating a future image and strategic acting are essential, while preparation for influencing changes (exploiting opportunities or managing risks) is also an important consideration (Szántó 2018). Social futuring may be applied to entities in the present, but the concept strongly projects towards the future.

The concepts of environmental sustainability and social futuring are difficult to tell apart at first sight, and are both clearly future-oriented. It is worth mentioning that, in historical terms, the notion of "sustainable development" is a kind of response to environmental problems, and only relates to these issues, while social futuring employs a wider perspective. In other words, tackling environmental

[2] Differentiating between needs and wants is of strategic importance when this definition is interpreted. Necessity can be calculated objectively, based on scientific fact (e.g. daily nutritional demands), while needs are predominantly determined by society and, as such, vary from culture to culture. It is for this very reason that the latter should be adjusted for time, place, and social entity, which also allows decision makers strategic leeway.

sustainability responsibly with regard to its human and social aspects is a futurable act in itself, while an environmentally sustainable entity is socially futurable, too. The new notion is therefore nothing more than a euphemism for the old one. Yet the situation is more complicated, with the relations between concepts needing deeper analysis. Writing a list of the most basic logical possibilities may be a reasonable first step.

The initial question here is whether the two concepts approach their content similarly, suggesting a coordinate relationship, or whether one of the two is subordinate.

If one concept is embedded in the other, two cases exist: in the first, the notion of social futuring includes, by definition, that the targeted process or structure must be sustainable – including in an environmental sense – indefinitely in time. In other words, social futuring cannot be conceived of without environmental sustainability. From this viewpoint, the use of non-renewable natural resources and overflow needs to be countered. A wristwatch can be made shockproof and waterproof in the same way that a society can be made future-proof. Socially futurable strategies are, by definition, environmentally sustainable. (If something is unsustainable, it is inherently unfuturable.) According to this approach, *social futuring should be researched as a part of environmental sustainability* (Figure 1).

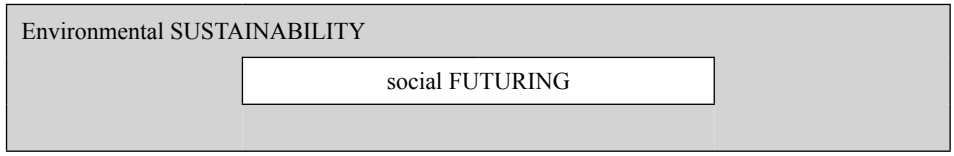

Figure 1. Social futuring as a part of environmental sustainability

Source: author.

The relation is reversed in the other direction of subordination. In this case, the existence of socially futurable processes and structures with no long-term sustainability are allowed. Structures and processes that are environmentally sustainable in the long run are possible parts of social futuring in this scenario, but they are not a necessary condition. In this approach, environmentally sustainable things are, by definition, also socially futurable. (If a thing is unfuturable, it is inherently unsustainable.) In this case, the issue of *environmental sustainability has to be examined as a part of social futuring*.[3]

[3] In the author's opinion, this latter approach involves a less beneficial relationship, so we do not recommend pursuing it. Taking this approach would be similar to assuming that some socially advantageous structures are also environmentally sustainable. This assumption, however, may prove false.

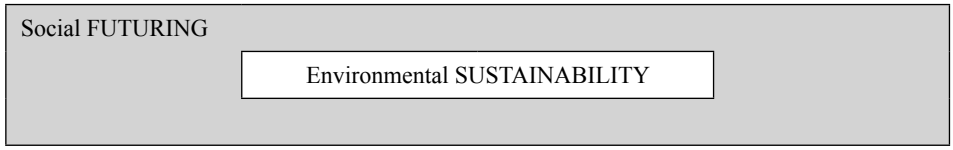

Figure 2. Environmental sustainability as a part of social futuring

Source: author.

Finally, the set of theoretical possibilities also includes the case that the two notions are independent and *not* embedded in each other. In such a situation, environmentally sustainable, but socially non-futurable processes and structures can exist (see e.g. living conditions in sub-Saharan Africa), and vice versa (for instance, in wartime the short-term prevalence of a social entity may be achieved by temporarily inflicting considerable damage to the environment) (Table 1). In this case, the subject of analysis may be the present. Then, the initial situation must be defined from perspectives of both sustainability and futuring (defined as the cell the entity occupies in Table 1), followed by the designation of the most desirable target (the cell that we wish to arrive at and, more importantly, a description of how). Also, the optimal situation here would be an entity that is environmentally sustainable *and* socially futurable at the same time (lower-right-hand cell, Table 1).

Table 1. Environmental sustainability and social futuring in a coordinated relationship (shaded: desirable combination)

		Social FUTURING	
		NO	YES
Environmental SUSTAINABILITY	NO		
	YES		

Source: author

This paper presumes that there is a coordinated relationship between sustainability and futuring. Although the concept of social futuring contains, by definition, the condition of an entity's long-term prevalence, multiple examples will be cited below of situations which are environmentally sustainable, but – as far as social futuring is concerned – do not meet the standards, or are downright undesirable (lower-left-hand cell, Table 1). (Cases in the uppermost row of Table 1 receive less attention here for being environmentally unsustainable.) It is important to note, however, that *long-term* social futuring cannot be conceived of without environmental sustainability.

2.2. Countering Pollution vs. social futuring

(Corporate) methods of combating environmental impact as a *problem* and the main opportunities for realizing social futuring have many things in common. To make a comparison, it is advisable to take a *problem-oriented* approach to social futuring. The question that needs to be answered here is: what are the causes of flawed social futuring? A change is environmentally undesirable if the emission levels of a substance exceed the environment's assimilation capacity, resulting in pollution.[4]

If we classify corporate methods for influencing emissions (as has been done by many researchers, including Kerekes and Szlávik 2003), a structure similar to the one drawn up in Figure 3 will emerge. We may, however, regard any decision-making entity as a "corporation." Likewise, the dotted line separating the corporation from the environment also exists if the entities are of a different type (ranging from organizations, institutions, towns and regions to countries, country

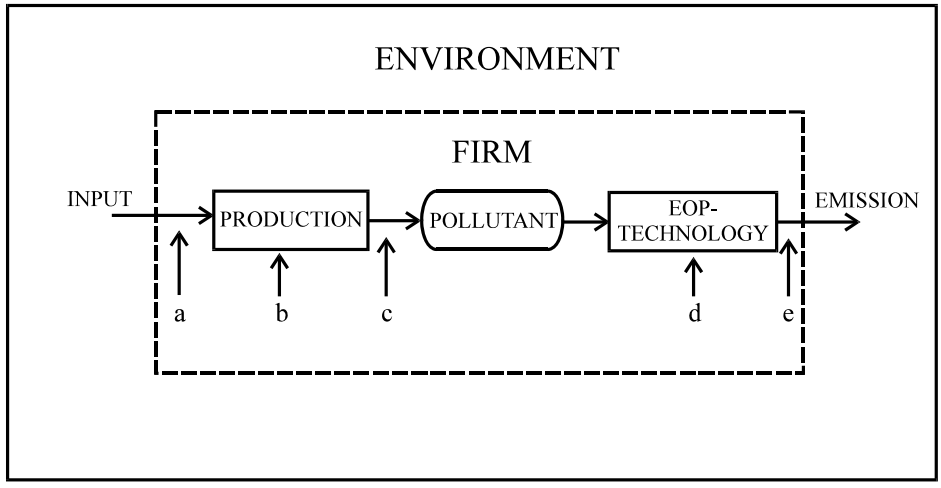

Figure 3. Firm-based methods of influencing emissions

Notes: a: use of cleaner inputs, resulting in a lower pollutant/product unit ratio (intensive environmental protection); *b:* restriction of production; *c:* employment of a new technology, resulting in a lower pollutant/product unit ratio (e.g. use of end-of-pipe technology, intensive environmental protection); *d:* limitation on pollutants created during the manufacturing progress (extensive environmental protection); *e*: dilution of pollutants before emission (passive environmental protection)

Source: Kocsis (2002c)

[4] Pollution means that an inflow of materials and energy into the environment occurs faster than the pace at which the environment can process and assimilate them (Kerekes et al. 2018:36).

groups, societies and nations – Szántó 2018). When decisions are made, external conditions that cannot be influenced by that decision should also be taken into consideration.

"Production" is a process of altering something that results in an output useful to humans (the very reason for this action).[5] The following figure, however, does not focus on the useful outputs of production, but on harmful side effects such as pollution (a negative external effect[6]), which at the end of the process appears in the environment as emissions (the amount of pollutants emitted in a defined unit of time).

Generally, the corporation continues its main activity of producing useful products/services without taking care of by-products and impacts – for example, contamination. When activities of this type are insignificant in terms of scale compared to the global system, there is no problem; the waste assimilation ability of nature can neutralize pollutants, and no perceivable pollution occurs. However, nature's assimilation capacity, which is a renewable resource itself, can be overloaded, and the expansion of production may result in the appearance of emissions. Enforcement can take many forms, from new laws (bans, fines, taxes, etc; Kocsis 2002a; Kerekes et al. 2018: Chapter 5.13) to consumer feedback, but may have the aim of promoting mere survival (if the contaminant is highly toxic); nevertheless, this is the very change that every corporation – or any other entity, for that matter – has to adapt to. If it fails in this, it is not socially futurable.

Corporations, just like other socially futurable entities, have various options for intervention (see also Szántó 2018). Active intervention results in a real decrease in the amount of the potential problem source (i.e., contaminants). This may involve problem prevention (intensive and active intervention) and the management of problems that are still within the corporation's scope (extensive and active intervention).

In Figure 3, the intervention possibilities "a" (use of cleaner inputs; for example, burning coal with a lower sulphur content, if existing technologies allow this) and "c" (use of newer production technology; for example, installing a power plant appliance that operates on natural gas instead of coal) are similar in effect; they prevent the problem by avoiding the creation of the pollutant (for example, sulphur dioxide) during the process (the examples demonstrate active and intensive variants of pollution prevention). Nonetheless, the production of a pollutant

5 Let us for now disregard the well-known critique of consumer society that claims that many products and services are completely useless. If indeed some of these consumables really prove to be unnecessary, it might make sense to do without them. This idea is built on later (doing without = increasing internal control).

6 An external effect – or "externality" – influences the welfare of a third person (neither producer nor consumer); it is unintentional and uncompensated (Kerekes et al. 2018).

is not necessarily equivalent to its emission while it is still within the boundaries of the corporation; the entity may choose not to emit the contaminant into the environment. For instance, the filters in chimneys and the catalysts in cars play such a role (intervention option "d") (active and extensive variants). Last in line is intervention possibility "e," which despite not reducing emissions by itself, makes the effects more tolerable for those potentially exposed; for example, the erection of a taller chimney (passive variant). By harnessing the waste assimilation ability of the natural environment more effectively, pollutants will be emitted in diluted concentrations and consequently will inflict less damage to those exposed. The classic example of this method is taller chimneys for factories, but at a household level introducing flues in older, smokey kitchens would be a similar solution.

Both solutions are technical, which means that they involve some sort of "external control" over the environment with the goal of creating a result that best suits us humans.

All things considered, it is not too difficult to spot the similarities between the main options available to socially futurable entities. The demand for managing emission levels is one target in the broader objective of diverting *unfuturability* and reacting to unfavourable changes. Emissions, no matter how insignificant in quantity and scale they may be initially, became intolerable and threatening over time. They represent, beyond any doubt, *unfavourable change*.

Bearing this in mind, let us first try to create a situation and imagine structural changes on a larger scale – in a *proactive* manner – that may subsequently lead to a solution to such problems. This compares to the development and application of a cleaner and greener production technology, or as we shall see later, unless technological development results in an unsustainable enlargement of ecological space, it may generally correspond to this solution (see also Figure 3; intervention points "a" and "c" – technological change causing rearrangement within ecological space).

If this option is not possible, or if the range of possibilities has been depleted, the entity may, within its scope, still try to diminish the disadvantageous impact of a problem – i.e. the broader causes of unfuturability – in an *active* manner. Pollutants that are "unavoidably" emitted may also be taken advantage of. If collected, they will not necessarily burden the environment, but can become useful input materials for activities (products) instead (Figure 3, intervention point "d").[7]

Finally, if we run out of the options described above (both active and passive), we may still adapt to changes. For example, pests can not only be controlled (let alone exterminated) with the extensive use of chemicals, but also by exploiting

[7] Not forgetting about thermodynamics – the natural law that tells us that 100% recycling is impossible!

the *existing* mechanisms of nature purposefully. Organic farming involves many good examples of this approach (intervention point "e", Figure 3).

It can be argued that all the methods mentioned so far (no matter whether regarded as methods for environmental protection or futuring) are similar inasmuch as they all rely on actively influencing the environment. What they differ in are their mechanisms and the results of their application. There is still one possibility, and perhaps the simplest, that has not been mentioned yet: restricting production/activity (Figure 3, intervention possibility "b"). This option disregards the scale of human activity and focuses on the basic question of *whether it is worth doing a particular activity to the extent it has been done before*. If the answer is negative, the *status quo* should be changed, resulting in humankind doing without a certain thing. This is a classic example of "internal control,"[8] the concept of which will be introduced later. Can we really make do with less? It is important to note that this option requires no investment and no technological development whatsoever. The opposite process, production that brings about environmental change, has been the most general phenomenon in human history, and hitherto the main goal of mankind, the very essence of human ambition. Altering this process, let alone reversing it, is by no means a banal task for companies, social entities, and people in general. The importance of this task is generated by the need for environmental sustainability, without which no social entity can survive in the long run (Table 1, lower-right-hand cell). It is therefore a key element in the creation of a strategy.

3. HOMO SAPIENS: HUMAN POTENTIAL

Julian Simon, author of *The Ultimate Resource (1981),* is one of the founding fathers of today's climate scepticism and the ultimate bogeyman of green movements. He is still adamant that there is no reason to be afraid of using up non-renewable natural resources, as the quantity of these materials will increase in time, while their market price will decrease. He made a bet with one of the most well-known neomalthusians,[9] Paul Ehrlich, about the price movement of five

[8] It is important to note that the distinction between "internal" and "external" does not refer to spaces "within" and "outside" the entity. Instead, internal/external indicates whether individuals (decision makers) reach their goals either by manipulating their environment (external control) or by reconsidering their ambitions (internal control).

[9] In a book first published in 1798, Malthus concluded that global population growth progressed geometrically, while food production could only increase in an arithmetical way, and since the gap between the two would widen over time, future poverty would be all the graver. Technological development has modified this forecast – so far. It is for this very reason that people who doubt the possibility of continuous technological development or emphasise the technological inevitability of environmental limits are called "neomalthusians."

natural resources of Ehrlich's choice over a ten-year period. Simon won the bet, and we can still observe the same tendency – prices for natural resources "about to be depleted" are generally going down, as if they were becoming more available rather than disappearing.

Since it is impossible to expect "finite" resources to yield "infinite" quantities, we shall not go deeper in explaining Simon's respective thesis (for further reading, see also Herman Daly's criticism of Simon's book; Daly 1982). However, how is it possible that the facts – that is, trends in raw material prices – seem to justify Simon's hypothesis? The ultimate resource he refers to is humans themselves – their inventiveness and creativity which has enabled spectacular technological development throughout history. In this sense, humans as a resource – which, in this case, does not refer to their exploitation – can be regarded as infinite. We may also consider humans to be endless sources of opportunities, on which an environmentally sustainable *and* socially futurable strategy can be based.

3.1. Theses, concepts, and key points of the paper

Figure 4 shows the main concepts used in this paper. On the right-hand side of the figure, the impact of humanity on our planet is indicated; the determination of its value in numbers is strongly dominated by the natural sciences. Further on the left of the figure, human factors gain in importance. Accordingly, the role of social science increases. On the far left, the measurement of subjective well-being is linked directly to the entity (of course, well-being is not entirely independent from natural and environmental contexts). This duality merges in the *celestial footprint* – the concept of which is introduced later – which can be expressed as subjective well-being (happiness) per ecological footprint (global hectare: gHa). We have included suggestions in the figure for proposed measurements and relevant formulae for illuminating these relations. (On the right- and left-hand side of Figure 5, by multiplying the two lower apexes of the triangles we get the result shown in the upper apex.)

Based on the above, our main theses are as follows:

First thesis: in the early twenty-first century, the ecological space occupied by humans via exertion of external control was *too big,* and there was "overshoot" *(i.e., the development of technologies which expand the space consumed by non-renewable energy sources)* (the dashed oval shape on the right-hand side of Figure 5 symbolizes overshoot).

Second thesis: population (which can be influenced by population control) is external control multiplied by internal control. Basically, an increase in internal control is needed (also because there are hardly any other options), by which

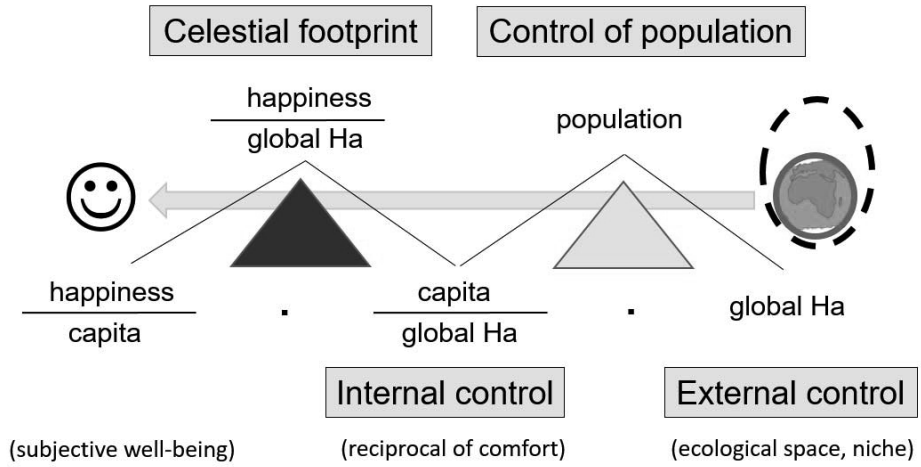

Figure 4. The main concepts and relations depicted in the paper (moving from right to left, the role of social science increases and the role of natural science decreases)

Source: author

ecological space may be "freed up" (if the effect is not moderated by population growth). (Rearranging technological development *only leads to restructuring within the ecological space*. *By itself, it cannot decrease the ecological space occupied by humans, and thus it might be wrong to place too much trust in this factor*) (the relationships of the right-hand triangle in Figure 4).

Third thesis: when creating strategies, subjective well-being (happiness) must be taken into consideration.[10] The product of happiness and internal control is the celestial footprint. It would take human's considerable potential to exploit this (other species do not possess a celestial footprint). The reasoning is that if an increase in internal control is forced, and leads to unhappiness, the environmental strategy is not futurable socially, since it does not lead to a life worth living (Csák 2018) (see the relationships of the left-hand triangle in Figure 4).

3.2. Filling ecological space and internal control

The list of features that differentiate man from animals is rather long. However, in social futuring the ability of humans to *control* the human *population* is of ut-

[10] Although some other authors make a difference between "well-being" and "happiness," the two terms are used as synonyms in this study (albeit it is sometimes argued that happiness only lasts for moments while well-being is a more stable, long-term phenomenon).

most importance. Consequently, as far as ecological space (niche) is concerned, (i.e. those unused resources that can be exploited to sustain life)[11] humans are not only able to increase population to the limits of environmental carrying capacity, but they can also control population to increase affluence and consumption per capita. The sheer fact that this ability exists does give us some hope in this finite world of resources. A "good life" can really be lived within ecological limits. Humans have the potential to achieve this goal. Filling in an ecological space completely is not genetically predetermined for the human race, as opposed to other species.

The challenge lies in the fact that the world has never witnessed any global, voluntary forms of population control, which successfully combated environmental impact. The idea is just as unprecedented as that of technological development shrinking the global ecological space.[12] It might well have been unnecessary – as it seems, "cowboy economy", as described by Kenneth Boulding (1966), was able to carry on with continuous expansion until there were vast, unused pieces of land. Back then, this was a viable model. What is more, it suited human ambitions perfectly well. Today, however, ecological footprint calculations have shown that a single planet is inadequate for serving the population in an environmentally sustainable way (i.e., supplying material comfort for the current population via renewable resources). We are in dire need of a new strategy. Social futuring, both locally and globally, requires that this doubtlessly existing control be applied in the fields of population and/or consumption, preventing mankind from filling in *temporarily* available niches in ecological space with people and/or consumption, as the existence of these niches depends on non-renewable natural resources, especially fossil fuel. In this case, we could finally see an actual decrease in environmental impact. "Carrying capacity" and "scale" are terms similar to "ecological space," used most frequently in this study.

To illustrate the issue of environmental sustainability, it is best to start out from the widely used *IPAT* formula, in which environmental impact (*I*) is considered to be a product of population (*P*), affluence (*A*) and technology (*T*).

[11] More precisely: ecological niche refers to the role that individuals of a certain species play in the community, and the environmental factors they need, or that they are able to endure. Hutchinson (1957) gave a modern definition of ecological niche, stating that the ecological niche is an n-dimensional abstract space, the axes of which represent limiting sources and habitat features relevant to the living conditions of the species examined. Each living organism in the system fills its own niche (Bihari et al., 2008).

[12] By its nature, sustainability has to be understood globally. At the same time, it is essential to be able to apply it to entities smaller in scale than global, with centres and peripheries. An example of such an analysis is presented by Kocsis (2014) on a national level through an examination of ecological footprint data.

$$I = P * A * T \quad (1)$$

Note that technology (*T*) is here only a factor that serves to connect affluence and environmental impact. If affluence (*A*) is measured in monetary units, it should be converted to environmental impact (*I*), which can be, for instance, measured in global hectares (gHa); the "shoe size" of the ecological footprint.[13] In order not to complicate matters, it is better to focus on environmental impact only, and measure affluence in "environmental impact per capita" terms instead of money. In this case, the formula is

$$I = P * A \quad (2)$$

Researchers often started out from this assumption (see also Ehrlich – Holdren 1971). The formula makes a very simple reference to the possibility that ecological space can be filled by population and/or consumption, with humans having free choice. Among animals, consumption is determined by genes, while population is determined by ecological space.[14] In this formula, "technological development" can be grasped by the size of the ecological space (*I*).

For better understanding, let us first consider the correlation between the animal kingdom and humans; the number of individuals living on the planet is correlated to the ecological sphere (carrying capacity). The size of the latter, in this case, also depends on the level of technology. If ecological space were depicted as a pie, the number of humans at a minimum standard of living would be the size of the slices of the pie that could provide just enough food for their physical sustenance. Unattractive as this situation may be, this state is theoretically the maximum of the internal control of consumption (physical minimum living standard). However, people are able to control the population, and thus increase the size of slices of the pie well beyond the physical minimum per capita. This decreases the internal control of consumption.[15] In the long run, the size of the ecological

[13] Ecological footprint is calculated using the average productivity of all biologically productive areas on the planet, which enables comparison. This is the concept of the global hectare (gHa).

[14] Daniel Quinn's popular sustainability-related novel Ishmael demonstrates this issue using the example of a cage containing rats. Although simplified by assumptions about linearity, hardly anyone has ever disputed the validity of the example. If the rats are given twice as much food, in time there will be twice as many rats (and vice versa). The amount of food available to rats can be identified with the ecological space or niche that is available to humans.

[15] It is important to note here that we do not seek to condemn the present decrease in internal control or promote minimum living standards. However, the current situation we are witnessing and experiencing involves such a decrease in internal control and, coupled with an increase in affluence, is such that enhanced internal control could well be defined as a strategic target (as is asserted later in this paper).

space depends on the level of technology. The formula will be more precise if the relationships are reflected differently (Figure 4, triangle on the right), thus:

$$P = I * (1/A) \quad (3)$$

Technology and technological development are of course still very important factors, even if they do not appear in this formula; that is, not explicitly, since the impact we have – or the impact we can have – on the environment in a certain period of time is significantly dependent on technology, which ranges from poking the ground with a stick to satellite-controlled precision fertilizing.

Historically, technological development served environmental sustainability in a way that it formed and expanded ecological space to suit human needs. As a rule, it was followed by the process of filling in space with population (*P*) and/or consumption (*A*). This rule is just as strong as natural laws; the existence of the Jevons paradox (York 2006) also leads to this conclusion. In this case, total impact (*I*) increases; however, this higher level is not necessarily unsustainable. We only confront an issue with sustainability if the increase in ecological space is only temporary (even if this interim period is several centuries long); in the case of ecological overshoot, the "increase" in space is bogus. The issue stems from the fact that a virtual niche is filled with actual population and/or affluence. A false increase in ecological space happens when non-renewable energy sources are consumed to fuel technological development. The ecological space thus created is ephemeral and unsustainable.

On the one hand, we may say that the global population (*P*) of 7.5 billion (9-10 billion by 2050) is unsustainable at the current average level of material comfort (*A*), but as the current level of population and affluence obviously exists, the necessary ecological sphere must be available here and now. The long-term availability of this niche is dubious, however. Environmental challenges are pressing, and the sustainability of the system has to be taken into consideration. Compared to other ages, this is the very novelty of the Anthropocene.

Social futuring explores the potential ways in which humanity, or smaller subsets and entities thereof will be able to face the inevitable decrease in ecological space and cope with ensuing corrections. A purely logical deduction might be that it does not matter; if the occurrence of this phenomenon is so apparent and predictable, humans can also affect it. We can, for instance, slow it down by some sort of wise foresight (proactive intervention), benefit from it (active intervention), or face a slow correction/swift cataclysm, in which case the minimization of losses and the management of risks will become a necessity (passive adaptation). It is certain that a social entity that prepares for a reduced ecological space

– as described above – will be in a more advantageous situation, especially if it makes adequate plans for scenarios on all of the three "strategic lines."

Homo sapiens has a highly multifunctional, important and unique tool: *internal* control (for population, we use the term population control, not to be confused with the internal control introduced here). Numerous thinkers have described the ability of internal control in various ways, for example as frugality (Nash 2000), and it is among the most prized virtues in religion and ethics.

Giving this human ability a more or less neutral or technical label seems rational inasmuch as it may then be compared more easily with the *external* control of the environment. External control results in an expansion of ecological space – this is exactly what has been happening in the past millennium of human history. Even primitive sticks count as part of the arsenal of external control over nature – a vast, monocultural field of crops does even more so, of course, if we consider how much energy and how much developed technology it takes to sustain this. Because of environmental unsustainability, ecological space needs to be limited somewhat, the proactive influencing of which could take the form of some sort of technological maintenance task (the risks of "geoengineering," of course, need constant attention). In the active and passive fields of social futuring, however, social sciences will most probably play a more marked role if the application of internal control, interpreted as a unique feature of human nature, is given more focus.

To present the scientific – and opinion forming – potential in interpreting and comparing the two forms of control, we shall present global population as a compound of two forces (as already supported by the theoretical evidence, see also Formula 3). Even in the social sciences it is of key importance to make a phenomenon measurable and numerically determinable (it would not be appropriate, though, to create standards). In any case, if measurements can be made, assessment becomes possible.

External control (i.e., the artificial human ecological space) can easily be assessed by calculating ecological footprint (Wackernagel – Rees 1998),[16] but other indices of environmental impact such as total carbon emissions could also be used. The Global Footprint Network, the organization which developed the methodology for calculating the ecological footprint, published their latest data in 2017, according to which the global footprint of the human population was 20.6 billion global hectares (gHa) in 2013. In comparison, the available biocapacity of renewable energy sources was only 12.2 billion global hectares that year, which points to an overshoot of 69%. We can thus say that the difference in the numbers shows the size of mankind's "virtual ecological space," which is not

[16] In spite of its many flaws and shortcomings (see also e.g. van den Bergh – Verbruggen 1999), the ecological footprint is currently the most concise index of environmental impact.

environmentally sustainable, but which is regardless filled up with actual people and affluence. This is what recent ecological footprint data tell us about external control, shown on the horizontal axis of Figure 5.

Expressing internal control in numbers is a much larger challenge, as we cannot really capture the "average self-control" of humans in figures. However, if we start out from the number of people that a unit of ecological space (gHa) can nurture (person/gHa), we can get an approximation of internal control. On the one hand, it seems obvious that the greater the number of people who would like to exist in the same ecological space, the greater the self-control that is required in terms of material wealth and comfort. Moreover, measuring internal control in this way is advantageous in that it corresponds to the process of capturing external control, the product of the two resulting in (global) population

$$\text{person} = \text{gHa} * (\text{person} / \text{gHa}) \tag{4}$$

Figure 5 shows this relation, with internal control on the vertical axis. Population appears on the surface that spans the two axes with values for the two forms of control. The population isographs of one, three, six and nine billion are marked. An appropriate question about social futuring is, for example: knowing that ecological space will inevitably shrink sooner or later, how can we make the best of this?

- We "voluntarily" return (at least) to within the actual ecological space, marked as the thick gray vertical line (Figure 5) *(*which still indicates 100% human use, not allowing any space for species labelled "useless" by humans, although returning to this level would still be considered a success).
- Depleted non-renewable energy sources (including emission assimilation capacity, which is an overloaded renewable source) will force us to back out, resulting in the need for crisis management and a forced return to an environmentally sustainable level.[17]

The question inevitably arises: is there a way, through technological development, to enlarge the ecological space to an extent that it is still environmentally sustainable (i.e., does not involve the use of *non*-renewable energy sources)? We cannot rule out this possibility (since it could well be the predominantly technical-scientific *proactive* aspiration of any socially futurable entity). However, the first and second law of thermodynamics suggest that the creation of a perpetual machine is impossible. Some opportunities for such forms of development surely exist – in the middle ages, switching to two-field and later to three-field farming represents an example of taking advantage of a narrow loophole. The

[17] In spite of envisaging catastrophe, this is still an optimistic scenario which does not envisage a collapse of the complete ecosystem.

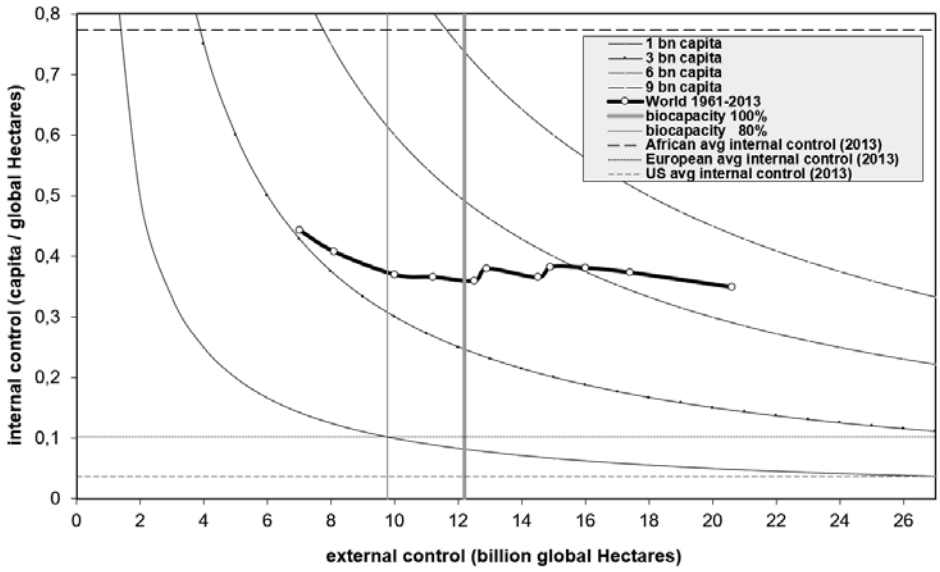

Figure 5. Human population as determined by a combination of internal and external control (1961: left-hand side of the bold line, 2013: right-hand side of the bold line)

Source: author, based on data from the 2017 database of the Global Footprint Network.

Holocene, the age preceding the Anthropocene, was not free of technological development. However, technology did not rely at all on finite fossil fuel sources. A good example of a present challenge is fertilizer production. Arguably the most energy-intensive industrial process, fertilizer production should be redesigned to work *completely* on a renewable basis. However, the advantages of the complete replacement of fossil energy consumption are questionable. In general, it is expected that available ecological space will sooner or later decrease – an entity that is socially futurable has to take this likely possibility into consideration.

Having introduced the concepts of internal and external control, we have created a clear framework for analysis. To test this, let us look at Kocsis's example of famine (2010). The age-old phenomenon of global famine, which affected about 800 million people in 2015 according to the FAO, can be tackled in various ways. Assuming even distribution, we can argue that by dropping one or two meals that contain animal products per person per week, the "developed" world could contribute to the solution[18] (requiring an increase of internal control at a community

[18] In terms of energy it is much more efficient to consume plants directly than indirectly – feeding produce to livestock first and eating the animals later to cover daily nutritional needs results in significant energy loss since animals use most of their energy intake for maintaining their basic functions (breathing, moving, etc.).

level). On the other hand, for some time industrial agriculture could be further developed to become even more productive; e.g., by introducing more GMOs, thus increasing external control (see Borlaug 2002). Of course, we could also illustrate the situation using examples from other fields. The need for mobility may be satisfied by using public transport instead of cars. Riding a bicycle or walking instead of driving necessitates increased internal control, as the comfort levels of these activities are lower. We may also try to enhance oil production and develop industrialized farming to grow genetically modified biofuel crops, shaping the biosphere ever more intensively to meet human needs, thus increasing human pressure on nature even further (i.e. increased external control).

Figure 5 clearly shows that in the period from 1961 to 2013 a significant increase in external control occurred (the tendency at the millennial-scale level is anyone's guess), whereas the affluence of mankind also increased on average with a simultaneous decrease in internal control levels. The result of these two forces is significant global population growth, as mentioned earlier in this study. Ecological space suitable for human use, created through exerting external control, was filled with population (where the trend line intersects the population isographs) *and* consumption/affluence, indicating a decrease in internal control. In other words, mankind has always been able to increase its material comfort levels (and decrease its internal control) in spite of continuous population growth. This is not only true for the past five decades, but for the past ten millennia (the three horizontal lines in Figure 5 represent the average comfort levels of Europe, the US and Africa.)

As far as the unsustainable, virtual component of ecological space is concerned, "stepping back" to levels of environmental sustainability may also be interpreted as a combination of internal and external control. Since the size of ecological space suitable for humans may be identified with external control, the figure clearly shows the various strategic possibilities for manoeuvring. In the case of shrinking ecological space, humanity will need to decrease population and/or increase internal control. These processes are unprecedented both globally and historically.

3.3. Socially futurable and environmentally sustainable strategies

The main possibilities for decreasing virtual ecological space and excessive external control may be classified into two categories: the "brave new green world," and "towards harmony" (Figure 6). (Further increasing external control is likely to end in disaster. Discussing its two variants – i.e. overpopulation and "over-comfort" – is beyond the scope of this study, both approaches also being

environmentally unsustainable and thus unsuitable for use in building socially futurable entities.)

The two basic sustainable scenarios are discussed here based on research by Kocsis (2010). Compared to the world as it is now, approaching the bottom-left part of Figure 6 could be seen as an effort to create a brave new green world. This strategy, by limiting external control over nature (by decreasing the virtual part of ecological space) would doubtlessly contribute to the creation of a more environmentally sustainable world; however, it would also promote a further decrease in the internal level of control (by further increasing affluence). These two objectives can be realized simultaneously by radically decreasing population (strong population control). This strategy would involve a comfortable, Western-style "environmental protection" that does not require any self-control in consumption/affluence, but requires limitations on "breeding" in the "third world" instead (see Connelly 2008). This is a dangerous road and the risks of such an approach are made apparent by the present existence of forced forms of birth control that can be identified.[19] This is a typical example of the case when a strategy is environmentally sustainable but not socially futurable. According to our normative standards, such curbing of personal liberty is unacceptable (Csák 2018). For this reason, we suggest a strategy which can be characterized as the most harmonious one (Figure 6, top left).

In comparison to the average of today, this would require more internal control from the majority of humans – in a material sense, a less comfortable life, which can yet be seen as one freer and more worth living (Csák, 2018), in contrast to the one that seems to be unfolding worldwide in the consumer societies of the countries we call developed (mainly characterized by material wealth-driven ambition). Subsequently, external control over the environment should also be relaxed through the less extensive exploitation of nature. This might really make the system more sustainable environmentally. In this system, changes in external control and internal control will decide whether the global population will grow, decrease or stagnate (see Figure 6). In this approach, the absolute size of population is not of primary importance, so there is no need to control it in "enlightened"

[19] Aldous Huxley gave an impressive description of such a world in his novel Brave New World (1932). The system depicted is characterised by total population control which is not only quantitative but also qualitative. In the Brave New World, various technologies, drugs and chemicals systematically provide maximal comfort to people who do not have to bother about internal control at all. If continuously decreasing internal control is considered a benchmark of the historical development of mankind, we would have no reason to criticise this world. And still, if there were one single human left who was able to face the world without artificial and manipulative influences, they would flee, roaring, to a freer and more human world (in the book, a reservation inhabited by savages).

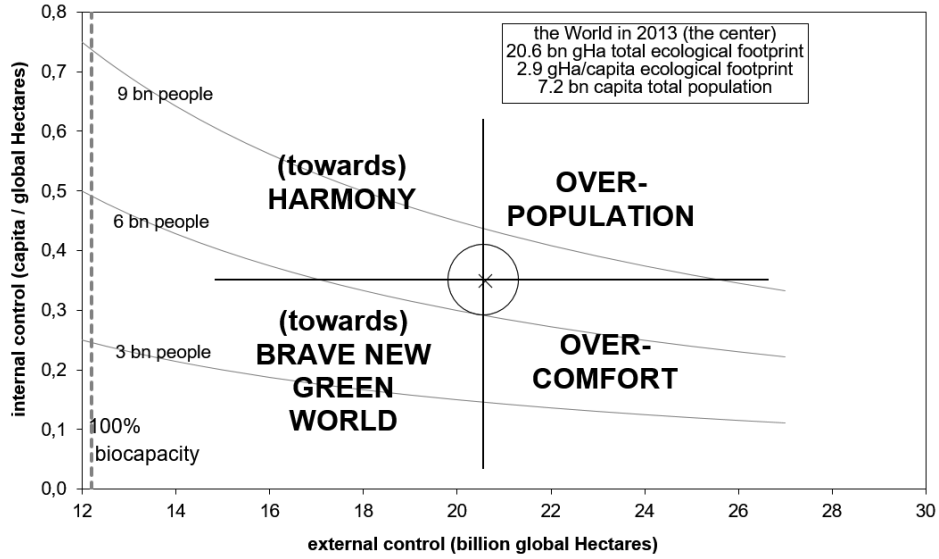

Figure 6. Scenarios of catastrophe and environmental sustainability in the space designated by internal and external control

Source: Kocsis (2010).

ways that so often conflict with human dignity (Greenhalgh 2003),[20] not even for the sake of environmental sustainability or future generations. It is exactly the concern about the survival of future generations that makes the creation of socially futurable structures and entities urgent and essential.

It is therefore important to realize the significance of the extent and result of external control (over natural environment) and internal control (over the material affluence we have). Again, we are not suggesting that the size of the population is an insignificant factor, but we do claim that the population is a combination of various types of control (so it is more likely to be an effect than a cause in a com-

[20] Of course, on account of the issue of unwanted children (in terms of population control), there are solutions similar in nature to those of internal and external control. Also, in this case, securing a favourable output (i.e. that such babies remain unborn) is at stake – controlling the factors that raise the probability of childbirth. Various chemical, mechanical and surgical methods of birth-control are similar to forms of external control, while "natural" methods of contraception – such as purposefully exploiting the menstrual cycle or men's bodily functions – are similar to internal control. The latter can and should be learnt about; their use conforms to advances in scientific understanding (i.e. they need not be considered obsolete, "prehistoric" methods).

plex chain of causes and effects, and can thus be modified technically via population control), especially if the thesis about filling the ecological space (niche) is also taken into consideration. So, if the causes of environmental sustainability and human dignity are to be tackled simultaneously, meaning that environmentally sustainable alternatives should also be made attractive and socially futurable, it will be necessary to pay more attention to the type and extent of control that is exerted than to the more conspicuous figures about total population size.

3.4. Happiness (subjective well-being) vs. internal control (person/ ecological footprint)

There are two important things to notice regarding the desire to head "towards harmony." First, in the course of history, Homo sapiens have already had the higher levels of internal control required by this strategy, and so it would be false to state that enhancing internal control is impossible. However, a high level of internal control was anything but *voluntary* at earlier times (since today's level of material comfort was unimaginable, there was nothing to give up) and it was (and still is) always determined by the actual level of technology.

In connection with the "strategy towards harmony," it might be argued that this would reverse history; this argument is often brought up when more radical environmental strategies are unveiled. Indeed, external control has increased continuously throughout history owing to successful technological innovation. As a result, the population has grown and internal control has decreased. In layman's terms, more and more people are living better and better lives. The first stage of the "human project" has thus been successfully accomplished for many. A socially futurable and environmentally sustainable strategy would require just the opposite: lower external control combined with higher internal control (the result of which combination is population growth; see Figure 6).

However, our futurable environmental strategy cannot be regarded as an attempt to reverse history. A global environmental catastrophe would throw mankind into a world of crisis management and shortage, as has already been described by various authors (many of whom also predicted the date of such a cataclysm, and have been proved wrong). A responsible thinker has to find ways to avoid such a catastrophic alternative – this is also the objective of social futuring. Now, for the first time in history, the challenge is not how to fill available ecological space using new technologies, with population and/or affluence, and not how to enlarge this space, even though it is possible. "We could do it, but we won't" could be the slogan of a new age; that is, a strategy of deliberately *not* using technology that is available to exert immense external control. The fact that humans have

not used its nuclear arsenal that is capable of wiping out all life on Earth gives us a hint that we might possess this ability. This example is not perfect though, since production seems to typically involve constructive rather than destructive technologies, and "not using" here rather refers to the less intensive use of such technologies than would otherwise be possible. Who would have thought, for instance, that the Indian Green Revolution (that is, the extensive fertiliser use in agriculture that saved millions from starvation), would later have a devastating effect? The Green Revolution successfully enlarged the ecological space in India and reduced hunger; however, the population started growing shortly afterwards. Such efforts at such scales are both environmentally unsustainable and socially unfuturable.

We can illustrate the size of the challenge through the relationship that summarizes actual values of ecological footprint per capita (the multiplicative inverse of internal control shown on Figure 4) and subjective well-being (happiness)[21] (Figure 7).[22] Higher scores denote countries with lower internal control (higher material comfort). On the right we find countries with higher levels of contentment and happiness. One conspicuous tendency is apparent here – greater comfort generally leads to greater happiness, and vice versa. This is hardly surprising. However, it is the lower-right corner of the figure that represents an ideal state. There, a relatively high level of internal control is coupled with greater levels of happiness. This is true of some Central American and South American nations, such as Costa Rica and Brazil (Hungary is located in the middle on Figure 8, close to China, with near-average levels of happiness and internal control).

Another tool that is widely used for analysis, the Happy Planet Index, reflects this issue rather well. This index adjusts happiness for ecological footprint per capita (internal control), taking the quotient of the two, and also takes life expectancy at birth into consideration (more recently, it has also incorporated income inequality). Based on this index, the countries of the world can be ranked (Jeffrey et al. 2016). Countries from Latin America head this list, too. These countries, maintaining a relatively high level of internal control, have notably high levels of happiness as well. The end of the list is dominated by countries from Sub-Saharan Africa. Environmentally sustainable they may be, but very few people there

[21] Subjective well-being is often measured by assessing answers to the following question: "All things considered, how satisfied are you with your life as it is now? Zero stands for 'really unsatisfied', and 10 for 'really satisfied'. Where would you place yourself on this scale?"

[22] If, instead of subjective well-being, an objective welfare index is brought into the analysis, for instance the Human Development Index (HDI) developed by the UN, it will also become apparent that mankind has so far avoided combining well-being (or welfare) with environmental sustainability, although there are significant differences between entities – i.e. countries. (No such figures are shown here. See e.g. Global Footprint Network s. a.).

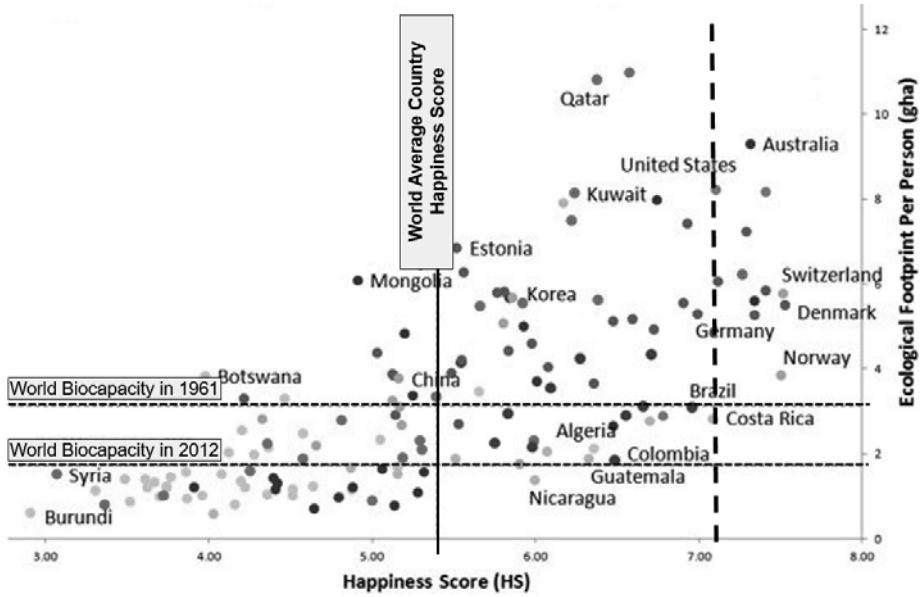

Figure 7. Relation between internal control (ecological footprint per capita) and happiness (subjective well-being) in 2012 (bold dashed line is added by the author)

Source: Global Footprint Network (2016), with modifications by the author.

feel that their lives are worth living (see also Csák 2018) thus they lag behind in terms of social futuring. The sentiment of the population underpins the fact that their region is the most unhappy place in the world. These countries can be found in the lower-left corner of Figure 8.

Although the Happy Planet Index introduces important factors into the analysis by integrating life expectancy and income inequality, we still find it meaningful to create a less complicated index that is "as plain as one's nose." This is the quotient of ecological footprint per capita and subjective well-being. Since internal control is the reciprocal of the former, the formula can be rearranged: the above-mentioned quotient is the product of internal control and subjective well-being (Figure 4, relationships pertaining to the left-hand triangle). This product could technically be called "happiness efficiency," but calling it the "celestial footprint" (Kocsis 2013: 5–6) is more advantageous given that this concept might be communicated more easily. Celestial footprint therefore complements terrestrial/material footprint in terms of human well-being (feeling as a whole), and combines natural scientific relevance with the fields of social science that deal with human happiness.

From the perspective of social futuring, an important direction for research would be to examine the causes of the diverse "performance" of social entities in terms of internal and external control that result in a different celestial footprint (happiness efficiency); it would also be useful to find ways for "underperformers" to adopt potential good examples. It is, for instance, interesting that – according to the figures – Australia and Norway have completely different internal control levels and virtually the same results on the happiness scale, whereas the internal control figures for China, Hungary and Brazil are similar but the happiness results are very different (i.e. the size and consistency of our celestial footprints vary to a considerable extent). Research on this in relation to social entities that are smaller than countries and nations is desirable and important for the future.

3.5. Example of good practice: voluntary simplicity

Voluntary population control as a means of decreasing internal control is unique to humans. There are no other species in the animal kingdom that deliberately choose not to fill the available ecological space with offspring for the sake of more affluence and welfare. Humans are indeed capable of this, which is the very reason that it is not global population itself that defines the available ecological space, but the product of global population and average affluence (consumption) per capita (I = P * A). In terms of affluence, there is of course a difference between people. It is for this reason that average affluence is used in the formula. There is also a peculiar trade-off between population and affluence, which involves definitions that vary from one individual, community, country – i.e. social entity – to another. Naturally, this choice is just *one* source of the infamous inequalities in income and wealth; it would therefore be advisable to examine the idea of equality-righteousness more frequently using this perspective.

Study of the issue at a national level, about which economic and sustainability figures are found in abundance, is beyond doubt convenient; however, many good examples can be found at local levels, too. We do not necessarily need to go as far as Latin America, or the United States of America for that matter (see also Takács-Sánta 2017 for Hungarian cases), although the emergence and moderate spread of the *voluntary simplicity* movement is quite a remarkable phenomenon considering that the US is one of the richest and most developed countries in the world, setting examples in many ways (not including environmental sustainability). The philosophy and practice of this movement highlights the possibility of exploiting human potential and practicing internal control with regard to consumption. This does not mean "giving up," but rather "opening up" to a broader and freer human completeness, which is also the basis of social futuring (Csák 2018).

Let us then examine this lifestyle, characterized by high levels of subjective well-being (happiness) and a resistance to material growth and consumerism, from a number of perspectives. The voluntary simplicity movement stands on sound theoretical and practical foundations (Gregg 1936; Elgin – Mitchell 1977; Elgin 1993). Moreover, it has not declined in popularity (Schreurs 2010; Gambrel – Cafaro 2010; Jackson 2008, Gandolfi – Cherrier 2008; Shi 2007; de Graaf et al. 2005; Etzioni 2004; De Geus 2003). As we cannot possibly undertake to unfold all the details of this sophisticated concept here, only the most typical features of a voluntary simplifier will be described.

The theory and practice of voluntary simplicity may be seen as institutionalized resistance to a consumer society. Voluntary simplicity is essentially a lifestyle which is outwardly simple but inwardly rich (Elgin 1993). The movement is rooted, for example, in the legendary frugality and independence of puritans, in Henry David Thoreau's close-to-nature vision at Lake Walden (1854), in Ralph Waldo Emerson's practical and spiritual dedication to a simple life, and in the social philosophy of spiritual leaders like Jesus and Gandhi. According to advocates of voluntary simplicity, the present social and environmental crisis is a further argument for dedicating ourselves to leading a socially and environmentally more responsible life (for details about voluntary simplicity and its criticisms, see Kocsis 2002b: Chapters 3 and 4). A classic book by Elgin and Mitchell, published in 1977, differentiated the five basic values of voluntary simplicity, including: material simplicity; human scale; autonomy; ecological awareness; and personal growth.

But who are the voluntary simplifiers exactly? Valuable information can be found about this from the questionnaires of researchers who study the movement. Shama and Wisenblit's (1984) dogmatic statements that identify followers of voluntary simplicity have seen much use in research, even in recent times. They include: (1) I believe in voluntary simplicity, which means that I only buy and consume in quantities I need; (2) I believe in the "small is beautiful" principle (see also Schumacher 1980), for example, I prefer a small car to a larger one; (3) The function of a product is more important than its looks; (4) I prefer personal growth to economic growth; (5) I aim to have greater control over my life, for example, I abstain from instalment buying; (6) I believe I am ecologically aware (Shama – Wisenblit 1984: 233). Of course, the values and beliefs inherent in agreeing with these statements are closely connected to a lifestyle that is less material intensive and, at the same time, requires more internal control.

Questionnaires that survey voluntary simplicity in practice usually enquire about respondents' everyday activities. In the 1970s, this activity started out in California; no wonder, as that region was – and still is – one of the most well developed in the world from a material perspective. The movement has since be-

come much more widespread globally. Dorothy Leonard-Barton's questionnaire, originally used in California in 1981, is nowadays a household survey that is popular among researchers who study lifestyles and environmental sustainability in connection with voluntary simplicity (Alexander – Ussher 2012; Schreurs et al. 2012; Merrick 2012; Chhetri et al. 2009; Hamilton – Denniss 2005; Huneke 2005; Grigsby 2004; Craig –Hill 2002; Pierce 2000).

According to the general findings of the survey, a typical voluntary simplifier makes presents instead of buying them; rides a bicycle for recreation and transport; recycles glass bottles or collects them selectively; self-educates to become more independent (e.g. painting their own house); chooses to do without meat; buys clothes in second-hand shops; buys furniture second-hand, even the bigger pieces (above approximately 20 USD); builds furniture and makes clothes for the family; barters to avoid the use of cash; and grows vegetables in the summer for consumption (Leonard-Barton 1981: 250–251). Considering all the above as *voluntary* (involuntariness would refer to a state of material poverty), it seems reasonable to assume that voluntary simplifiers may be able to decrease the material consumption of the economy (as well as environmental impact).

It is important to note that creating adequate *structures* may be essential to promote such activities. For example, good quality, safe bicycle lanes should exist along with selective waste containers in neighborhoods, and barter deals and local currencies should be legal and neither frowned upon by authorities nor persecuted as forms of tax evasion. These suggestions also hint at the importance of sober top-down policies for promoting internal control and "officializing" it.

Voluntary simplicity may only become attractive if people have fully and *securely* satisfied their basic *physical and physiological* needs – this presumption also fits Maslow's thesis about basic human needs (1954).

> Voluntary simplicity is thus a choice a successful corporate lawyer, not a homeless person, faces; Singapore, not Rwanda. Indeed, to urge the poor or near poor to draw satisfaction from consuming less is to ignore the profound connection between the hierarchy of human needs and consumption. It becomes an obsession that can be overcome only after basic creature comfort needs are well and securely sated. (Etzioni 2004: 415)

Thus, it is consumerism, rather than consumption itself, that voluntary simplicity aims to limit (Etzioni 2004: 416).

This observation also points to the fact that not every social entity can afford to engage in voluntary simplicity. For this reason, it cannot be regarded as a universal strategy to be followed by everyone. In reality, a sustainable position should be found along the continuum that also figures necessity, comfort and excess. Voluntary simplicity can be interpreted as an artistic endeavour that is indeed socially futurable, since it offers the possibility of a life worth living.

4. CONCLUSIONS

The first stage of the human project has doubtlessly ended; the earth has been "replenished" and "formed in our image." One cannot possibly find a single spot on the planet that is completely exempt from human (anthropogenic) influence. To a significant extent, the systems of the biosphere have been engineered in a way that they yield maximum social-economic profits to mankind. We live in the geological era of the Anthropocene by the virtue of technological development brought about by humans. This is an impressive success, and humans are worthy of the highest praise: at school, they would get an A+ for their efforts.

Now, the second phase of the human project must be launched – the sooner the better – and this will be just as challenging as the first phase. This is because the system has been "overdeveloped"; plans have developed „beyond expectations" and so corrections are necessary. Technological development, through which the ecological space available to humans has been successfully enlarged, has relied heavily on non-renewable natural resources and energy sources, especially fossil fuel, during the Anthropocene era, which started in – or is rooted in – the Industrial Revolution. Our technology now enables us to exert immense external control over our environment. Nonetheless, this attitude is by no means sustainable in the long run. Will "homo" be "sapiens" enough to realize this and dedicate resources and creativity to solving this problem in the second part of this historical age?

Achieving environmental sustainability – which must not be perceived as a static, non-changing state – has become a task, an objective, which we, human *persons*, must realize partly by creating structures that move individual behaviour in the desired direction. The latter suggests the political relevance of this topic, which is not discussed in this study. However, we may well hope that social futuring will be realized at the level of various entities some time in the future, and as a result, mankind will eventually prevail.

Actively shrinking ecological space, which has already been enlarged beyond the limits, will not be easy, since humans have already "moved in"; population and affluence already fill in the space seamlessly. This has happened exactly in line with the natural law that states that each species will eventually fill in the available niche with population. Technological development was never designed to shrink our ecological space. On the contrary, it has enabled us to increase that space by making it possible to rearrange and restructure impacts (e.g. favoring the environmental hazards of a nuclear power plant instead of those of a fossil plant, using catalysts to turn air pollution into hazardous waste, or taller chimneys to emit the same amount of pollutants while employing more of the waste-assimilation "services" of nature). Technological changes that result in rearrangements

within the ecological sphere may win us time, but the issue of overshoot still remains. A non-technological solution, however, is within arm's reach, as it lies in human nature itself. The existence of creativity and human potential – which has been responsible for the incredible development and the alteration of the environment – supports our optimistic premise that we shall become more capable of voluntarily controlling ourselves.

This existing and functioning internal control tells us to do without *some* of the material wealth created by external control, because it is environmentally unsustainable in the long run. The times in which mankind was forced to maintain greater internal control are not unfamiliar – just think of summers you had to survive without air conditioning! It is easy to get used to comfort – deciding to do without it is much more difficult. In any case, the attempt is far from trying to turn back the clock on history. Abstaining from some comforts is hardly a "back to the trees" strategy; a label often used for radical environmental movements. However, if we continue to consider this form of control a source of inevitable unhappiness, we may continue to seek the material blessings of the "final epoch." A future correction will happen in any case, all by itself, and, as a result, mankind will return to a level that really is environmentally sustainable – yet this will involve much graver human and ecological sacrifice.

As responsible thinkers, we need to figure out new, socially futurable and environmentally sustainable strategies for avoiding this disaster. There are numerous examples of individuals and movements that can be considered as practicing proactive and functioning internal control. The US-based voluntary simplicity movement has been described in this study. We have seen that an increase in internal control (doing without some of the available material comfort) may result in an increase in happiness (subjective well-being). In many cases, this attitude even seems to be the right one for achieving happiness as a sole target (disregarding concerns for environmental sustainability). This approach can lead to the creation of an agreeable strategy rooted organically in human nature. Less is more. The phenomenon can be interpreted and communicated quite easily using the earlier-coined concept of celestial footprint: humans are in possession of a resource that is not limited in any material sense, whose potential may equal that of human creativity, and which enables technological development. Increasing the celestial footprint (internal control coupled with increased happiness) is a real art that extends beyond the level of individuals. The creation and implementation of a suitable political strategy must occur just as it has with external control over our natural environment. This is the most important socially futurable and environmentally sustainable task in the second stage of the human project.

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