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Journal

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Editors' Preface

Dear readers,

We are pleased to present to you the third issue of *Afeka Journal of Engineering and Science*. The academic year of 2021-2022 opened with the waning of the “fourth wave” of Covid-19, and it seems that academic life is returning to the old vitality of teaching and research under the Green Pass guidelines. Although Afeka’s students have online access to the courses they study, they are happy to be present in the classrooms and laboratories, and the campus is as lively as ever.

The third issue of Afeka brings to you, the readers, papers that reflect interesting connections between the world of engineering and science and other areas that comprise our lives:

- Dr. Eli Eilon writes about life crises as an opportunity for a person experiencing them to set out on a philosophical journey and to investigate fundamental questions in his life. During this philosophical journey, one develops a broader and deeper life perspective that acquires a practical expression in his private and professional life.

- Ms. Tanya Argaman presents the way in which insurance companies take advantage of the cognitive failures that afflict us when we make decisions, and offers an applied, moral solution that will increase confidence in the insurance industry.

- Prof. Isaac Ben Israel analyzes our tendency to strive for completeness or perfection, and points to its unexpected results in military activity and in general. This paper by Prof. Ben Israel was originally published in May 1994 in the journal *Maarachot*, and we are grateful to its editors for agreeing to republish it, especially at a time when we are examining the decisions of the systems of government in dealing with the coronavirus pandemic.

- Ms. Iris Ginzburg examines Karl Popper’s critique of Marxist historicism as a scientific theory by comparing the theory of historicism, which assumes that the processes of human sociocultural evolution are governed by laws, to Darwin’s theory of biological evolution, now accepted as an established scientific theory.

- Dr. Carmel Vaisman deals with the cultural moment in which robots cross the boundary between object and subject. Using a variety of examples from the field, she outlines a spectrum of legitimacy of viewing the robot as an Other and establishing relationships with it, and challenges the assumptions underlying this subject.

- Dr. Sharon Hefetz surveys the category of mobile payments that today drives a wide range of economic and social activities of both consumers and businesses. Digital payment applications (on smartphones) continue to spread rapidly around the world and affect consumers’ financial conduct. These apps also serve as a portal to the banking system and as a broad playing field for the fierce competition between local players and global giants, banks, large-scale retail chains, credit card companies and technology platforms.

- Dr. Yaron Cohen Tzemach discusses the ascendance of the corporate world in the context of studies that have indicated an ethical degradation characterized by managerial corruption, environmental irresponsibility, and the generation of financial crises. These studies, which were prompted an intense

public reaction, brought about a change in the conduct of corporations and made them work out a conception of social responsibility that is well integrated in their business strategy.

- Mr. Nimrod Matan offers a way of thinking of photography as part of reality and not as distinct from it and as a representation of it, and accordingly shows that learning from photography is a process that is indistinguishable from other life processes. The backdrop of his remarks is Walter Benjamin's understanding of the depletion of human experience and the ability to pass it on to future generations.

- Mr. Eliran Rubin interviews Dr. Nadav Cohen, who has been researching the field of deep learning, the technology underlying artificial intelligence, for nearly a decade. This practice had been hitherto based on trial and error, and the system's decision-making process remained a kind of "black box", according to Dr. Cohen, but despite its success there are problems that still need to be solved.

- Dr. Guy Moshe Ross writes about the way Covid-19 has led many cities around the world to deploy advanced technological systems to track people. These steps are meant to assist the fight against the spreading of the pandemic, but they also raised the fear of compromising the right to privacy. Ross's paper analyzes our willingness to accept monitoring technologies in our living environment when they are essential to the success of the fight against the pandemic.

We thank the authors for their contribution to the publication of the current issue, and hope that readers will find, in the abundance of topics that feature in it, an intellectual interest that broadens the mind.

We wish you a pleasant reading,

Dr. Kuti Shoham – Chief Editor
Dr. Yaron Cohen-Tzemach – Scientific Editor
Mr. Ran Cohen – Linguistic Editor

Opening Remarks

It is my great pleasure to present the third annual multidisciplinary *Afeka Journal of Engineering and Science*. This year's edition encompasses three main themes – future society (which has already become the present), ethics (the compass for engineers in the technological age) and philosophy (the integration of which in an engineering journal only emphasizes the importance of multidisciplinary in this day and age).

We are living in an era that is seeing exponential growth in technology, which has only accelerated in the wake of the coronavirus crisis. Today's younger generation will be tasked with finding solutions to a host of new problems in matters of climate and health among others.

In a future economy that will be expected to be STEM oriented, these issues further highlight the need to develop skilled human capital in the fields of science and technology. Importantly, the process of developing qualified human capital needs to begin in early childhood. We have a responsibility towards the personal development of each and every one of our students along the entire educational continuum – from kindergarten through to academia, as well as towards their future contribution to industry and society as a whole.

In order to maintain the relevance of education that we provide, it is necessary to adopt managerial approaches that begin by setting goals for the educational process by defining the desired graduate profile as one that combines knowledge, skills and values. The educational process itself should incorporate relevant pedagogical approaches, multidisciplinary studies and skills such as self-learning, critical thinking and teamwork as learning outcomes. Infrastructures must also support the educational process – including updated teaching, learning and work spaces and advanced technologies. Adopting such an approach will help achieve the desired learning outcomes and make the learning process an enriching experience that is relevant to real-life; will maximize the potential of our human capital; and ensure that the State of Israel continues to develop its capabilities, maintain its dominance in the fields of science and technology and other fields, and as a result, improve its national resilience.

We are currently in the midst of learning this new reality – a reality where uncertainty is the only constant. *Afeka's* journal provides a platform for raising these issues and emphasizes the importance of each field of knowledge and every skill in successfully solving problems.

I would like to conclude by thanking everyone who contributed to the writing, editing and production of three successful issues of *AJES* – a journal that reflects the wide variety of topics that we deal with every day. Each year I wait in anticipation for its publication and proudly distribute this product of the joint efforts of many worthy academics.

My utmost gratitude and appreciation to all.

Pleasant reading,

Prof. Ami Moyal

President

Afeka – Tel Aviv Academic College of Engineering

Insurance and Behavioral Economics

Tanya Argaman

A student of psychology and economics at the Open University, Argaman has been working in the insurance field for 15 years and is currently the head of business at an insurance agency. In this role, she defines and enforces underwriting procedures according to the regulations of the insurance industry. In recent years she has an independent researcher of the field of behavioral economics and its impact on risk management procedures.

We are all familiar with the term “insurance frauds”, but what exactly is hiding behind these words? In our decisions, we are led by emotions, stigmas, prejudices, and only occasionally by the pure rationale of profitability. The insurance companies know this well and offer us a variety of products that supposedly give us maximum protection from the cruel world around us. But do these proposals meet the requirement of full transparency? Do they include detailed and complete information, and a reasonable and just return? Confidence in the insurance industry seems to be declining due to its widespread use of heuristic rules that ostensibly serve primarily its interests. In this paper, we suggest an applied moral solution to the insurance companies’ use of cognitive failures when we make a decision.

Introduction

One of the most prominent fields in the study of behavioral economics is the insurance industry – an industry that is often associated with the concepts of fraud and deception. The application of insurance principles has existed in the economy since the dawn of time. Ancient Chinese merchants used to distribute their goods evenly, thus lowering the level of risk for all goods; the inhabitants of Rhodes conceived the idea of the general average, which later became the maritime law, and thus ensured the welfare of all the merchants on the ship; the Great Fire in London in 1666 led to the development of a home insurance venture to ensure the safety of thousands of families in case they were left homeless. As we shall see, the insurance institution stands on the principles of assistance and the pursuit of equality. Today, however, the managers of insurance companies are mainly concerned with making profits, while being quite flexible regarding the moral aspect of insurance, to the extent of giving it up altogether.

In this study we will present solutions for the moral use of behavioral-economics tools in the insurance world. We will first highlight the current problematic nature of the implementation of the ideas of libertarian paternalism in the modern world of insurance. We will briefly review some cases where the use by insurance companies of the biased judgement of the insured contributes mainly to the well-being of those companies. We will briefly demonstrate the use of biases also in the employee-employer relationship of the insurance corporations. Finally, we will examine the role of default bias in the marketing of pension funds.

In the second part of our study, we will present practical tools for dealing with the lack of ethics associated with the use of the principles of behavioral economics in the insurance industry. We shall describe the role of insurance companies' decisions in tort law and risk concepts. We will demonstrate some of the biases and their uses while preserving ethical principles. We will then review individual biases when making insurance decisions and propose a solution to the use of these biases while preserving ethical principles. We will conclude with a concise explanation of why, in our opinion, it is indeed possible to attain a balance between ethics and the behavioral economics of the insurance world.

1.

According to Brinkmann's study,¹ fraud in the modern insurance world stems from the relationship established on mutual deception between the insured party and the insurer. The long, convoluted insurance contracts cause policyholders to make transactions that do not rely on the complete information prescribed by the rules of business ethics and often rely on biases such as "it will be okay" and "my neighbor did the same". Lack of information pushes the insured into a state of helplessness and when an incident occurs and forces him to resort to deceptive and fraudulent measures in order to receive compensation. Were the information more transparent, clearer and more concise, Brinkmann argues, the incessant cycle of deception between the insured and the insurer could be avoided.

1.1. Use of Cognitive Biases in Pricing

As players in the insurance world, we must remember that different types of insurance are created in response to our consumption, and we determine the prices for those insurances and not the insurance companies, as we may naively assume.

The prices of the insurance products, extortionate as they may be, are paid and will be paid by us only because we have consented to pay them. We determine them while ignoring the effect of "anchoring" on our decisions. Our conclusion is not based on an estimate of the reasonable cost of health insurance, for example, taking into account the statistics of the risk to which the insurers providing us the insurance are exposed. Most of us also lack the professional experience required to understand what the insurance actually includes. The game is simple – the insurers explain to us how important it is to purchase health insurance, especially from their specific insurance company, and we negotiate with them on the price, although the bar was set beforehand by those insurers. Therefore, if we find insurance prices on the internet that are around \$200 per year, we will buy the same insurance when its price drops to \$150. However, we

1. Brinkmann, J. (2005). "Understanding insurance customer dishonesty: Outline of a situational approach". *Journal of Business Ethics*, 61, p.183-197.

must not forget that a price of \$200 is the anchor leaked to the media by those insurers to set the desired price minimum for them.

1.1. Selected Pension Funds and the Default Bias

One notable example of the application of the foundations of libertarian paternalism in the world of insurance is the program of “default” pension funds. The outline was, as judged by most people, an ethical act on the part of the insurance companies and the Ministry of Finance, which both rushed to the help of the individual in the complex issue of “pension savings”. The core of the program was default pension funds with reduced management fees.

However, two years after the first tender of the selected insurance companies, the “reduced” management fees rose from 1.31% of the deposit and 0.01% of the accrual to 2.49% of the deposit and 0.05% of the accrual.² Within two years, the saver’s weighted management fees jumped from 0.14% to 0.30% – an increase of about 100% (!). In addition to the increase in management fees, which in itself obviates the program, there are also data on yields. The pension funds that rushed to win the outline program’s tenders are small funds with corresponding market shares. Halman Aldubi, Meitav Dash, Psagot and Altshuler Shaham together accounted for only about 3% of the entire asset market. In contrast – the giants such as Clal, Menora, Phoenix, Harel and Migdal, which that did not win the tender (some of them did not even participate in it) make up almost the entire market, because most of the assets are currently managed in their funds.³

The Israeli Pension Market, by managed assets and deposits in the recent year, in billions of shekels

Pension Fund	Managed Assets	Market Share	Deposits in Last 12 Months	Deposit Market Share
Mivtachim	113	34.24%	11.30	29.55%
Makefet	65	19.70%	7.20	18.83%
Harel Pension	60	18.18%	5.87	20.58%
Clal Pension	54.6	16.54%	5.59	14/62%
Phoenix Pension	22	6.67%	3.40	8.89%
Meitav Dash Pension	8.8	2.67%	1.57	4.11%
Altshuler Shaham	3.4	1.03%	0.58	1.52%
Psagot	2.17	0.66%	0.46	1.20%
Halman-Aldubi	1.06	0.31%	0.27	0.70%
Total	330.03	100%	38.24	100%

It seems that the actual returns of savers in the default pension funds will be lower and so will the savings with which they will reach retirement age. Using a default bias on the insured made them to choose funds that, prima facie, would not be able to maintain their savings at a respectable level, like those of the big insurers.

2. “What Are the New Default Pension Funds in 2018, and Should You Make the Switch?”, *TheMarker*, September 2021 (in Hebrew).

3. Bindman, R., “The Default Pension: Management Fees Are Up, and the Brokers Profit”, *Calcalist*, December 9th 2018 (in Hebrew).

1.3. The Insurance Companies' Code of Conduct

Employees of the insurance industry are exposed to the ostentatious choice architecture of insurance companies when making their decision regarding the signing of an employment contract at the company. They are burdened with great responsibility from the moment they get the job in the organization, and often without their being aware of it. Among the documents for signing, the new employee also signs a statement according to which he or she has read the company's code of ethics and commits to everything stated in it. Apparently, you may not be surprised to know that only few of them read the code just before signing the employment contract. In fact, not many people bother to take an interest in it even after signing. However, there are quite a few clauses in the insurance companies' code of ethics whose content is vague and even worrying for the junior workers. Take, for example, an ethical code of Harel insurance company,⁴ according to which the company's managers are supposed to be responsible for the safety and health of the employees, while they, the employees, take full responsibility for the professional activity in the company. Moreover, according to the ethical code, employees – supposedly the only ones who bear professional responsibility in the company – are asked not to express their professional opinion publicly unless it is in their own name.

Professionality

We are committed to act in every matter according to professional standards and to strive for the optimal completion of our tasks, while assuming full responsibility for our actions.

In every comment or reaction on the internet and in the social web, we do not state our job and title in the company and stress that our opinion is our own and does not represent the company's position.

If we are asked a question, including on the internet and in the social web, about the company's activity, we refer them to the authorized officials in the company and/or to the company's website, in order to receive an official answer to these issues.

We strive to contribute to achieving Harel's goals and to the promotion of the company whenever it can be done legally and ethically.

In any case of doubt as to the choice of proper path while doing our job at Harel, we must consult with our superiors or with another professional function in Harel on the matter at hand.

The preamble of the company's code addresses the ethical principles of integrity, fairness, and transparency. However, signing the employee on a document he never saw is a blatant violation of those principles. In addition, the formal and prescribed transfer of responsibility from the high ranks of management to the company's junior employees paints the code of ethics in managerial rather than ethical hues. An ethical code becomes a disclaimer letter for the management staff in the event of negligence or a lawsuit for unprofessionalism, and therefore cannot be founded on the ethical principles it presents as its pillars.

4. Retrieved from <https://www.harel-group.co.il/about/CSR/Pages/moral-code.aspx>.

1.4. Libertarian Paternalism in the Insurance World is Immoral; Is It?

Use of biases, disposition to conformity, reliance on rules of thumb – this is but a small list of the choice-architecture tools according to the libertarian paternalism employed by managers in the insurance world. As the pool of insured persons expands, the insurance loses the personal aspect, the solidarity between the insured and the insurer fades and the insurance procedure becomes automatic and does not discern the different and varied features of the insured public. The use of cognitive procedures is generalized and thus ceases to be tailored to the individual and specific reaction of each insured individual, in view of the appearance of various cognitive stimuli (e.g., choosing a default option or defining a base rate as a point for creating the anchor). Behavioral economics, according to Richard Thaler, as he described this economics and its goals in his work *Nudge*, is disappearing and giving way to the economy of the “cruel”, dog-eat-dog business world.⁵

Indeed, it is very important to maintain ethics in creating insurance arrangements because they greatly influence risk management in the business world. They shape the ethical responsibility of the wider world, both on the business and on the individual level. With a greater emphasis on ethics and morality we may still benefit from the architecture of our choice at the hands of the insurance managers. Help in choosing a product as complex as pension savings is certainly welcome, as long as it is moral and free of greed on the part of the helper. The existence of a code of ethics in public companies is necessary for the preservation of the company’s ethics, as long as the code is authentic and not one that is constructed as a diversion from the moral responsibility of managers. Emphasizing the main coverages and conditions for the provision of compensation for those coverages, instead of much fine print in the qualification statements of the insurance contracts, may certainly lower the level of deception on the part of the insured.

2.

The rules of conduct of insurance companies must be founded on ethics and morality, as these rules form the basis of many social concepts and rules of conduct. However, the moral status of the insurance company, like that of any other corporation, is questionable. First, the insurance company is not a human entity and therefore is unable to make moral considerations based on human qualities such as will, intention, awareness, and action.⁶ Therefore, Velasquez argues, a corporation should be treated as an organization of individuals, each and every one of them fulfills their moral responsibility. The aggregate of their actions out of their free will and in awareness of the consequences and implications of these actions constitutes the moral basis of the corporation’s action. Therefore, the ethicality of the corporation should not be judged as the responsibility of the collective, but according to the actions of the individuals in it, who each bear a moral responsibility for their activity in the corporation. Moral formative leadership, based on the attainment of social goals and striving to realize the potential of each employee as a good person, includes the ethic of the leader per se and as part of the corporation’s aggregate action. Sometimes, however, there are limitations arising from the structure of the organization that dictate the framework for such action of the leader and the ability of the employees to respond to it. The denial of the moral status of the insurance company will constitute a ground for non-fulfillment of the company’s obligations towards its insured, and as a result, failure to conserve their natural rights.

5. Geva, A. (2011). *Ethics and Business: Parallels Meet*. HaKibbutz HaMe’uhad (in Hebrew).

6. Velasquez M.G., (2002). *Business ethics: Concepts and Cases*. Prentice Hall.

There are various ways to strengthen the morality of individuals in a corporation while maintaining the moral responsibility of the corporation itself. Models of corporate governance or a model of making ethical decisions in business offer different solutions for moral conduct. We will examine some of these solutions and try to build a scenario for the moral action of the insurance company that allows the justification of the use of the laws of behavioral economics.

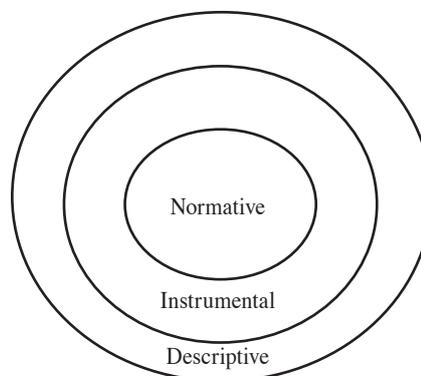
2.1 The Stakeholder Model⁷

The stakeholder model challenges the absoluteness of the definition of the manager, according to the classic model, as a representative of the shareholders only, and seeks to take into account that the stakeholders in the corporation are **all** affected by the corporation decision: employees, suppliers, customers, administration and so on. Therefore, the CEO of the corporation must choose a moral solution that will meet the requirements of all stakeholders. Since the approach to stakeholders is thoroughly different from the approach to the corporation's customers, the CEO must guide the solution's implementation by some ethical principles, so that for every class of stakeholders, a moral principle that describes their needs will be suitable. For example, for the customers, a moral solution can be reached through the application of the principles of duty and right, thus not depriving customers of the right to know and the company of its duty to provide customers with this knowledge. Let us not forget that a solution to a moral problem must result in the absence of this problem, in terms of all the strata of stakeholders. Otherwise, the moral problem can pass from the customers to the shareholders, for example.

To reach a conclusion about the solution we must investigate it at three levels: the empirical level, the instrumental level and the normative level. The analysis of the solution according to these levels was introduced by Donaldson and Preston,⁸ and they claim that it ensures the optimal moral solution based on its various aspects. The empirical level deals with the currently existing situation, the instrumental level requires the efficiency of the action and the normative level raises the question of morality – what should be done?

As an example of analysis by these levels we will look at the program of the default pension funds. Despite the low returns of the default funds compared to the management fees that have recently almost been equated to those in regular funds, calculating the benefit versus the estimated damage to customers, it should be assumed that joining any pension fund is preferable to a complete lack of pension savings. It should not be overlooked that the workers who would have given up their pensions in the face of the difficult and complex dilemma of choosing have in turn received pensions without troubling themselves with difficult choices. The principle of utilitarianism at the center of the reform is applied vis-à-vis most stakeholders – the customers who receive their savings at retirement age, the shareholders who increase their profits thanks to the rise in the profits of the insurance companies, the insurance brokers (middlemen) whose livelihoods not only are unharmed but also increase with the

Three Aspects of Stakeholder Theory



7. Freeman E.R., (1984), *Strategic Management: A Stakeholder Approach*, Cambridge University.

8. Donaldson T. & Preston L.E., (1995), "The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications", *The Academy of Management Review*, p. 65-91.

profits of the insurance companies, as well as the government who enacted the reform, thus increasing the volume of the capital gains tax.

Using the default bias, which allows the choice of the product examined by the experts and saves cognitive effort for the choosers,⁹ is ultimately a solution for the benefit of all, maximizing happiness for most stakeholders. Therefore, it seems that the application of the stakeholder model as a solution to our ethical problem is done as follows: the core of the solution is the principle of utilitarianism applied in building the mechanism that enables the establishment of the “default” pension fund project, achieving its success using the cognitive failure known as “framing”. The success of the venture leads to the profits of shareholders while maintaining the maximum good of the other stakeholders, such as the customers and insurance brokers, which proves that the model does apply the principle of utilitarianism and the principle of right.

2.2 Decision-Making According to Nikos Scordis’ Risk Management Model¹⁰

The work of the actuary in insurance companies is largely based on dry statistics. To build procedures for developing models, such as that of risk management, actuarial experts use various algorithms that simulate many possible outcomes for one managerial decision or another. After obtaining the quantitative data, graphs and tables are constructed for the purpose of obtaining the probabilities for the various occurrences previously examined. And finally, after summarizing the data, the profitability is checked for the company managers. The reviews of the model outcomes are based on the opinion of the decision makers, and therefore they are usually only a local and subjective solution to the given situation. Since the models are based on mathematical calculations, the decision-makers harbor the illusion of confidence in the correctness of the data imported into the models. This overconfidence is based on the assumption of classical economics that each person is a purely rational entity, guided in his decisions by considerations of maximizing profits only. However, as Thaler argues in *Nudge*, only few of us are, so our decisions are often not based on rational considerations. A notable example of the collapse of a rational mathematical model of risk management is the US subprime crisis of 2008, when the statistics of the rating agencies and the classical assumptions by the investment houses warped the dangerous reality of the giant real estate bubble. According to Nikos Scordis, in order to moderate the impact of quantitative data on the construction of the risk management model, while at the same time avoiding the recklessness, ambiguity and subjectivity of critical assessments of it, the model must be founded on Aristotle’s ethical foundations. Scordis sees insight – one of the four main virtues mentioned by Aristotle¹¹ – as a stable framework that will provide a cautious point of reference for critical evaluations and the development of new models built not only on quantitative data, which sometimes underestimate the true level of risk, but also on the practical wisdom of risk managers. A risk manager will be considered wise if he or she has the ability to recognize the real needs of the person facing him. Understanding that each person is a separate entity that treats its assets differently and the risks involved in purchasing them will help that wise manager offer the right product that matches the mental accounting of that particular customer.¹² Thus, a risk-averse type will be able to choose, under the wise guidance of the risk manager, a model that guarantees him the lowest risk to his assets and he will not have to settle for universal models that do not suit his feelings about risks.

9. Thaler R., Sunstein S., (2008). *Nudge*, Kinneret Zmora Bitan (in Hebrew).

10. Scordis N., (2011). "The Morality of Risk Modeling", *Journal of Business Ethics*, p. 7-16.

11. Aristotle, (2014 [349 BC]), *Ethics: Nicomachus Edition*, translated by Y. G. Liebes, Schocken.

12. Thaler, R. (1985), "Mental Accounting and Consumer Choice", *Marketing Science*, p. 199-214.

Another characteristic of the savvy risk manager, according to Scordis, is the ability to distinguish the interplay between several types of risks and take it into account in constructing the risk model that moderates the effect of this interplay. The quantitative calculations of different risk management models relate to each risk separately and neglect the base rate inherent in the interrelationship between them. As a result, many risk combinations surprise the insurers repeatedly and are sometimes a cause for their appearance in court due to the rejection of the insured's claims. The insurance companies' confirmation bias,¹³ which causes them to neglect the existence of the interrelationship between the different types of risks, stems from the desire of those companies to build universal, multi-purpose models. They therefore tend to ignore the factors that are not designed to confirm the universality of the model and neglect the basic rates relating to the existence of those factors. The prudent risk manager, however, will take into account the existence of these interrelations and construct the most appropriate model for each customer's unique preferences.

A wise risk manager is endowed, according to Scordis, with the ability to clarify the consequences of unrealistic risk modeling. In his position vis-à-vis the client or the management, the manager will have the power and ability to present the undesirable consequences of a specific modeling under certain conditions, emphasize its incompatibility with their needs and persuade them to choose the right option. For this purpose, the manager will be able to use various cognitive biases that facilitate a change in the forming of opinions, even if those opinions are wrong. An example of such use could be the decision-making process known in behavioral economics as Elimination-By-Aspects.¹⁴ The main principle of this procedure is to find the most important and dominant attribute for making the decision and eliminating the unwanted possibilities that do not include the said attribute.

As we shall see, massive use of cognitive biases is included in the risk management process. A formative leadership guided by Aristotle's golden mean will be able to fathom the right characteristics inherent in the model's design, thus ensuring the avoidance of extreme decisions made following overconfidence in dry mathematical data or due to too-subjective review assessments, resulting from the management's personal interests.

2.3 The Significance of Equality, Discrimination and Solidarity in the Insurance Risk Pool

The development of an ethical approach in the world of insurance, which advocates the preservation of the basic values of equality and solidarity and the condemnation of discrimination, depends on the extent to which these values underlie the success formula of modern insurance relations. Doyle argues that combining those values as a key to developing ethics in insurance will ensure that this goal is achieved.¹⁵

The Finnish sociologists Lehtonen and Liukko address the issue of solidarity and inequality in insurance.¹⁶ According to them, there are three types of solidarity in the insurance world: chance (a basic idea for risk-sharing), risk (risk comparison) and income solidarity (income equalization). They all differ from one another and satisfy different characterizations of solidarity. The knowledge and understanding of when

13. Plous S., (1993), *The Psychology of Judgment and Decision Making*, McGraw-Hill Education.

14. Tversky, A. (1972), "Elimination by Aspects: A Theory of Choice", *Psychological Review*, p. 281-299.

15. Doyle A., (2011), "Introduction: Insurance and Business Ethics", *Journal of Business Ethics*, p. 1-5.

16. Lehtonen T.-K., Liukko J., (2015), "Producing Solidarity, Inequality and Exclusion Through Insurance", *Res Publica*, p. 155-169.

each one is supposed to operate are, according to Lehtonen and Liukko, the key to embedding the ethical basis in the insurance proceedings. The unique combination of understanding and execution, according to this conception, results in a conduct guided by solidarity in the community of insured who share the same risks: the responsibilities of the insured belonging to the same pool are divided according to the attribution of different probabilities to the chances, risks and incomes of the given insured group. The result of such conduct can be a basis for social norms founded on the principles of justice and equality.

The example presented above shows successful social security that, as early as the last century, offered the outline of action for many governments around the world. Regarding private insurance, the picture that emerges is very different. Many private insurances are built on discriminatory and inequitable foundations, ones that allow for differences of life insurance premiums resulting only from gender differences. The effect of age, health status and even the profession of the insured on the insurance premium is also great. A person with poor health will inevitably pay a higher premium than a person of the same age and the same sex who is healthier. A carpenter who works long hours under harsh conditions will inevitably pay a higher premium than a senior programmer in a high-tech company who usually earns a few dozen percent more than the carpenter.

In 2011, the European Court of Justice banned the fixing of insurance prices on the basis of gender.¹⁷ This is an example of a decision based on the principles of justice and equality. Our proposal for another decision from the pool of justice and social equality is as follows: creating customer pools according to their affiliation to different groups of professions and health levels. By calling for the creation of such pools our intention is not to make dry records of who belongs and who does not. Such pools are already maintained today by insurance companies and are the cause of discrimination against the insured in determining the premiums. Using these pools as a number that includes all those who are afflicted by this illness or another, combined with the true statistical data that indicate the number of applications specifically related to a particular illness, can certainly help reduce costs based on the correlation between the number of insured and the number of claimants following illness. A similar pattern of action is also proposed with respect to the professional pools – the true statistical data of insurance claims for damages as a direct result of the professional occupation in this case may be even lower than in the case of claims for sickness damages. As we shall see, we were inspired by the solidarity model of risk-sharing described at the beginning of this section. Given the fact that the pool model already exists and operates, we hope that copying it to the private sector of insurance will be an easier move than creating a new model that demands fulfilment by the realization of its moral stipulation. Moreover, it can be said that similarities can already be seen in the application of the model to the rules of private insurance – many insurance companies allow sick people to choose whether to insure their illness and thus they preserve the insured's right to decide about his fate. It should be noted that in the old-generation health policies (before the health insurance reform in 2016)¹⁸ there was no coverage at all for mental illness, birth defects and more. Today, the insured may choose, albeit with a significant increase of the premium, if they want to be covered even in situations resulting from these diseases.

17. Doyle A., (2011), "Introduction: Insurance and Business Ethics", *Journal of Business Ethics*, p. 1-5.

18. Ministry of Finance, 2016 (in Hebrew).

Equal opportunities for all without racial or gender differences, a solid and equitable distribution of risks in the common pools, a reduction in the deprivation of the disadvantaged – all these are the conditions for the existence of a just and fair society according to John Rawls' approach.¹⁹ A fair and non-discriminatory attitude towards different insured groups is elevated in our society against the regulatory practices outlined by the principles of generalization and herd behaviors. Seemingly, there is an understanding that conduct based on heuristic thinking and guided by stereotypes and prejudices will not benefit the wider public, nor will it preserve the natural rights of the insured groups. Sometimes, just knowing the existence of heuristic thinking and understanding that it is not suitable for every case helps to make the right decisions, which require more controlled and deeper thinking of all parties.

2.4 Trust vs. Distrust

One of the important questions that lie at the foundation of the insurance system is the question of trust between insurers and policyholders. The purchase of the insurance product results from the general need of security of the insured; preferences for certain products are created as a result of insurers' marketing campaigns, which promise the desired security. The decision to prefer one insurance over another is usually made by the insured based on the summaries of the insurance policies they are about to purchase. As they are about to sign the forms, the insured receive the policy detailing which product they purchased and what their costs are. The policy is usually accompanied by a jacket – a hefty booklet of scores of pages detailing all the coverages included in the insurance just purchased. Apart from the excessive amount of information pages, there are two other interesting facts that uniquely characterize the insurance purchase process. First, the booklet is received, as stated above, at the end of the form signing. Although everyone has the legal right to review the details of the policy, in practice this task becomes impossible when trying to obtain the booklet of coverages and exceptions from the insurance company before purchasing the insurance. Second, the list of exceptions and outstanding cases in which insurance coverage is not provided is written, in many cases, in the margins of the booklet in fine print. In view of the facts we have detailed, it can be assumed that the activation of the policy does not necessarily mean that there is insurance coverage,²⁰ and this is the main reason for the mistrust between the insured and their insurers. Unwieldy contracts and fine print cause a lack of information transparency and inevitably lead to a lack of trust. To promote the development of a solution to this problem, Prof. Øyvind Kvalnes, Head of the Leadership and Organizational Behavior Department at the Norwegian Business School, suggests looking at the ethical basis of the company's procedures that determine the fine-print policy, examining the policyholders' understanding of policy terms and distinguishing the promises of the insurers from the contents of the actual insurance contracts. Only after a clear distinction of the existence of failures in insurance ethics will the opportunity open up for the creation of a relationship of trust between the insured and the insurers. The practical steps towards this change can be aided by using biases. Thus, for example, our tendency to regard seemingly low-cost proposals as preferable options (the effect of "less is better"),²¹ and if, following the toning-down of the insurers' promises, their content becomes better suited to the contract, the latter will become more accurate

19. Rawls, J.B. (1971), *A Theory of Justice*. Belknap Press of Harvard University Press.

20. Kvalnes O., (2012). "Blurred Promises: Ethical Consequences of Fine Print Policies in Insurance", *Journal of Business Ethics*, p. 77-86

21. Kahneman D., (2011). *Think Fast, Think Slow*. Matar (in Hebrew).

and reliable. The elimination of the fine print policy will lead to the perception of insurance products as more reliable, and the highlighting of the outstanding clauses in the shorter insurance contracts will make the insured fully cognizant of the terms of the policy.

Distrust between insurers and policyholders leads to the denial of rights and consequently non-fulfillment of obligations. Using the “less is better” effect will help the insured understand their right fully, by of the complete and accurate information presented to them, and choose the insurance product based on this information and not the feeling (illusion) of missing out that may arise in comparing the given product to other seemingly wider-coverage products. In other words, using a cognitive failure that makes us see the limited option as more preferable will prevent us from making a mistake as a result of purchasing the product that seems to be bigger only because of the longer and more cumbersome insurance contract that goes with it.

3.

In conclusion – the balance between morality and behavioral economics in the insurance world.

As mentioned above, the insurance institution is a social one, responsible for designing and prescribing the rules of conduct in the world of risks and torts. Therefore, it has a responsibility to society for moral and ethical conduct. Extensive use of cognitive failures guides insurers in building the various models of insurance. This use may aggravate the terms of those models for the insured. However, when the principles of morality are laid at its foundation, it seems that this construction has the power to improve the moral conduct of the insurance company. The tenets of libertarian paternalism include respect for freedom of choice. Despite the legitimacy given to the influence of institutions on the behavior of individuals, the approach of libertarian paternalism strives for influence “in a way that will make the choosers better, as they have been judged by themselves”.²²

Behavioral insights are often helpful in decision making where mathematical calculations and regulatory considerations remain ineffectual. Leading insurance companies based on norms and rules of conduct pushes them toward the moral solution that will ultimately lead to greater profits once the trust of the customers is won. The cornerstones of solidarity and equal rights that underlie the development of insurance plans will lead to controlled thinking by the insurers, thus preventing the stereotypical discrimination arising from heuristic thinking. Applying this knowledge to the mode of behavioral thinking will uphold the moral principles of justice. A wise modeling of risk management requires the model programmer to understand the customer’s basic cognitive procedures, to use them to motivate the customer to make the best choice for himself, or, alternatively, to dissuade him from making a bad choice guided by heuristic thinking. Using the golden mean and avoiding extreme decisions in building such a model will form the framework of virtues for personal insurance plans. Motivation of various outlines and projects, such as pension funds, based on the cognitive bias of default selection, while maintaining the principle of utilitarianism for all stakeholders – including customers, brokers, shareholders, etc. – also testifies to the successful application of the balance between morality and the outlines of Libertarian paternalism in the world of insurance.

22. Thaler & Sunstein. *Ibid.*

On the Pursuit of Completeness and Its Unexpected Consequences¹

Isaac Ben Israel

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The following paper, "On the Pursuit of Completeness and Its Unexpected Consequences", was originally published in *Maarachot*, May 1994, Issue 335 (pp. 2-7, 45). Some of the ideas that appear in it were written a decade earlier, in papers that I had published, including in internal military publications.

The circumstances that led to this article were as described below. During the first Gulf War, in which Saddam Hussein launched missiles at Tel Aviv and Haifa, I was head of research department in Air Force intelligence, and a year later I was appointed commander of the IDF's R&D (Research and Development) Unit. The end of that year (November 1992) saw what we later referred to as "Tze'elim Bet Disaster", that is, a military training accident at the Tze'elim army base in which five soldiers from the Sayeret Matkal unit were killed. The accident occurred while the unit's soldiers were rehearsing the assassination of Iraqi President Saddam Hussein.

The accident occurred at 6:10 a.m., when during the "dry" run of the drill, which was supposed to be without live fire, the team mistakenly fired two missiles at a group of soldiers who played the role of Saddam Hussein and his entourage; the missiles were to be launched only in the second, "wet" run of the drill, during which the area was supposed to be clear.

An investigation committee was set up, as well as a military police investigation, at the conclusion of which it was decided, along with such and other reprimands to senior officers who were involved in the project, to prosecute the two officers who commanded the training – Major D. and Captain A. They were brought to trial behind closed doors and Judge (Col. Res.) Oded Modrik was appointed head of the tribunal.

The commander of Sayeret Matkal at the time, Lt. Col. Doron Avital, was not charged

1. *Maarachot*, issue 335 (May 1994), pp. 2-7, 45. See also the response to a critique of this paper in "Predicting Behavior in Reality as an Exact Science", *Maarachot*, issue 341 (May-June 1995), pp. 42-44 (in Hebrew).

both because he was appointed to his post only shortly before the incident and because he was mourning his father's death during the days before the disaster.

Doron, a very talented officer, was then studying philosophy for a master's degree at Tel Aviv University, and I had the honor of supervising his thesis writing. He came to me with the following "philosophical" question: can you put the blame on the two officers because of the tragic outcome (the end-result test), or should it first be proven that they did something ostensibly wrong?

The following paper was in fact written as a kind of philosophical apologetic for Major D. and Captain A. and presented by the author in court.

"Can it be realized, from a rule, what circumstances logically exclude the possibility of error in applying calculation rules? What good will such a rule do us? And can we not err (again) in applying it?" (Wittgenstein, On Certainty).²

"How can a rule show me what I have to do at this point? Everything I do will conform, under a certain interpretation, to the rule" (Wittgenstein, Philosophical Investigations).³

"This is our paradox: no course of action can be determined by a rule, because any course of action can become compatible with the rule" (Wittgenstein, Philosophical Investigations).⁴

Background: On Instructions and Procedures as Panacea

These days, when the Shamgar Committee, as a government commission of inquiry, is mulling over the issue, the public's attention is drawn to the IDF's rules of engagement, the extent of their applicability to reality on the ground in the occupied territories in general and in Hebron in particular, and the degree of their comprehensibility by all levels of command, starting with the general and ending with the last soldier in the Cave of the Patriarchs.

Once more it turns out (as in many other events) that the writers of these procedures failed to predict all the intricacies of reality on the ground, that instructions and procedures written from a particular premise did not match what actually came to be, and that ultimately, a "malfunction" occurred in the field. The solution, as usual, is in the "refinement" of the procedures, that is, the addition of layers to the existing instructions and procedures in order to cover the "loophole" that emerged in reality.

The phenomenon is well known. Oftentimes, when something that has serious consequences happens, especially in the military context (where "serious consequences" usually means the loss of human life), it turns out that there was no adherence to procedures and that someone "failed to obey". In more complex cases, it turns out that the discipline problem stemmed from a particular soldier's misunderstanding of the procedure, or from a "negligent" wording of the procedure, so that a problem arose while it was necessary to act on it and apply it to a given reality on the ground. Many times, one of the outcomes of commissions of inquiry examining such incidents is that a "refinement" of the instructions and procedures so as to cover even the cases that were not properly predicted in the incident under investigation. Underlying this phenomenon is the belief that through a strict and

2. Ludwig Wittgenstein, *On Certainty*, translated by Edna Ullman-Margalit, Keter Publishing, 1986, paragraph 26 (in Hebrew).

3. *Philosophical Investigations*, Basil Blackwell, section 198.

4. *Ibid.*, section 201.

responsible approach, any event on the ground can be covered by instructions and procedures, in a systematic manner.

My purpose, in the pages below, is to show that this belief is unfounded. The hope that it is possible, in a finite number of procedures, to cover every possible “loophole” is futile. I will also discuss the implications of this belief and some of its (usually unappealing) consequences.

It should be emphasized that I do not intend to show that this is the case in general, or that it is difficult to encompass reality in an array of instructions and procedures (difficult but possible), or that the limitation is only “practical”. I intend to prove in a rigorous and accurate way that even in theory, this is an impossible undertaking.

In order to be clear, I should first say a few words about arithmetic and the attempts to prove that it is consistent.

A Matter of Simple Calculation

Arithmetic (an arithmetic that includes addition/subtraction and multiplication/division by integers) is part of our thinking since the dawn of humanity. Modelled on the example of Euclidean geometry, attempts have been made to give it the orderly form of a *deductive* system based on a small number of axioms, from which arithmetic theorems (such as $7 + 2 = 5$ or ‘each number has a larger number’ or ‘there are an infinity of prime numbers’ and so on) can be deduced (with the help of appropriate *transformation rules*). These attempts took an (almost) final form in the late 19th century thanks to the Italian mathematician Peano, who formulated five axioms that are accepted to this day, in one form or another, as the basis of arithmetic.⁵ These axioms served as a starting point for the epic work of Bertrand Russell and Alfred North Whitehead, who defined the foundations of mathematics and based them on a logical foundation in their book *Principia Mathematica*, published in 1910.⁶ Since then, the world of mathematics has debated a number of foundational questions, listed below.

Foundational Questions:

- (1) Do the Peano axioms, or the *Principia Mathematica*’s system, constitute *complete systems*? That is, can they be used to deduce (i.e., prove) any true arithmetic theorem?
- (2) Is it possible to prove that the Peano axioms, or the system of *Principia Mathematica*, constitute *consistent systems*?

These two questions were answered, surprisingly, *negatively* by the mathematician Kurt Gödel in the early 1930s.⁷ The revelation that a particular set of axioms (e.g., the system of the *Principia*) is

5. The Italian Giuseppe Peano was the first to achieve axiomatization in 1899 with the basic concepts of “number”, “zero” and “successor”. Its axioms are:

- A) Zero is a number.
- B) The successor of a number is a number.
- C) There is no natural number whose successor is zero.
- D) No two numbers have the same successor.
- E) An attribute belonging to zero and to the successor of every number with this attribute belongs to all the numbers (induction axioms).

6. B. Russell, A.N. Whitehead: *Principia Mathematica*, 1910.

7. Kurt Gödel, “Über formal unentscheidbare Sätze der Principia Mathematica und verwandter Systeme, I.”, *Monatshefte für Mathematik und Physik* vol. 38 (1931) pp. 173-198.

“incomplete”, does not “seem” to be problematic: if an arithmetic theorem (marked by G) cannot be proved by the *Principia*’s axioms, all that needs to be done is to add this theorem to the system, and everything falls neatly into place. Gödel, however, proved that even if we add it to the axiom system, there will always be another mathematical claim that cannot be deduced from the new system.

Gödel proved, therefore, that any deductive system that contains a *finite* number of axioms (postulates), rules and regulations, has an inherent limitation that does not allow it to cover even a simple field like the arithmetic of integers. Moreover, he showed that the internal consistency of sufficiently complex systems could not be proved, and, therefore, that a definite guarantee that even arithmetic was free of internal contradiction could not be provided.

The philosophical (and *moral*) implications of a Gödel’s theorem go far beyond the realm of arithmetic incompleteness. They can be generalized, in fact, to any language:

No finite set of rules can contain all the true sentences in a particular language, if that language is complex enough (i.e., if it is at least as complex as arithmetic). This conclusion is especially true for the natural languages (Hebrew, English, etc.) of which arithmetic is a *part*. Moreover, we have no assurance that such languages are consistent and in fact any sufficiently complex set of rules may contain inherent, internal inconsistency.⁸

Back to the Illusion of Procedures

If this is the case in simple arithmetic theory, a fortiori it applies to *reality*, even if we reduce the concept of “reality” only to what can be described in language: no finite set of rules (in Hebrew or any other language) will be able to cover all the real situations that can be described in reality; and any system complex enough will not be free from insecurity and internal contradictions. Q.E.D.

It should be noted that the above argument is not based on practical considerations, which are usually based on “difficulties” in exhaustively describing reality. Even at the theoretical level, free from practical limitations, it is impossible to construct a system of instructions and procedures that will cover all the situations describable in reality. *Any attempt to attain completeness, by adding more and more rules and instructions, will fail: a new situation can always be found that is not covered by the given system of rules and instructions.*⁹

8. The basic principles of Gödel’s proof, along with its implications, are explained clearly and exceptionally well in a surprisingly small book: Ernest Nagel, James R. Newman: *Gödel’s Proof*, Routledge, 1958.

9. One could of course argue that a *particular segment* of reality, say shooting in a range, or flying an airplane, is simple enough and less complex than arithmetic, and therefore Gödel’s results do not apply to it. In this case it will be possible to write a finite series of procedures that will cover the said segment, and there is also no reason to prevent us from writing such procedures. But clearly this cannot be done regarding military activity *in its entirety*, which is supposed to deal with a reality whose description is much more complex than arithmetic. In summary: it is possible to write a procedure that will suit a specific problem, but it is impossible to write a procedure that will suit all the problems (see also the discussion below on the theory of the art of war, and Clausewitz’s opinion on the matter).

[Note added in the current version: In the language of the creator of the computer idea, Alan Turing, it was said that for any problem that has an algorithm it is possible to build a specific computer that will solve it. You can also build one computer that can perform all these tasks on its own (the universal Turing machine). However, it is not possible to build a computer that will derive all the arithmetic theorems].

A Note of Reassurance: The Superiority of Man Over Machine

Before I move on to discuss the implications of Gödel's theorems, I would like to reassure the reader about the consistency of arithmetic: is it possible, the reader may rightly ask, that arithmetic is inconsistent and that there are internal contradictions in it? Despite Gödel's proof, such a danger probably does not exist. We can attribute this to Gerhard Gentzen, who in 1936 used a special "trick" to prove that arithmetic is nevertheless consistent. The "trick" that he used is based on a special derivation rule, which deviates from Gödel's "standard" requirements for "proof" (Gödel demanded that all stages of the "proof", i.e., the axioms, the derivation rules, and the number of steps in the proof, be all finite, so that they are can be completely tested).¹⁰

Gentzen's "trick" may teach us an important lesson about the creative power of the human mind, in particular, *and the superiority of man over machine*, in general. The "calculating machines" we know today ("computers") operate in accordance with a (predetermined) series of internal "instructions" ("software"). These instructions are congruent with the fixed derivation rules of a formal procedure based on axioms. Computers can provide a solution to problems by step-by-step, serial actions,¹¹ according to the internal instructions. The calculation procedures in computers, therefore, meet Gödel's requirement of finiteness, and therefore the results of Gödel's theorems apply to them:

There are an infinite (uncountable) number of problems in basic number theory, which cannot be solved with the help of computers (whatever their speed of calculation or complexity). For each specific problem, it is possible to build a specific computer (or software) that will be capable of solving it. But there is no machine that is capable of solving all the problems.

The human mind, too, is limited, and it is also incapable of solving all the problems. However, as Gentzen's example demonstrates, the rules of operation of the human brain are far more powerful than the calculators we know today.¹²

Another important lesson drawn from Gentzen's proof is the one about the need to continue to "strive for completeness" despite the seemingly crippling and discouraging nature of a Gödel's theorem. Gentzen's attempt, then, undoubtedly made a significant contribution to the grounding and development of arithmetic, and to the creative search for new ways of proof designed to "circumvent" Gödel's severe conclusions. Gödel's theorem has given mathematical research a new direction and it clearly indicates what cannot be done. However, it does not determine what can be done and leaves, therefore, the door open to further explore the subject.

10. One of Gentzen's derivation rules is the "principle of transfinite induction", in which he allows induction of the transfinite ordinal numbers defined by Cantor in the 19th century.

11. Or, in more complex computers, by the parallel operation of a finite number of computation threads, in each of which the computation is performed step-by-step (parallel computation).

12. [Note added to the present version and did not appear in the original: One of the attempts to break the restrictive rules of the Turing machine (the computer) is by software that not only performs what the programmer had coded into them, but also are able to learn on their own. This is the basic idea behind the field called "*artificial intelligence*". Another idea is to build a *quantum* computer, in which one bit can represent not only the digit 0 or the digit 1 but also a superposition of both. The author (IBI) maintains that the combination of these two ideas casts great doubt on the above claim as to the superiority of man over machine].

On the Cost of Striving for Completeness

The pursuit of completeness is a sublime (theoretical and moral) ideal, which in the life of action has, in addition to its virtues, some essential shortcomings. First, we have already seen that it is not possible to construct a (finite) set of rules that will completely cover even a segment of reality. Second, the very attempt to build a “complete” system means complicating the instructions and procedures, *obscuring* the distinction between what is of primary and what is of secondary importance, and burdening the one who has to decide which rule should be applied in a given case with increasing practical difficulties.

Trying to “tie up loose ends” and build a set of rules and procedures that will satisfy *every* possible case often means a futile investment of time in a hopeless, Sisyphean task. Hence, the 80/20 “rules of thumb” (“invest 20% of the time to achieve 80% of the results”) are not only helpful *practical* rules, but are based on a profound theoretical reflection, as we have been taught by Gödel.

The foolish attempt to prescribe a procedural remedy for any problem also has some *practical* limitations that preclude such a solution even on the practical level. These limitations do not stem from the set of rules and procedures itself (which we have hitherto discussed) but from the need to *decide* when certain rules apply to a particular case and when they do not. To explain this point, let us first, again, provide a brief philosophical background.

On the Difference Between Pure Reason and the Power of Judgment

The philosopher Emanuel Kant (1724-1804) launched his monumental attack on the foundations of philosophy in his famous book *The Critique of Pure Reason*.¹³ In that book he discusses the rules, categories of thinking and the principles of the mind of human consciousness, which allow us to know reality and *know* something about the world. Kant assumes that we have a pure mathematics, and a pure natural science (physics) and he asks how is it possible, that is – what should be the pure rules of reason, cognition and sensuality that enable science in particular and philosophy (metaphysics) in general?¹⁴

Kant recognized that the pure laws of reason, logic, mathematics, and physics were insufficient. In order to complete an orderly philosophical theory, one must also equip man with rules and laws that determine how he should behave in daily life, i.e., a *theory of morality*. Therefore, about 7 years after the publication of the first Critique, Kant wrote a second book, *The Critique of Practical Reason*,¹⁵ in which he tries, in a similar way, to reveal the foundations and rules that guide human moral behavior.

13. *Kritik der reinen Vernunft* (1781). The second edition was published in 1787 and serves as a basis for the Hebrew translation: S. H. Bergman, N. Rotenstreich: *Critique of Pure Reason*, Bialik Institute, 1966 (in Hebrew).

14. See *Critique of Pure Reason*, B19-22.

15. *Kritik der praktischen Vernunft* (1788). Translated into Hebrew by S. H. Bergman, N. Rotenstreich: *Critique of Practical Reason*, Bialik Institute, 1973 (in Hebrew).

Even this, however, is not enough. A person can be armed with all the rules and laws of science and morality yet remain helpless facing a given situation. We are all familiar with the situation where we know how to thoroughly *analyze* all the variables and rules relevant to a particular context, yet we struggle to decide what to do: which rule to prefer and apply in the given case? Reason, that is, the skill of using rules is not always sufficient. In order to decide in real situations, we need another capacity that is the *power of judgment*, i.e., “the ability to subsume under rules, that is, to discern whether something is subject to a given rule or not”.¹⁶ To complete his work, Kant, therefore, added a third critique – *The Critique of the Power of Judgement*.¹⁷

Kant calls the power of judgment “natural cleverness” and states that “its absence will not be remedied by any school; since, although school may provide rules for the limited mind... rules borrowed from the another’s consciousness – the skill of using these rules properly will necessarily be in the hands of the student himself... therefore, it is possible that a physician, judge or statesman will calculate in his mind many beautiful pathological, legal or political rules, to the same degree that he himself may thus become a punctual teacher, and yet he will easily fail to use them; either because he lacks natural judgment power (though not reason), and while he may recognize the universal in its abstraction, he may not discern whether a particular case belongs to it; or also because he has not been adequately prepared for this judgement by examples and actual use”.¹⁸

To this Kant adds a note that is as powerful today as it was at the time of its writing, 200 years ago:

“The shortcoming of the power of judgment is, in fact, what is called folly, and this defect has no remedy. A dull or limited mind, which lacks nothing but a proper measure of intellect and self-concepts, can definitely be equipped by learning, even to the point of scholarship. However, since it usually lacks the power of judgment – it is not uncommon to come across highly educated people, who often show in their use of science the same shortcoming that has no remedy”.¹⁹

Kant’s words were echoed in the words of the 20th century cultural hero, the philosopher Ludwig Wittgenstein, whose remarks on the subject are presented as the motto of the present paper: if the rules themselves fall short of determining what we should do, and if they should be interpreted to properly apply them to reality, how do we know what the correct interpretation is? After all, with suitable interpretation, it can be shown that any practice conforms to the “rules”. “Our rules leave gaping loopholes, and practice must speak for itself”, Wittgenstein said.²⁰ His argument (which sees all human activity as “language games”) can be extended to the ambiguity of language in general: naturally, the rules are worded ambiguously, and therefore are not suitable, without adding some “interpretation”, for reality as it is.

16. *Critique of Pure Reason*, B171.

17. *Kritik der Urteilskraft* (1790). Translated into Hebrew by S. H. Bergman, N. Rotenstreich: *Critique of Judgement*, Bialik Institute, 1969 (in Hebrew).

18. *Critique of Pure Reason*, B172-173.

19. *Ibid.*

20. *On Certainty, ibid.*, section 139.

Interim Summary

What have we shown so far?

- 1) First, we have shown that it is impossible to cover everything that is expected in reality by a finite series of instructions and procedures.²¹
- 2) Second, we showed that even if we had an (infinite) set of rules that covered all expected real eventualities, we would still need meta-rules that would instruct us as to which procedures we should apply in each case; because if they were not given, we would have no choice but to exercise our *power of judgment*, which, as we know, is not immune to errors.

The clear conclusion from all of the above is that we will not be able to “cover” ourselves, with the help of procedures, instructions, etc., from anything that may occur, and no matter how much we refine and add instructions, there will still be new, unforeseen situations that are not foretold by the book of procedures. Incidentally, this truth also applies to the (illegitimate, in my opinion) demand of intelligence agencies, to provide assessment and prediction (or to issue warnings) of *any* possible dangerous situation.

A deep understanding of this fundamental truth can, and should, free us from the terror of the (impossible) “total cover”, and allow us to act, within reason, according to what necessarily follows our (limited) understanding of reality. This understanding is limited by nature and therefore *error, in our view, is inevitable*; the right way to deal with it is not by attempting to prevent it by an increasingly detailed set of rules and regulations.²² This way is impossible from the outset.

On the Relation to the Theory of the Art of War

Everything stated above, regarding the inability to cover the whole of reality by a finite series of procedures also applies, of course, to the inability to describe reality (or large parts of it) by a finite set of laws, i.e., to provide *a general theory of reality*. Therefore, there is no comprehensive theory of war (in the sense of an entire series of laws). This difficulty was well known to the greatest scholar of war, namely Carl von Clausewitz, whose magnum opus *On War (Vom Kriege)*, published in 1832, is to date the most in-depth study in the theory of war. Clausewitz’s reflections about the impossibility of such a theory fit well with the description of the problem I have given above. Of the eight books that make up *On War*, the second book focuses on the theory of war, from which I will present a few excerpts below.²³ All the reader needs to do is replace the term “theory of war” with the term “set of instructions and procedures”, to get a direct and wise articulation of the subject under discussion.

21. As stated, this claim has been rigorously and accurately proven based on Gödel’s theorem on the incompleteness of arithmetic.

22. Regarding the “correct” method of dealing with (inevitable) error, see my book *Dialogues on Science and Intelligence*, Maarachot Publishing, 1989 (in Hebrew). It is important to emphasize here, again, that I do not oppose in principle the “refinement” of procedures, but only the attempt to see their refinement and clarification a miracle cure for complex problems that naturally cannot be covered by procedures (see note 9 above).

23. A translation of only a selection of excerpts was published in Hebrew (Roger Ashley Leonard: *On War – A Short Guide to Clausewitz*, Maarachot Publishing, 1971 [in Hebrew]), which is also based on an old English translation by Graham & Maude. It is now customary to treat the translation of Michael Howard and Peter Paret as standard: Carl Von Clausewitz: *On War*, ed. and trans. M. Howard and P. Paret, Princeton University Press, Eighth printing, 1984. The following excerpts are from: Book two, Chapter two: “On the Theory of War”, pp. 133-147.

In Clausewitz's view, the course of history has led to "efforts being made to provide warfare with principles, rules, and even methods. This has set a positive goal, but people have failed to give an adequate account of the infinite complexities involved. As we have seen, warfare branches out almost in every direction and it has no definite boundaries; while each method, each model, has the finite nature of synthesis. An intractable conflict exists between this type of theory and practical practice.

"Theorists soon found out how difficult the subject was, and saw themselves free to evade the problem by directing their principles and methods only to physical matters and unilateral action [...] they wanted to reach a set of definite and positive conclusions, and for this reason referred only to the factors amenable to mathematical calculation".²⁴

Clausewitz enumerates these factors that can be quantified (such as numerical superiority, internal lines, etc.), provides examples of theories that have been built upon these factors, and states that:

"The rules and instructions they propose are utterly useless. They (theorists) refer to fixed values; but in war, everything is uncertain, and the calculations must be made in varying amounts. They aim their study only at physical quantities, whereas all military activity is imbued with psychological forces and effects. They only discuss unilateral action, while war consists of a continuous, reciprocal action between opposites. [...]

The theory becomes immeasurably more difficult once it touches on the realm of spiritual values [...] Military activity is never directed against material forces alone; it is always directed, at the same time, against the psychic forces that give them life, and the two are inseparable".²⁵

Clausewitz describes some of these psychic forces (feelings of hostility, danger and courage, jealousy and generosity, pride and humility, rage and compassion, intelligence, etc.) and the atmosphere of uncertainty, friction and battle fog that prevails as a war, and he concludes that:

"A positive doctrine [a treatise of "action rules" that would suit any situation – I.B.I.] is not possible. Considering the nature of the subject, we must be reminded that *it is simply impossible to construct a model for the art of war that could serve as supporting scaffold on which the commander could rely at any moment. Whenever he has to resort to his innate talent, he will find himself outside the model and in conflict with it. It does not matter how versatile the codex is – the situation would always lead to the consequences hinted above: talent and ingenuity operate outside the rules, and theory does not abide with practice*".²⁶

Words to live by, which are appropriate, without modification, to the subject of our paper. Clausewitz, incidentally, is not content with proving the impossibility of covering a complex action such as "war" by a finite number of laws, principles and rules, and he also points out what can still be done. One of the ways he proposes is also relevant to our case: in his view, the way is still open –

24. *Ibid.*, p. 134.

25. *Ibid.*, pp. 136-137.

26. *Ibid.*, p. 140; my emphases.

“To argue that a theory should not be a positive doctrine, a kind of *manual* for action. Whenever an action deals mainly with the same things repeatedly – the same goals and means, notwithstanding slight variations and an endless array of combinations – such things can be the subject of a rational study. Such a study is the most essential part of any *theory* and can rightly claim this attribution. [The theory] is an analytical study that leads to a close *acquaintance* with the subject; when applied to experience – in our case, to military history – it leads to profound relations of familiarity with it [...] Theory then becomes a guide for anyone who wishes to learn about war from books; it will illuminate his path, facilitate his progress, polish his judgment and help him avoid pitfalls [...] It is aimed at educating the mind of the future commander, or more precisely, lead him in his self-education, rather than accompany him to the battlefield; just as a wise mentor guides and stimulates the intellectual development of a young man, but is careful not to lead him by the hand for the rest of his life [...]

“The principles and laws [of the theory] are intended to provide a thinking person with a frame of reference for the movements he was trained to perform, and not to serve as a guide who, at the moment of action, points exactly the direction in which he should march”.²⁷

Clausewitz, therefore, does not believe in the possibility of writing a (hefty) volume of instructions and procedures that could tell us how to act in any military situation. He distinguishes between rules and instructions or guidelines. It is certainly possible to equip the commander with guidelines that can serve as a kind of (non-binding!) guidance and help the commander deal with situations unfamiliar to him, but this is not a treatise of binding laws or rules. The commander will still be required to exercise his discretion, and if this causes him to diverge from the recommended course of action, this will not constitute an “offense” or “deviation” from the law and the dictated procedure, but a *different judgement*. To this end, says Clausewitz, *it is sufficient to equip the commander with relatively simple and restricted theoretical information:*

“The field of topics that the theory is supposed to cover can be greatly simplified and the knowledge necessary to conduct the war can be greatly reduced [...]

The [necessary] knowledge in war is *very simple*, being concerned with a small number of subjects, and only with their outcomes in war. But that does not make its implementation easy”.²⁸

So, What Can Be Done?

In our view, instead of giving the soldier on the ground a thick codex of procedures, it is better to provide him with a few simple rules of conduct, and to rely on his judgement. It is quite possible that these rules will not provide him with a “recipe” for every possible situation on the ground, but the same is true of the “complete” book of procedures.

It should be emphasized that I do not intend to say that we must not equip the soldier with any set of rules. On the contrary, we must reasonably reduce the degrees of freedom in which he operates, but this by a *minimum* number of instructions and procedures, in a way that will leave the soldier sufficient leeway to exercise his judgement. In any case, we must understand that we can never avoid some degree of judgement.

27. *Ibid*, p. 141.

28. *Ibid.*, pp. 144, 146.

A few of the readers of this paper's early drafts have opined that my advice is good for the case of particularly intelligent soldiers and easy to implement in elite units, but difficult to implement across the entire military. I do not agree with this comment for several reasons:

1. My advice regarding the replacement of the book of instructions and procedures with a few simple rules becomes even more essential in the case of soldiers who do not belong to the elite groups in the army.
The importance of simple rules increases the less the soldier understands, and not the other way around. As the Roman sage Seneca had said:²⁹ "The law should be brief for the sake of making it easier for laymen to abide by it". And he was preceded by a few decades by old Hillel, who tried to reduce the entire Torah to one rule.³⁰
2. Even the most low-ranking army soldiers are generally more familiar with the problem they face in the field than remote staffs sending instructions to them from above. And this, too, is an age-old truth, as Seneca put it: "In the arena, the gladiator decides (how to wrestle)".³¹
3. If the soldier knows that he must trust his resourcefulness and understanding of reality, we will obtain, in total, as a system, a more intelligent output than in a system in which a few wise men (as wise as they may be) dictate to an entire army its behavior in unexpected situations. Exactly the same idea makes democratic regimes more successful and prosperous than totalitarian ones, on which Machiavelli (1469-1527) said 500 years ago: "The masses are wiser than the prince and truer and more stable than him".³²

On the Error of Human Judgment

In my opinion, there is no recipe or formula that can guarantee success in human activity that is complex enough.³³ No (finite) book of rules and regulations will be able to cover everything that awaits us in a complex reality, and we will always be required to exercise judgment based on experience, (innate) talent, and creative imagination. These are always susceptible to lurk the human perils of

29. Seneca (4 BC-65 AD), writer and poet-playwright, held senior government positions in the time of the emperors Tiberius, Caligula, Claudius and Nero. He quotes the above saying from Posidonius who lived in the 1st and 2nd centuries BC. On the same matter, S. Y. Agnon says: "In saying many things something is lost and in few things a listener is found" (A City in Its Fullness, Schocken, 1972, p. 540 [in Hebrew]).

30. Shabbat 31. Quoted in the *Book of the Legends*, edited by H. N. Bialik and Y. Rabinetzky, Dvir Publishing, third edition, 1961, p. 158).

31. Taken from *Letters to Lucilius* (Letter 22), in which Seneca summarizes his stoic doctrine in a compendium of letters sent to his friend. In this letter he clarifies that a person cannot recommend to his friend nothing but the rules of conduct and not the details of conduct, because the latter are determined by changing circumstances, which cannot be anticipated, and every-one decides for themselves, according to time and place.

32. Niccolò Machiavelli, "Studies in Titus Libius' First Ten Books", in *Political Writings*, translated by Ephraim Shmueli, Schocken Publishing, Extended Edition, 1971, p. 108 (in Hebrew). Contrary to his "Machiavellian" image, Machiavelli was an ardent supporter of republican government and believed in the ability of the masses to produce better results than an autocracy: "As for wisdom and common sense and stability, I say that the people are wiser, more settled in their minds and fixed than the prince, and their opinions are also more correct [...] Experience shows that all cities and countries in which the people govern as their own king and prince, grow and prosper quickly, much more than cities and countries that are under the constant rule of the prince" (ibid., pp. 112-111).

33. The subject is related to the problem of inductive logic, which I have dealt with extensively mainly in my book *Dialogues on Science and Intelligence*, Maarachot Publishing, 1989 [and later, in *The Philosophy of Intelligence*, University on Air Library, Maarachot Publishing, 1999 (in Hebrew)].

shortsightedness and error. Operational experience also shows that “mishaps” are usually not a problem of lack of discipline or of not following procedures, but of poor judgment. The problem we face is how to proceed in the event of an error: should we charge the soldier or commander who erred judicially, which implies disobeying instructions, procedures, and laws; or should we determine that they erred in their judgment and draw conclusions about the nature of their judgment and not about their “criminal” fault?

In my opinion, we must choose the latter path: except for rare cases of clear criminal negligence, we must deal with such mishaps at the command level and not at the legal level. This is for two main reasons:

- A. We have a moral duty towards the soldiers in the field, acting on our behalf, and encountering situations that we have not completely foreseen, and we must not leave them to their own devices when they err in their judgment as to what was not foreseen;
- B. The legal path (and the severe punishment expected at its conclusion) ultimately leads to a situation where the operators will be busy covering themselves, self-protecting and concealing the truth, and it undermines, therefore, any streamlining without which a military force has no capacity for renewal and resurgence.³⁴

There is a danger, of course, that taking this path will be used to cover up those responsible and as an excuse for not checking and “smearing” true faults, by arriving at an extreme point in which every mistake results from judgement, and thus everything should be forgiven. We should try to avert this danger, firstly, by a general change in the *culture of interrogation and learning*, and, secondly, by not refraining from drawing personal conclusions about the quality of judgment of those who have repeatedly proven that they err under stress (neither by a single adjudication nor by criminal punishment, but by changing the career course and not promoting those whose judgement repeatedly fails).

A concrete example – on the Military Discipline Law: Every conscript knows that as a soldier he must obey the orders of the superior ranks. Since the Kafr Qasim affair, we know that even this simple rule also has limitations: no order should be obeyed that clearly bears a black flag that says it is manifestly illegal. This caveat, it must be admitted, is vague and ambiguous. The “complete” rule (“orders other than those that are manifestly illegal must be followed”) is simple, but problematic. It is not always clear when a “black flag” hovers over the illegality of the action and when it does not, and whoever wishes to apply this rule in reality may find himself in situations where the required

34. Machiavelli, who did much research into the Roman way of life, had something to say on this sensitive subject, too, and he deals with it in chapter 31 of his *Discourses (ibid.)*. Entitled: “Showing that the Roman generals were never severely punished for any faults they committed, not even when by their ignorance and unfortunate operations they occasioned serious losses to the republic”. And he continues: “The Romans... were also more lenient and considerate in the punishment of the generals of their armies... This mode of proceeding had been well considered by them; for they judged that it was of the greatest importance for those who commanded their armies to have their minds entirely free and unembarrassed by any anxiety other than how best to perform their duty, and therefore they did not wish to add fresh difficulties and dangers to a task in itself so difficult and perilous [...] if in addition to these anxieties the mind of the general had been disturbed by the examples of other generals who had been crucified, or otherwise put to death, for having lost battles, it would have been impossible for him, under the influence of such apprehensions, to have proceeded vigorously. Judging, therefore, that the ignominy of defeat would be sufficient punishment for such a commander, they did not wish to terrify him with other penalties” (*ibid.*, pp. 96-97 [in Hebrew]).

judgement as to the applicability of the rule is not trivial at all. Therefore, it is tempting to “relieve” the soldier on the ground and replace the duty to obey orders with a much more complex set of rules that will allow the soldier to determine, relatively easily, when the order is legal and when it is illegal.

In my view, this initiative should be rejected outright. *First*, because it makes disobedience legal and thereby violates the duty of discipline, without which the military would not, in fact, be able to function.

It should be remembered that, eventually, the military is engaged in life-threatening wars and it is difficult to imagine the operation of combat forces, facing fire, without total discipline.³⁵ *Second*, the seemingly “complete” elaboration of the conditions of an order’s illegality reduces the soldier’s motivation to start thinking and assume responsibility for his decisions: all he needs (ostensibly) is just to find the right clause and act accordingly. Such elaboration will, therefore, contribute to an attitude of doing the bare minimum and liberate us from the moral need to be responsible for our actions.³⁶ *Thirdly*, and here lies the gist of the matter, such a “complete” elaboration is not possible at all. However elaborate the new rule may be, there will still be situations in reality that it will not cover and we find ourselves, therefore, burdened with yet another complicated rule, without solving the core problem. It is better, therefore, to be content with and rely on the *judgement* of those who act according to this rule.

I am aware that this advice cannot stand in itself in empty space. It should be accompanied by a different *culture of distribution of authority and responsibility, discretion, inquiry* (rather than a commission of inquiry) and learning lessons.

Action must be taken to create an organizational “micro-climate” that is cool and that tolerates mishaps, and which *recognizes the legitimacy of error in human judgment as a motive for processes of improvement and learning*, and not for searching “guilty parties”. Opposite discipline and obedience, with all the respect that they deserve (and without which, as mentioned above, no military system can exist), values of openness, criticism, constructive skepticism, and *fruitful dialogue* between parts of the system must also be developed.

These are charged and tedious issues that I have dealt with elsewhere,³⁷ but in my opinion we must deal with them if we wish to return to the main road that has led the IDF, so far, to the successes we have known in the past. And the sooner, the better.

35. A distinction must be made between the nature of discipline (obeying orders) and its external symbols (such as uniform, wearing a beret, saluting, etc.). On the question of whether these two aspects should be separated, mountains of words have been amassed and I do not wish to deal with it here. At any rate, in this paper I mean substantive discipline, and see also my remarks on discipline in the paper “Seeking Wisdom and the Reason of Things”, published in *Quality and Quantity* anthology, Maarachot Publishing, 1985, especially pp. 49-50.

36. Ultimately, all our actions (whether in the military or in “civilian” life) must stand the moral test. But even morality cannot be summed up in a finite number of laws and rules and all that can be done in this matter, beyond basic education, is to establish a binding framework that will reduce the need for moral judgment but never prevent it. Kant himself tried to reduce such a framework to one rule (the categorical imperative), reminiscent of Old Hillel’s rule: “That which is hateful to you, do not unto another”.

37. See especially my article “Seeking Wisdom and the Reason of Things”, in *Quality and Quantity*, Z. Ofer, A. Kober (eds.), Maarachot Publishing, 1985, pp. 31-53; and “The Philosophy of Intelligence – The Logic of the Evaluation Process”, in *Intelligence and National Security*, A. Kober, Z. Ofer (eds.), Maarachot Publishing, 1987, pp. 145-182.

From Separators to Leaders in Adopting Corporate Responsibility

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Over the years, many firms have adopted Milton Friedman's approach with respect to their business responsibility. However, the rise of the corporate world, globalization, corruption, and various studies that have shown the link between industrial emissions and the climate crisis have required a change of attitude and full adoption of ethical responsibility. This paper seeks to examine the different levels of adoption of this responsibility against the background of several metrics – sincerity, purpose and motivation of corporations – and suggests examining the readiness of different corporations on the way to a full commitment of a real strategic social approach.

One of the main questions that has troubled the business world since its inception is the question of business ethics. It does not matter in which social configuration every society's production and commerce were organized, questions about the morality of such actions were raised time and again. In this light we should view the prohibition on charging interest on loans in the Greek, Jewish and other cultures, the concept of *Shmita* (fallow), price control and other economic issues that were dealt with in various traditions in the course of history. As the economist and historian Karl Polanyi demonstrated, throughout the generations the business world has served and was embedded in society.¹ However, economic and political processes that took place in the 19th century brought about the separation of the general social interest and the interests of the business world – until their eventual collision, which manifested in an attempted political restraint of the business world in the name of social interests. We may add to that the transformation of the nature of labor in itself: if in the past labor took place within the community, and industry was mainly domestic, things have changed with the invention of large machinery (for example in the textile industry). Around the machines, factories were built mostly at the outskirts of settlements, requiring the use of many working hands. The efficiency of manufacturing lowered the cost of products and gnawed at the domestic industry's ability to compete with new forms of production, until its dissipation. The result was the separation between the domestic sphere and that of labor, alongside the separation between the different moral values that guide them.

1. Polanyi Karl, *The Great Transformation*, (1944), Beacon Press, 2001.

In the world of labor, issues of employee management and the use of natural resources were handled rationally, based on concepts such as efficiency of production and the gains it yields for the few who own factories, in contrast to issues of social solidarity and care for a shared future, which characterize the domestic sphere. The economic and management sciences which grew at the beginning of the 20th century contributed to this separation: they granted justification to the rational method of management, which lacked emotion and morals. Questions of care for the Other, empathy and shared destiny, businesses' responsibility over community health and more, became obstacles on the road to economic growth.

The industrial revolution, which in reality has not yet come to its end, was and is motivated from similar thoughts on business efficiency. This was superbly expressed by Milton Friedman who in the seventies, in face of the American trend of corporate philanthropy, wrote one of the most influential articles in the field of management (*The Social Responsibility of Business Is to Increase Its Profits*),² in which he argued that managers are solely and contractually responsible towards shareholders. Friedman asserted that managers should run their businesses according to their owners' interests, which usually add up to the aspiration of making as much profit as possible. He claimed that when managers introduce considerations of social responsibility to the running of corporates and allocate corporate funds to such goals, they are breaching their contractual obligations towards their employers and are wasting their money and the time and energy which they had committed to their service. Secondly, and even worst according to Friedman, the spread of corporate responsibility disrupts market economy and even engenders its continued existence, as managers introduce political considerations into markets. For instance, when they expend funds on the prevention of pollution beyond that what the law requires, or when they hire the chronically unemployed instead of more available and better work force, they act without authority to impose taxes spent on personal goals. It is no wonder, then, that Friedman deemed corporate responsibility a fundamentally subversive phenomenon which undermines the functioning of the market economy and gnaws at its legitimacy. However, in his view, there was also a positive aspect to things: he believed that when businesses endeavor to maximize their profits, they will conduct themselves fairly towards their interest holders – they will produce better products, they will employ workers at higher wages, they will be loyal to their suppliers and more, since these actions will lower the costs in the framework of any corporate's risk management.

Throughout the years, many corporates have adopted both aspects of Friedman's argument, and it even became a foundation stone of management theory. However, the strengthening of the corporate world, globalization, exposed corporate corruption, studies which revealed the link between industrial emissions and environmental pollution and more, have called for a change of attitude. Indeed, the reaction was not late to arrive, leading social responsibility to be perceived as a must rather than a burden on corporates, and in whose framework businesses were called to incorporate moral considerations and to take responsibility over their externalities,³ to avoid harming interest holders on behalf of property owners, and in other cases – to help address damage that had already been done. In accordance, a variety of strategic theories on corporate social responsibility were drafted, all with the same purpose: enabling businesses to integrate ethical considerations in their operation.

2. Friedman Milton, "The Social Responsibility of Business Is to Increase Its Profits", *New York Times*, 13.9.1970.

3. Externalities – the external impact of business activity, whose costs are not undertaken by the firm, for example in cases of air pollution, plastic pollution, or the exploitation of natural resources.

Reconnecting Society and Economy

Based on this perception, various management doctrines aiming to integrate ethical consideration into business management were developed. For example, the stakeholders' management theory conceived by Philosopher Edward Freeman,⁴ which became one of the most influential theories of our times, called organizations to adopt a renewed orientation towards all stakeholders, to turn a multi-disciplinary outward gaze and constantly analyze stakeholders' constraints and opportunities, address demands and develop expertise in new fields. This, in order to cope with stakeholders' demands, to respect their views and to identify with them as much as possible, and from such an approach, to act according to the reasonable solution, agreed to by all.

Another approach which became central to the business world is the shared value approach developed by the father of business strategy, Michael Porter from Harvard University, and his associate Mark Kramer,⁵ according to which the creation of shared value is based on the perception that the corporate serves broad social and environmental interests, via which it also serves itself – thanks to the business opportunities whose exploitation generates social value, meaning that it addresses social needs and challenges and supports social progress. This approach emphasizes entrepreneurship and innovation and means to achieve economic success, at the expense of the perception that the corporate must pay its debt to society via various acts of charity and the preservation of sustainability. For instance, according to this approach issues of poverty should be solved by encouraging entrepreneurship that is motivated by profit, which will provide solutions such as the marketing of cheap products or the creation of employment and income opportunities. Environmental problems could be dealt with by inventing innovative organizational and technological methodologies to save resources, and by doing so also expenses. Therefore, this perception embodies the recognition that markets may be developed around social needs. At the foundation of the shared value approach lies an acknowledgement in the interdependency between economic society and its businesses.

A third approach that had in recent years gained momentum is that of sustainability and sustainable development. This notion proports that businesses should – voluntarily – fulfill present needs, without hampering the next generations' ability to fulfill their future needs. The idea of environmental management is anchored in an instrumental approach to corporate responsibility, which assumes there is not necessarily a contrast between environmental protection and making business for profit, since a corporate's environmental performance and economic performance could be in keeping with each other, while improvement to the first leads to improvement in the latter. The question is how to render environmental protection a competitive thing, and how the individual corporate could win such a competition via pro-environmental strategy.

An overview of these approaches raises an encouraging yet concerning picture. On the one hand, these express a deepening recognition in the business world of the huge impact business entities have over social and environmental issues. One the other hand, all these approaches mean to ensure the continued

4. Freeman, R. E. *Strategic Management: A Stakeholder Approach*. Boston: Pitman. 1984.

5. Porter, M. E., & Kramer, M. R. "Creating Shared Value". *Harvard Business Review*, January-February 2011. pp. 62-77.

autonomy of the business world and to avoid regulatory intervention: the voluntary adoption of sustainable practices is meant to prevent restrictive legislation in the matter, and stakeholders management and shared value are designed to create a win-win situation in which ethical, social and environmental considerations might be rendered secondary when facing various business situations such as increased competition or an economic crisis.

Honesty and Purpose in the Adoption of Corporate Responsibility

The notion of adopting social corporate responsibility raises two questions: the first is an inquiry about corporates' honesty and willingness to adopt practices and goal which are not aimed at making a profit – is it on the tactical level, meant to serve economic interests, or is it on the strategic level, stemming from true intentions? The second is the question of purpose – is adoption meant to up the bottom line or to enhance the top line – to serve other factors as well? In light of these we may point to four business approaches to the adoption of social corporate responsibility:

- **A tactical economic approach:** according to which, businesses care about the bottom line and about profit for owners and investors, here and now, and anything that will maximize it is acceptable. How is it done? There are varied practices for achieving this goal: manipulating customers, breaching the rights and privacy of employees and competitors, delaying and evading payments to suppliers, aggressive tax planning, promoting the business by dishonest means, whether by activating a political lobby or forging cartels and monopolies.

Quite a few men of business assume that it was Friedman's intention to give absolute and sole priority to interest holders over corporate responsibility. However, that is not so. Friedman believed that businesses have a very clear social role – to maximize the owners' profit, but not at the expense of the welfare and wellbeing of other stakeholders. It is true to say, that his intention was the following approach.

- **A strategic economic approach:** according to which, when businesses make a profit, society as a whole profits as well. This is a classic approach which ties between organizations' and individuals' self-benefit and the common good. Its sources can be traced to Adam Smith and his perception of the free market, and it also underlies Friedman's argument about businesses' social mission: an organization which seeks profit will act in a fitting manner to do so. The business organization offers consumers a product of value, creates better workplaces for workers and relies on a steady supply chain, etc. It is in the business' interests to maintain all those as they contribute to its profit line, as well as to the community.
- **A social-tactical approach:** based on the iron rule of corporate responsibility: it pays to do good – businesses that share this position act in a moral and responsible way on the social level, but merely from a business motive. They choose to present their responsible actions and stances while managing their reputation, obtaining tax benefits, differentiating themselves from their competitors and so on. Such businesses hear the voice of the public and act in accordance: whoever shouts louder draws more attention; urgency, pertinence and media presence is heeded by businesses; while the rest remain in the dark. This approach has its disadvantages since social

action is thus dependent upon its profitability. However, it does have its advantages as well, as businesses who adhere to such an approach make a goal for themselves to improve society – something that does not happen in both former approaches - even if its motivation is self-serving.

- **A social-strategic approach:** which is grounded in the sound foundations of responsibility and based on a sincere intention to impact society and a desire to do the right thing. In this case businesses examine their stakeholders' rights and interests and the ethical aspects of their operation, avoid working against them, and actively strive to improve their conditions, and if needed, act to amend whatever calls for reform, regardless of the profit they gain from such actions. This approach views the firm's environment not only as means to increase profit, but as a full partner which pays the price in case of failure, and which is entitled to financial and social dividends upon success. Of all its variations, this proactive and contributing approach to corporate responsibility is the most complete and worthy, but also the most challenging one.

It is true to say that most corporates adopt one of the two middle approaches – the strategic economic and the social tactic – which take corporate responsibility into consideration in different ways. However, the true challenge nowadays is to encourage the system as a whole, and in particular its most offensive link (the tactic economic approach) to adopt the higher grade of corporate social responsibility. In what follows I wish to propose an outline for an internal reform of business organizations in accordance with two dimensions of ethical and corporate responsibility: acknowledging responsibility and willing to act in its light.

Recognition and Motivation in the Adoption of Corporate Responsibility

An established argument against the integration of ethical and responsible considerations in the business world states that businesses are naught but a tool to achieving economic goals; that they are legal entities accountable solely before the law; and that in any case they have no self-awareness and cannot be charged with moral responsibility. Even without disputing these arguments we can see that they are based on a common perception of ethics and morals, according to which, ethical responsibility only binds entities with self-awareness, which are able to choose between goals and purposes and are conscious of the moral implication of their choice. We do not charge machines, neither children, nor those considered insane, with ethical responsibility.

However, the growth of social responsibility management theories proves that we cannot expropriate the responsibility for oversights or externalities from businesses. Indeed, corporates are comprised of people with awareness and responsibility, but this does not absolve the business itself – which stands as it is, even in the face of employee turnover – of any responsibility. Moreover, this overriding perception of businesses' responsibility may lead to us the conclusion that any action taken on behalf of a business cannot be judged either as responsible and moral or not, but only as legal or not – and this creates a broad opening for legal but offensive actions (such as not telling clients the whole truth, “legal” air pollution and the like).

If we look at the issue of responsibility from the perspective of stakeholders' management, we may be able to consider and gather a long list of “moral problems” regarding each one of them: problems related

to employee relations, problems related to customers, environmental issues etc. The list may be improved and classified according to sectors or different business branches: the manufacturing sector, the tech sector, issues of marketing, logistic of funding matters, etc. This taxonomic approach has tremendous value, since a broad and meticulous mapping of ethical issues and social responsibility may assist businesses from various sectors or with certain channels of activity in identifying their moral risks, and then avoiding or solving them.

However, alongside such mapping, we should contemplate two essential themes which underlie the various problems businesses encounter: **the problem of moral acknowledgment** – the difficulty to recognize what should be done and what is the good deed, and more broadly, the difficulty to acknowledge that a certain situation or decision have moral aspects; and **the problem of motivation** – the difficulty in doing the responsible thing.⁶ I would like to prove that these two dimensions may enable us to rate the advancement of businesses and their managers from a starting point characterized by overriding attitudes towards affirming and responsible approaches.

- **The separators** – are businesses which continue to hold to the belief that social responsibility and ethical considerations should be kept apart from the business world, as they comprise different types of thinking which cannot be combined: either you do business, or you do ethics. This stance is not only characterized by derision towards ethical thought and its necessity, but also by a total ignorance of the need to be acquainted with moral issues or to allude to them any significance beyond the world of business.

Let us consider, for instance, the issue of employee recruitment. Most of the large businesses today refer candidates to screening tests. Screening companies examine candidates and issues a competency and compatibility report regarding the offered role, which is passed on to recruiters who include it as part of their judgement. Mostly, employees themselves do not have free access to the information gathered about them and to the concluded opinion, and they may be rejected without learning what was written about them and what were the reasons for their rejection. Ethically, this is problematic, since this practice is equivalent to a breach of privacy, to say the least: One person holds information about another and based on this information the former acts in a manner which influences the latter. Many businesses do not perceive this as an ethical – but rather as a purely business – matter, and anyhow do not ask themselves what the appropriate conduct in such cases is.

Another example from the field of technology, engineering, and software design – fields which are thought to follow an internal logic of maximal efficiency. Code writers for machine learning, for instance, are mostly unaware of the gender or racial biases inherent to the data they feed machines, and at any rate do not see a need to find a moral solution to these biases.

Another aspect of this approach may be manifested in an admission of externalities, which is accompanied by the believe that they may be solved by the free market or the legal system. For

6. Geva Aviva, *Business Ethics: Crossing Parallels*, Hakibbutz HaMeuhad, the Center for Business Ethics, 2011. Based on these two dimensions – acknowledgement and motivation – Geva points to four types of ethical problems in the business world: ethical laxity, the reconciliation problem, moral dilemmas, and maintenance problems. *Ibid*, pp. 159-183.

example, regarding the issue of plastic pollution, firms may wait for a legislation that will limit the manufacturing of non-degradable plastic, or alternately believe that in the free market, an entrepreneur will be found, who will know how to use the excess plastic which they dispose of, to build a profitable business.

- **The excusers** – are businesses and managers who understand that there are ethical problems in their field of operation but are not actually motivated to stand up and change their attitude towards these issues. Such businesses may excuse their inaction by fear from competitors and the problem of guarantees,⁷ by the absence of financial incentives or of financial feasibility. In principle, this stage is viewed as progress in relation to the previous stage which lacks any acknowledgement of moral responsibility, however here too, business considerations still overcome the motivation to act in the right direction.

To continue with the example of firms involved with plastic pollution, we may point to a situation in which a business comprehends the problems it creates but does not seek to solve them due to business considerations. Another example is the extent businesses are willing to apply ethical considerations to the global market. Businesses turn to the global market in order to develop new markets, to gain a competitive advantage or to lower production costs. Those goals rely on cultural differences and different business norms which would allow them, for example, to neglect employee rights and their safety, to avoid issues of air pollutions, of bribe and corruption. It is likely that managers in such cases are well aware of the moral aspect of their actions but choose to ignore them, preferring business interests over them.

- **The hindered** – are businesses yet advanced from the previous stage. Businesses at this stage acknowledge their moral obligation and are willing to carry it out. However, they lack the knowledge of what they are to do. They overcame the exclusivity of the business commitment and intend to adopt considerations of responsibility in their business actions; however, they are halted by the question of what they should do. This situation stems, amongst others, from a lack of education in business ethics and a lack of understanding of the moral principles that are supposed to guide business decisions.

For example, an international corporate operating in the global south countries, which understands it must ensure that its employees' human rights are preserved, may encounter issues when acknowledging its moral duties towards its employees, since it has no training and knowledge in the field. Its managers may know how to act responsibly towards employees in their country of origin, and may do so, but the move to labor markets characterized by different norms, **regulation** and living conditions, may render the right way of conduct unclear.

7. The problem of guarantees ties to business competition in a situation in which competing firms understand that collaboration will be useful to improving their state; they are willing to collaborate and even acknowledge their duty to contribute to the solution of the common problem, however none is willing to pay its share until it has ascertained that others – mainly its competitors – will also contribute their fair part. A firm will be willing to give up the chance to increase its profit at the expense of others, as long as it may count on that it itself will not be abused. In a competitive market in which every firm makes its decisions independently, the lone firm has no guarantee that fulfilling its part of the agreement will not undermine its market position in case its competitors decide to break free of it. Geva, P. 167.

- **The deliberating** – are those businesses and managers who overcame the knowledge obstacle. They are willing and motivated to act responsibly, and have the required knowledge for it, but are still deliberating about the right way to do so. Since the sincere adoption of corporate responsibility may be accompanied by the investment of funds, firms should find the most efficient path for adopting ethical and responsible strategies without losing the financial motivation to do so. They may deliberate between early adoption in relation to internal or external factors; in their local market or in global markets, etc.

Such deliberation may find expression in an acknowledgment of the firm's simultaneous duty towards various stakeholders, which may lead to a dilemma, for instance, in the case of employee supervision. On the one hand, the business motivation to do so is clear: prevent the abuse of company resources or idleness of employees. Deliberating organizations which acknowledge the duty derived from the right to privacy may see it as conflicting with the employee's duty to preserve the employer's property, rather than with the pursuit of business efficiency (like accounting organizations might). In this respect, the conflict in such a case is between two moral duties, rather than between moral and financial values. In the same vein, the invasion of privacy may be seen to stand against the overall benefit such an act will yield, and the situation may be understood as a dilemma between a moral duty and the moral principle of utilitarianism.⁸ It should be noted that there is not always an absolute or uniform solution to such dilemmas, which different businesses may solve this way or the other. Back to the matter at hand - the important thing is to identify the stage of the business and to allow it to proceed further to that of leaders.

- **The leaders** – are business organizations with a complete moral and responsible awareness, as well as the ethical motivation, to apply ethical decisions to their business conduct. They succeeded in instilling among their employees and stakeholders the willingness to adopt moral considerations and the practical knowledge to do so. It should be noted that these are all business firms whose responsibility considerations are equivalent to and stand side by side with their business considerations. Such businesses are knowledgeable and willing to solve moral issues in a binding manner, even if this leads to a reduction of profit in comparison with what would have been if such considerations would not have been taken into account. Only this stage will lead to a renewed assimilation of the business world within society, and to the construction of a shared future.

To conclude, the issue of corporate responsibility stands at the heart of the business world and is not just a question of adopting business strategies. To address it successfully, businesses must adopt responsible strategies based on an awareness and complete preparedness to act accordingly. The ability to identify the moral aspect of business situations should be accompanied by the desire to act according to moral values. These two give birth to a recognition and mapping of the business' responsibility challenges and an ethical decision-making and its successful implementation based on business competency. The result will be a system managed based on moral thinking, which will later give birth to moral motivation also among new

8. For an example of the discussion about the incorporation of moral principles in business, see Geva, pp. 184-260, as well as Wolf Ruth, *Business Ethics*, Rubin Mass Publishers, 2008.

businesses and budding managers. Indeed, the point of departure of such a process is dependent upon the training that nascent managers receive in management schools or within the organizations they join, which raises the need for enhanced ethics education for managers. Educating managers will educate the market as a whole. Without it, strategies of social responsibility might remain at the declarative level, and their adoption will fail to herald the substantial change sought after for the future.

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Philosophical Journeys in Our Lives

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Life crises are opportunities for the person undergoing them to set out on a philosophical journey and pursue the fundamental question of his life. During the philosophical journey, the person develops, in a creative process, a wider and more profound perspective on life. This perspective does not remain "philosophical" but attains a practical expression in the person's private and professional life. In this paper, I describe and illustrate this philosophical journey in the eyes of the philosophical counselor.

The Uniqueness of the Philosophical Aspect of Daily Life

We do not belong to those who only get their thoughts from books, or at the prompting of books, it is our custom to think in the open air, walking, leaping, climbing, or dancing.

Nietzsche, The Gay Science, p. 366

Let us briefly imagine momentous events in our lives: mid-life crisis, adolescence, or retirement; separation from a spouse, going off the Derech, losing someone dear to us, or being laid off. Such moments of crisis are often accompanied by anxiety, depression, and despair: they impair our mental and physical wholeness. Our urgent desire to escape physical and mental pain often causes us to overlook the **fundamental questions** latent at the base of such disturbing events. A relationship crisis, dismissal, or burnout at work, call forth questions such as: "who am I and how will my life go on now?" A mid-life crisis naturally raises questions about finality, life and death, fulfillment, identity, and choice.

These questions call for answers for which one is required to recruit the best of one's judgement, understanding, contemplation and creativity. One's place in the world, the paths to self-fulfillment,

one's ability to change – all these necessitate **autonomic, critical, and creative** thinking which goes beyond one's physical and mental state. They behoove one to develop and establish an individual point of view, which is whole and responsible towards the world – and to realize this view in one's actions in life's various domains.

Philosophy has always been occupied with such fundamental questions: In ancient Greece philosophers sought to clarify Man's virtue; how one should act in trying times? What is the right way to live? How should the state be run? What is real? What is just? What is beautiful? In the past two centuries, philosophy has also dealt with questions that focus on the life of the individual: what gives meaning to individual life? What is the individual's position in the world? What can Man realize in life and what meaning is there to one's life and death?

Yet, although philosophy referred to the individual, it proposed general questions and answers rather than dealing with an individual's life journey. Translating philosophical theories into individual paths is the competency of modern philosophy: the patriarchs of modern philosophy developed methodologies meant to accompany every man personally in his suffering and pain. Some approaches even directly touched upon philosophical questions pertaining to one's life. Indeed, central, and personal philosophical questions have been partially addressed by the psychologist.

In the past four decades, an intellectual and practical movement has risen to challenge the absence of a professional philosophical framework in which to cope with personal philosophical questions. **Philosophical counseling** is an approach which recognizes the uniqueness and centrality of **philosophical questions** in Man's life and distinguishes between them and their psychological aspect. The approach identifies essentially philosophical questions at the core of our lives: a normative solution to ethical questions; choice, the giving of value and meaning; a conceptual analysis of questions regarding Man, his identity and mission.

Our life's philosophy is therefore a field onto itself, beyond psychological questions and those which deal with the structure of our soul. Hence, the correct place to discuss these questions is not the psychologist's sofa, but rather a different "sofa", which is wholly dedicated to a personal-philosophical occupation and whose purpose is to aid Man in a personal journey based on one's individual philosophical perspective.

Philosophical counseling, in various respects, issues directly from the philosophical tradition, in that, for instance, it addresses similar questions and employs traditional as well as new materials. It however differs from traditional philosophy in its point of departure: philosophical counseling focuses on an individual's own life journey. Like the physician and the psychologist, the philosophical counselor personally accompanies the counselee. In contrast to them, the philosophical counselor accompanies the counselee's particular life's journey with philosophical skills, with the purpose of deriving fundamental philosophical questions from his life and of aiding him in formulating a theoretically valid world view and implementing it in his daily life.

I regard the philosophical counselor not as an advisor, but as an **accompanier** of the counselee in his life's journey. Therefore, I name these processes **philosophical accompaniment**, or **philosophical journey**. The professional in the field is referred to as a **philosophical counsellor**, and he who turns

to such counselling is defined as a **counselee**.

In my book, philosophical counselling is portrayed as a journey in which the counselee decides to claim responsibility over the big questions derived from his life's course, to clarify them profoundly from his personal point of view and to become involved and active in the development and implementation of his life's journey, thus making his own life.

During this philosophical journey, the philosophical counselor helps the counselee to consolidate his identity; to deduce his life's fundamental questions; to steer his ship in accordance with the fundamental questions and the conscientious world view derived from them – and to leave his personal mark on the world.

Philosophical Counselling as the Art of Life

To me, the philosophical-aesthetic component at the foundations of Man's self-creation processes is a main building block. In particular, four components stand at the heart of the approach presented henceforth: the aesthetic, the dynamic, the autonomic and the applicative.

- a) **The aesthetic component:** The philosophical journey is a creative process: on his journey, the counselee meets diverse worlds which serve – alongside motives, ideas, and materials from his own world – as clay in his hands. The product of this creation is the counselee's life, which he himself molds as an artist mold his artwork.
- b) **The dynamic component:** The philosophical journey is active, dynamic, and fluid, and so is its product – the counselee's new world view is ever-changing, undergoing continuous evolution and renewal.
- c) **The autonomic component:** In the counselling process, Man takes a central role in an anarchic world: he himself becomes the organizer and arranger of things; he takes it upon himself to rethink his life, leaving this role to no one else.
- d) **The applicative component:** Once the journey begins, thought and action reside together in the life of the counselee: he approaches the problems of daily life abstractly, and in return implements his answers to life's theoretical fundamental questions. The deeper one ties abstract ideas with daily life, the broader his life's experience will be, and the more complex, intriguing, and humane it becomes.

Professional Spheres of Life

Fundamental questions are not unique to our personal lives: they also belong to public and professional aspects of our lives. There too we act, create, and view the world, guided by fundamental questions. There too – and at times mainly – lies a sphere which awaits our personal mark which accords our consolidating individual world view and perspective.

The professional arena is diverse: the entrepreneur shapes his project in his image and asks:

what is this image? An educational psychologist strives to act responsibly under difficult conditions, and investigates the limits of such responsibility; a CEO seeks to leave his personal mark on an organization, and wishes to know what exactly is the mark he should leave behind; a school principal questions his professional identity: what is this identity?

Like the personal sphere, in life's professional sphere the philosophic journey extracts fundamental questions from dilemmas that emerge from the field. As the journey continues, an attempt is made to understand the fundamental meaning of the professional task, to identify spheres of responsibility and clarify ethical dilemmas – while aspiring to greater clarity of the complex reality and while continuously expanding the perspective in relation to which decisions and actions are considered. The journey aims to associate the personal and professional world views; to confront fundamental values of Man with an organization's concrete mission; and to bridge between professional methodologies and philosophical methodologies that address Man's value system and world view.

Yevgeniy's Case

In order to allow us a glimpse of these journeys, I wrote a book that has been recently published, which is wholly dedicated to such philosophical journeys. Each chapter is dedicated to a detailed philosophical journey: an adolescent's philosophical journey, a journey of parenting and love, a journey of one going off the *Derech*, the journeys of an entrepreneur and his enterprise, a journey of a CEO, and more. Let us look at one of these journeys: that of the adolescent.

Youth are often in a state of seeking, accompanied by endless curiosity and a yearning for revelation, for testing limits and norms: they are looking for their unique path in the world. Systems who handle masses of people are not meant to address the vast diversity of individuals, and even less so the rare birds among them. In many cases, there is a gap between what an individual needs and what the system offers. There are quite a few cases of youth that are completely driven away from the system – a process which deepens the crisis, enhances the youth's loneliness and the sense of alienation which has already accompanied him and his parents.

Sometimes, an adolescent's state is regarded as a mental problem that needs treatment. There are instances in which that is indeed the case, and such treatment is called for. However, whether the youth is mentally diagnosed and treated, often the issue itself remains looming at the background of the adolescent's behavior, and he is left with disturbing questions: who am I truly? What is the purpose of my life? What is Man? What is his purpose? What is the purpose of his life? These are philosophical questions, and they shall continue to disturb the youth and badger his mind even if he manages to return to normality.

This is Yevgeniy's story: his parents had divorced in Moscow when he was ten years old, and he came to Israel with his mother. In the recent year he left his mother's home and moved out on his own. He makes his living as a DJ and is considering dropping out of high school. He chooses to spend most of his free time alone.

Yevgeniy often reads literature, and limits as much as possible his interaction with his peers. This behavior has revealed a more profound tension: a series of conversations and training

sessions have demonstrated Yevgeniy's two diverging world views about Man: one is tied to the people among whom he lives, the other has to do with people as they are reflected in the literature he loves to read.

Yevgeniy's stance towards the people around him is that people as he knows them are dull, vapid creatures: they are petty, pathetic, and unworthy. On the other hand, the Man Yevgeniy has met in books is intriguing, mysterious, and deserving.

For Yevgeniy, these are completely two different entities. Mundane Man is limited, while the heroes of literature and arts are ideal. The first is made up of banality, the latter is tailor-made to rare and noble proportions.

There is seemingly nothing problematic with these two differing, even contrasting views. However, as it turns out, the distinction between the ideal literary world and the real mundane world had torn Yevgeniy's world into two. The deeper we inquired, the clearer it became that the contradiction between the mundane Man and the exceptional literary Man is the source of Yevgeniy's loneliness, and that this loneliness and alienation from people in his environment is responsible for a sense of emptiness in his life.

Our journey progressed along these two parallel paths: the literary man and the mundane man. We tracked the literary heroes and saw how the great authors' powers of observation is in essence the ability to draw a complete and captivating portrait from the mundane people that surrounded them. Later, we understood that these people are not different from those who surrounded Yevgeniy. Banal people who were interesting enough for the great thinkers to write about.

On the other hand, we followed philosophical theories which investigated the status of the Other in daily life. We read from Levinas and Buber about the connection between men in real – not literary – life and found the Other's various roles in the construction of oneself, as well as an absorbing, intriguing source in one's life.

And so, these two types of man came closer: realizing that the literary man who intrigued Yevgeniy stemmed from actual people; causing the mundane man himself to appear as an object of interest. Along the way, Yevgeniy was able to relate to an old-new friend as a source of inspiration, of curiosity and mystery. He looked upon him with the same regard as he had towards literary figures.

At the end of the journey the divides were broken: the contradicting worlds in Yevgeniy's life came closer and closer. Reading became less a means of isolation; interaction with people turned into a worthy adventure. Yevgeniy's curiosity towards the Other overcame alienation. The possibility of grasping many and varied aspects of humanity is in itself captivating, and it stemmed from Yevgeniy's identification with the great authors.

During the journey, we noted that Yevgeniy's loneliness was linked to three main components: the gap between a person and another, related to the way one perceives oneself and the other; the way one perceives the nature of the relationship; and the way one understands the relation between this development and his interpersonal relations that one maintains. We have touched upon all three of those components profoundly, and our journey tied between Yevgeniy's lonely, artistic life and his alienated social life – thus breaking through his loneliness, to a certain extent. Yevgeniy experienced a new spark of life, which linked creativity to friendship; the Ideal

to the mundane; man to man.

This philosophical journey “tempted” Yevgeniy to see Man in all his complexity – as a worthwhile challenge. This drew away contempt towards everyday man, and raised a series of accompanying questions: what is a Man’s place in life? How many perceptions of Man are there? How can the perception of Man be linked to our happiness? What do we see in the Other, and what cannot we observe? These questions connected Yevgeniy to the broadening network of relationships, which broke through his cloak of isolation.

The Course in Afeka College: an Ideational Adventure

For the past several years I have been teaching a course on the philosophy of life through adventure. The purpose of the course is to expose students to the wealth of ideas found in music and text, and to how they interact with their lives and world view.

We head out to a journey among texts, music, and life. In every encounter with text, artwork or music students learn to extract their own world view regarding the artwork or text. Art and philosophy are sources of inspiration, but they also reflect various aspects of our world views. Every work of art is an opportunity to learn something from the artist’s world, while simultaneously expanding one’s perspective on life. Every text raises multiple meanings, which touch upon different aspects of our lives. In fact, the course is meant not only to intellectually expand the world of engineering students, but also to broaden their experience, to instill active reading, listening and observation habits.

For example, in a lesson about love we listened to musical pieces, such as different renditions to Romeo and Juliet, from Prokofiev to Genesis and Dire Straits, in reference to their special interpretation. We simultaneously learned about the concept of love as it evolved in the literature on Eros – in Greece and the Western culture. We encountered texts by various thinkers; we read texts about love, such as Erich Fromm’s Art of Loving.

The students split up to grapple with a text and write about the connection between what they’ve read and their own lives. They were requested to respond to the main points based on their own world view, and to observe where their perspective expanded after encountering the text (or the artwork).

Later, we watched an animation video about a trumpet player who was gravely disappointed by love and followed different processes in the short film. Here too, students were asked not only to decipher the clip, but also to negotiate their basic stance with what they have seen and internalized.

For the final paper, each student selected an artwork they particularly liked: a song, a story, a film, a painting etc. Having presented and interpreted it, the students then drew from it one central concept to research and write a chapter of their paper about. The paper concludes with a summary in which the students presented their world view after having integrated the insights acquired from the researched concept.

The combination of processes undertaken in class and individually teach the students to refer

to philosophy and art as a source of inspiration and as a platform for thinking about life's fundamental questions, about what is truly important for each one of them.

The Philosophical Journey in Life

The philosophical journey is not an easy one. It evokes grave questions that touch upon our choices, life, responsibility, or death; it does not ensure happiness, nor does it promise a solution to the problems that called for it to begin with. On the contrary, a taste of the tree of knowledge often entails an expulsion from the Garden of Eden; of the innocence that had characterized life before. Yet, whether it leads to relief or to additional pain, the journey is not only worthwhile, but essential.

In my view, here lies Man's appeal and power: the transformations that history had seen came from the brave urge to conquer new horizons – moving on from the Middle Ages to the Renaissance, from the Age of Enlightenment to the Romantic Era, from a faltering world to the Industrial Revolution, from Modernism to Post Modernism – all these were a direct result of the actions of men who dared to fight against worn out models and banalities, against pseudo-scientific and semi-scientific methods, against beliefs in opinions which dominated their will and intelligence. Such is the individual philosophical journey: it is a journey that changes one's life, a journey in which one creates and conducts life with bravery and determination, as the artist creates and governs his creation.

Popper's Critique of Historicism: Is It Justified in Light of Its Correspondence to the Theory of Evolution?

Iris Ginzburg

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The theory of historicism as formulated by Hegel and developed by Marx is known to be controversial. A major critic was Popper, who presented it as an example of a theory that does not stand the test of refutation, which he saw as the solution to the problem of demarcation, and he therefore defined it as pseudo-science. This paper addresses Popper's critique of historicism as a scientific theory by drawing a parallel between the theory of historicism, which assumes that there are laws that govern human sociocultural evolutionary processes, and Darwin's theory of biological evolution, now accepted as an established scientific theory. The comparison of the two theories focuses on the underlying principle of causality and the multiplicity of variables that affect the possible scenarios according to each of them, in a way that limits the possibility of producing reliable future forecasts.

In this paper I will review Carl Popper's critique of Marxist historicism as a scientific field, and critically discuss it in the light of the plausible correspondence, in my opinion, between the theory of historicism, which can be defined as social evolution, and Darwin's biological evolution theory, accepted today as a scientific theory by most life scientists.¹

In this context, I will introduce the concept of Marxist historicism, which Marx defined as a law of nature, and which formed the basis of Marx's political thought, a kind of scientific justification for the

1. IAP Statement on the Teaching of Evolution; according to a joint statement by the National Academies of Sciences of 67 countries (including the Royal Society, the American Academy of Sciences and the Israeli National Academy of Sciences), since the beginning of life on Earth, life has acquired many forms, all of which keep evolving, and a common trait in the genetic code structure of all existing organisms, including humans, clearly indicates their common ancestral origin.

development of his socialist theory. I will then present Popper's critique of Marx's historicism, which he saw as the root of all evil, as it led to the destructive consequences of Marxism in its various incarnations, in his view. For him, the concept and notion of historicism is nothing but "pseudo-science".

Subsequently, I will draw a parallel between the theory of historicism, which is socio-cultural evolution, and Darwin's biological evolution theory, and address the concept of causality and the multiplicity of variables affecting the possible developments in both theories, as well as their limited ability to produce reliable predictions.

Finally, I will try to point out the difference between denying the definition of a theory as scientific, and the possible opposition to political uses based on it, a difference that perhaps Popper refrained from addressing clearly enough. Thus, I will relate to Popper's firm opposition to the possibility of the existence of any regularity in historical and social developments, in an attempt to compare the historicist theory to the aforementioned evolutionary theory.

Historicism According to Marx

At the basis of Marx's historicist theory – which underlies his thought – is the idea of Hegel's historical materialism. According to this idea, human history expresses progress, in which every movement is revealed as a solution to the contradictions that existed in the previous movement. According to Hegel, a German philosopher active in the early 19th century, the spirit of the time (*Zeitgeist*) is the real embodiment of the most important factors at work in human history at any given time, and it guides the actions of individuals² (similar to Adam Smith's invisible hand in his free market economic theory). In Marx's development of the idea, what drives society and human culture forward is technological development, which leads to economic changes, which in turn transform the structure of society and its classes and the centers of power and politics. In Marx's view, human society is advancing within the framework of historical laws, which from time to time lead to inevitable social revolutions, based on technological development and economic relations, with politics as their superstructure.

For example, the Industrial Revolution of the 18th century, which according to this model formed the basis of the technological revolution, brought about the revolution of the bourgeoisie and democracy as manifested in the famous revolutions in America and France. In the manifesto of the Communist Party,³ Marx applies this view to explain the rise of capitalism: according to him, the bourgeois class defeated feudalism following the discovery of overseas lands, which created new markets and a need for wider production. The need to expand production volumes led to the Industrial Revolution, following which the division of labor changed – from small workshops to large, industrialized factories, owned by the capitalists. The growing power of capital owners has led to political change in the form of the modern democratic state, which serves capitalism, the existence of which is in the interest of the ruling bourgeois class.

2. As Hegel explains in his book *The Phenomenology of Spirit*, Vol. 1.

3. Marx, Engels, *Manifesto of the Communist Movement*, p. 40.

With the rooting and proliferation of capitalism and the forces inherent in them that led to the great progress, it became, in Marx's view, a destructive force. This is because capitalism has not found a way to deal with the economic crises it has caused. Along with the general prosperity created by the system, economic crises arose that led to sections of the population being excluded from the abundance that capitalism produced. According to Marx, the market economy created an economic anarchy, which did not allow the distribution of wealth to the entire population, as a Golem who turns on its creator, or in his words:

"The bourgeois relations of production and exchange, the bourgeois property relations, the modern bourgeois society, which has ardently established such enormous means of production and exchange, is like that wizard who no longer has control over the forces of hell he conjured by sorcery".⁴

And he goes on to describe the mechanism of self-destruction of capitalism, in truly militaristic terms:

"The bourgeoisie not only forged the weapons that bring destruction upon it; it also positioned the people about to possess these weapons – the modern workers. The proletarians".⁵

From this line of thinking, Marx concluded that the next obligatory inevitable was a communist one, in which society would have to assume the distribution wealth from the invisible hand of the free market and rationally to plan the distribution of resources equally through joint ownership of the means of production, in which every individual would participate in work according to his ability and will receive his share of output according to his needs.

As stated, Marx based his historicist theory on Hegel's idealistic dialectic, according to which societies change throughout history under a law that determines the direction of change toward "progress". Marx interpreted progress in technological and economic terms, with the transition from one revolution to another is subject to historical determinism by inevitable class struggles, and the revolutionary forces are inherent in society itself, as necessary internal forces. Thus, society itself creates the forces that change it and bring about the next revolution, after the consummation of the preceding period, and then the same forces destroy society and rebuild it differently.

In Hegel's dialectical method, translated to Marx's terms, the thesis can be expressed as the social starting point at a given time, the antithesis – as the necessary revolt of the lower class, and the synthesis – as the new order in which the prevailing forces advance society towards its destiny. According to Marx, the same social destiny that the expected series of revolutions was intended to bring about was the event he defined as the "end of history". This event, according to Marx, is in fact a very optimistic vision, according to which the problems of humanity will come to an end. Since in Marx's view, political power in the framework of the state is the rule of one class organized to oppress another class,⁶ when political power disappears, society will be organized into groups whose motivating principle is methodological individualism, which will result in individual happiness surpassing general happiness.⁷

4. *Ibid.*, p. 43.

5. *Ibid.*, p. 44.

6. *Ibid.*, p. 55.

7. *Ibid.*, p. 56.

Thus, in the preface to the first edition of *Capital*, Volume I, Marx says:

“One nation can and should learn from others. And even when a society has got upon the right track for the discovery of the natural laws of its movement – and it is the ultimate aim of this work, to lay bare the economic law of motion of modern society – it can neither clear by bold leaps, nor remove by legal enactments, the obstacles offered by the successive phases of its normal development. But it can shorten and lessen the birth-pangs”.⁸

These words teach us that Marx regards historical development as a universal law, which is beyond time and place. Marx seemingly denies human beings the freedom of choice, and exempts them from moral responsibility or any contribution to the course of history and its consequences.⁹ Hence, the source of authority of the communist leadership is the understanding of historical law, within which they operate in the name of “scientifically objective truth” rather than ideology or justice. This is how he puts it in the manifesto:

“The Communists, therefore, are on the one hand, practically, the most advanced and resolute section of the working-class parties of every country, that section which pushes forward all others; on the other hand, theoretically, they have over the great mass of the proletariat the advantage of clearly understanding the line of march, the conditions, and the ultimate general results of the proletarian movement”.¹⁰

And to this he adds later:

“The theoretical conclusions of the Communists are in no way based on ideas or principles that have been invented, or discovered, by this or that would-be universal reformer. They merely express, in general terms, actual relations springing from an existing class struggle, from a historical movement going on under our very eyes. The abolition of existing property relations is not at all a distinctive feature of communism”.¹¹

The Communists' theoretical assumptions are in no way based on ideas, on principles, invented or discovered by one world facility or another. They are but general expressions of the real circumstances of the existing class struggle, of a historical movement taking place before our eyes. “This is especially true of the Communists.”

It can be seen that what began as Marx's attempt to understand the driving forces of historical events and the general laws that are at work in some cyclical way in human society changed its nature in him, until he eventually committed the sin of marketing political ideology in scientific disguise, while creating a new focus of power for a self-proclaimed elite, which may amass the same destructive power against which he had warned, and which could bring about its own ruin as well. Marx did not apply the important insights he gained at the outset — about the social power relations and the striving of the historical law to establish new equilibria when those relations are about to surge into excess — to his later political ideas. As a result, he was unable to foresee the easily predictable scenario, which indeed actualized during the 20th century by the agency of those who acted in his name. It is this point that underlies Popper's and others' critique of

8. *Marx, Capital*, p. 20; emphasis in the original.

9. To my understanding, this was not Marx's intention, and I see in this formulation a rhetorical move designed to lend his remarks an objective-theoretical dimension and thus avert possible claims that he blames certain people for the failures of the initial condition created by capitalism. This, out of a desire to avoid provoking personal counter criticism, which would divert the discussion of his ideas to “capitalists bashing”.

10. Marx, K. and Engels, F. (1955), *The Communist Manifesto*, New York: Appleton, p. 23; my emphasis.

11. *Ibid.*, pp. 23-24.

the science of Marxist historicism and political Marxism as a whole, in a way that resulted in throwing the baby out with the bathwater, as described below.

Popper's Critique of Marx's Historicism

Popper identified Marxist historicism first and foremost with the assertion that an absolutely deterministic conception yields necessary historical laws, and it seems that a major part of his life's work focused on the need to warn against it. In most of his well-known books,¹² he refers to the idea of historicism and rejects it as a scientific theory, attributing to it the injustices of the 20th century and criticizing it harshly. In his book *The Open Society and Its Enemies*, Popper discusses the meanings of Marx's historicist conception as a continuation of Hegel's philosophy. Thus, he pointedly criticizes the historicism he attributes to Marx, a reproach that, in my opinion, culminates in the following words:

“Marxism... is the purest, most evolved, and most dangerous form of historicism”.¹³

A similar and even more acerbic attitude is evident in the preface to his book *The Poverty of Historicism*, which speaks for itself:

“In memory of the countless men, women, and children, of all peoples and races, who fell victim to the fascist and communist belief in Inexorable Laws of Historical Destiny”.¹⁴

Popper's goal in his critique of historicism was twofold: scientific – in his view, historicism does not stand the test of his definition of science, and moral – Popper was one of the first intellectuals to address the social dangers inherent in Marxism, including the desire to re-educate man to build a better world.¹⁵

Popper distinguishes two doctrines of historicism, which he defines and describes at length in *The Poverty of Historicism*, and then rejects both: the pro-naturalistic historicism of those who vainly seek to imitate the natural sciences out of a lack of understanding of the latter; and the anti-naturalistic historicism, of those who perceive the social sciences as a unique discipline that cannot be dealt with in the methods of the natural sciences, but in Popper's opinion the method that they propose is impossible.¹⁶

As part of Popper's well-known preoccupation with the problem of demarcation using the falsification principle that he defined as a test for imparting a “scientific certification” to theories, he cited historicism, along with Freudian psychoanalysis and Adler's individual psychology, as examples of theories that are “pseudo-science”. In his view, because theories of this kind may permit a certain state of affairs as well as its inverse, they do not allow for “risky predictions” and are therefore irrefutable. Thus, according to the falsification principle, these theories do not stand the test of Popperian science, in contrast to Einstein's theory of relativity to which he compared them.¹⁷ In this context he wrote on Marxist theory:

“The Marxist theory of history, in spite of the serious efforts of some of its founders and followers,

12. For example: in *The Open Society and Its Enemies*, in *The Poverty of Historicism*, in *Prediction and Prophecy in the Social Sciences*, in *Conjectures and Refutations*.

13. Popper, *The Open Society and Its Enemies*, p. 286.

14. Popper, *The Poverty of Historicism*, Dedication.

15. Ben Israel, *Popper – Philosopher of Science(tists)*.

16. *Ibid.*

17. Popper, *Conjectures and Refutations*, pp. 1-2.

ultimately adopted this soothsaying practice. In some of its earlier formulations (for example in Marx's analysis of the character of the 'coming social revolution') their predictions were testable, and in fact falsified. Yet instead of accepting the refutations the followers of Marx re-interpreted both the theory and

the evidence in order to make them agree. In this way they rescued the theory from refutation; but they did so at the price of adopting a device which made it irrefutable. They thus gave a 'conventionalist twist' to the theory; and by this stratagem they destroyed its much-advertised claim to scientific status".¹⁸

In his description of Marxist historiography, Popper highlights technology as the sole generator of social development, and historical changes as total revolutions en route to the envisaged end of history, where the role assigned to the scientist of historicist theory is to provide predictions that assist in taking rational actions, suitable for the predicted revolution according to historical law, just as a rational man would not object to the laws of nature.

Popper cites as another example of the historicist conception he criticizes Plato's political approach,¹⁹ which he calls "utopian engineering".²⁰ The danger with this approach, he maintains, lies in its pretense of reaching a necessary scientific truth in general, and in its application in political questions in particular. Such a view, he thinks, encourages policy-making aimed at bringing about drastic and irreversible changes, based on a firm belief in a legal-scientific justification of the desired change, while having potentially devastating and unpredictable consequences – even in cases where the actions are well-intentioned. Popper warns against taking irreversible political steps, which have the potential of sacrificing future generations for the realization of abstract, noble and purportedly eternal ideas, related to religious, nationalist or class notions. Against utopian engineering, Popper presents his approach – Piecemeal social engineering, according to which the statesman must discover the social problems that require a solution to prevent suffering, and not strive for any idyll that will ensure complete happiness.²¹

In his writings, Popper also related to the pro-naturalistic historicist doctrine in Darwin's theory of evolution, and rejected it in a similar way to his rejection of historicism:

"But can there be a law of evolution? Can there be a scientific law in the sense understood by T. H. Huxley when he wrote: '... he must be a half-hearted philosopher who... doubts that science will sooner or later... become possessed of the law of evolution of organic forms – of the unvarying order of that great chain of causes and effects of which all organic forms, ancient and modern, are the links...?' I believe that the answer to this question must be 'no', and that the search for the law of the 'unvarying order' in evolution cannot possibly fall within the scope of scientific method, whether in biology or in sociology".²²

Popper justifies the negation of the scientific status of the theory of biological evolution in that biological life in general and of human society in particular is a unique historical process, the description of which is not a law, but only a "singular historical hypothesis". Thus, in his view, observation of one unique process

18. *Ibid.*, p. 6.

19. Plato, too, according to Popper, is one of the enemies of the open society, with Marx and Hegel.

20. Popper, *The Open Society and Its Enemies*, p. 60.

21. It is worth noting that Popper was careful to attribute to Marx himself good intentions, stemming from the humanitarian drive that led to the formation of his theory, the consequences of which he could not have foreseen. Thus, it is not for nothing that he insisted on the fact that Marxism gained currency precisely among "enlightened leftists". Popper, *ibid.*, p. 286.

22. Popper, K. (1945), "The Poverty of Historicism, III", in *Economica*, New Series, Vol. 12, No. 46 (May, 1945), pp. 69-89 (70).

cannot lead to a prediction of its scientific development.²³

Popper's opposition to defining the theory of biological evolution as a science when he published his book *The Poverty of Historicism* in 1957, almost 100 years after the publication of Darwin's *Origin of Species*, and four years after the discovery of DNA by Watson, Crick and Franklin, when the theory of evolution was already accepted by almost all the natural scientists, is puzzling at the least. It is clear that Popper's denial of biological evolution as a science was intended to serve his arguments against the theory of historicism for his own moral-political reasons. Had he not rejected the theory of biological evolution as a science, he would have had difficulty in explaining the differences between it and historicism, at least in the context of the demarcation problem. In this sense, Karl Popper, like Karl Marx, also committed the sin of compounding a political agenda with his scientific-philosophical work.

Causality in History and the Correspondence of Historicism to the Theory of Evolution

The obvious parallel, in my opinion, between the theory of biological evolution and historicism as a theory of social evolution was noted, as mentioned above, by Popper, but was also drawn even earlier by Marx's significant partner in formulating Marxism and writing the *Communist Party Manifesto*, Friedrich Engels.

Engels mentions in his opening remarks to the English edition of the *Communist Manifesto* in 1888 the correspondence of the historicist theory to Darwin's evolutionary theory, thus:

"This idea, which I think is meant to bring about in the science of history the same progress that Darwin's teachings have made in the natural sciences - we both came to this idea gradually a few more years before 1845."

"This proposition, which, in my opinion, is destined to do for history what Darwin's theory has done for biology, we both of us, had been gradually approaching for some years before 1845".²⁴

In the funeral speech delivered by Engels on the tomb of Marx, earlier in 1883, he bothered to incorporate in the obituary about his partner the analogy between him and Darwin:

"Just as Darwin discovered the law of development or organic nature, so Marx discovered the law of development of human history".²⁵

This comparison, so it seems, did not evade the supporters of Marxism as well as of its opponents, and may have caused discomfort to those who sought to qualify and interpret it in other ways. Thus, Shlomo Avineri, who belongs to the supporters' camp, tries to explain the aforesaid parallelism laid by Engels:

"Was that also Marx's position? Not exactly. Marx himself never compared his theory to Darwin's".²⁶

23. *Ibid.*

24. Engels, Introduction to the English edition of *The Communist Manifesto*.

25. Avineri, "What Marx Really Thought About Darwin and Evolution".

26. *Ibid.*

In his article, Avineri reviews various letters and sources he attributes to Marx, which, in his opinion, must prove not only that Marx opposed this comparison, but that he generally rejected the theory of evolution. Avineri explains Engels' motives in making the comparison on the grounds that it is "ironic and paradoxical and very human";²⁷ and he argues that the analogy was made as part of the "marketing" exercise, considering the popularity of Darwin's theory at the time *Capital* was published, while Marx was still anonymous.²⁸

I think this interpretation is wrong. Yiftah Goldman notes that as early as 1893, ten years after Marx's death and 26 years after the publication of *Capital*, Friedrich Engels admitted that:

"We are evolutionists. We have no intention of dictating ultimate laws to humanity. Prejudices about the details of the social order in the society of the future? You will not find any trace of this in us. We (the socialists) will be satisfied when we transfer the means of production to the community".

In Goldman's view, these statements do not amount to rhetorical modesty, or an expression of minimalist political tactics. They express a penetrating and sober view of the essence of Marxism.²⁹

These words by Engels must be understood literally. These are clear and honest words, uttered by the person who made the distinction, perhaps even more than Marx, between historicism as a scientific theory (similar to Darwin's theory of evolution) and Marx's propaganda and rhetorical efforts to advance his political and economic ideas, culminating in his disregard, in my view, of the principles he himself posited at the early stages of his work, and adopted the ideology that he warned against.³⁰

The salient similarity between the theory of biological evolution and sociocultural evolution was discussed extensively by Richard Dawkins, an evolutionary ethologist and zoologist at Oxford University, considered one of Darwin's successors in the development of biological evolution. Dawkins presented in his book *The Selfish Gene* (1976) the theory of evolution from the perspective of the gene and its ability to replicate itself, and created the concept of "meme";³¹ as a cultural hereditary unit that replicates itself similarly to a gene – not by physical means but rather by means of brains and pools of knowledge.³²

In *The Selfish Gene*, Dawkins describes the similarity between the two theories of evolution (biological and cultural), and even mentions Popper (!), as someone who made a similar comparison between evolution and cultural development – in the realm of science:

"Many have noted the similarity between cultural evolution and genetic evolution, and sometimes did so in an unnecessarily mystical context. It was Sir Carl Popper who particularly emphasized the resemblance between scientific progress and genetic evolution by natural selection".³³

27. *Ibid.*

28. *Ibid.*

29. Goldman, Introduction to *Capital*, p. 17.

30. Unfortunately, I cannot elaborate this idea in the present paper.

31. The common recognition today of the concept of "meme" as a viral transmission unit of cultural entity (such as image, text, short idea) in the digital space is, in my opinion, the ultimate confirmation of Dawkins' meme theory at the level of his created concept as well as the idea itself. Dawkins could not have foreseen in the 1970s the evolution and survivability of the meme concept that he coined, which developed a life of its own.

32. Dawkins, *The Selfish Gene*, Chapter 11, pp. 200-212 (in Hebrew).

33. *Ibid.*, p. 201.

Dawkins makes the parallel, as stated, between the biological transmission unit “gene” and the cultural transmission unit “meme”,³⁴ in the sense that their survival in the end-result test expresses advantages they had under certain conditions over other transmission units. It is these benefits that explain in retrospect the reason for the outcomes of biological, cultural, historical, and even scientific evolutionary processes (according to Popper).

As Dawkins put it:

“When we look at the evolution of cultural routes and the value of their survival, we need to make it very clear whose survival we are referring to here. Biologists, as we have seen, are accustomed to looking for advantages on the gene level (or the level of the individual, group of species, each to his liking). What we have not considered so far is the idea that in a cultural symbol, evolution may take place in a particular way, simply because it benefits itself”.³⁵

Summary

The main feature common to the theories of historicism (social evolution) and biological evolution lies, on the one hand, in the causality principle that drives developmental processes that can be recognized retrospectively, and, on the other hand, in their inability to predict absolutely future scenarios in their field, due to the multitude of variables that can effect a wide spectrum of possible outcomes. Both also share the danger of their allure that may lead to the attempt to harness them in the service of political interests to market desirable scenarios as “natural” and necessary, in order to mobilize public support for the advancement of policies and practical plans to accelerate the occurrence of those predictions. This is what happened in the two most radical, effective, and destructive instances known to humanity that occurred in the 20th century: the first was Nazi Germany, which harnessed the disciplines of genetics and eugenics derived from the theory of evolution to thoroughly convince the German people of their racial superiority, justify the instigation of a world war, and promote the final and “natural” solution for “inferior populations” such as the Jewish people; the second was the Soviet Union and other communist regimes, which distorted Marx’s historicism in order to establish and consolidate oppressive and cruel totalitarian regimes, in a way that was very remote from the original, anarchist and naive end-of-history ideas of Marx and Engels.

However, I do not think it is possible to ignore the scientific truth at the core of the two theories, which is based on recurrent causal relations, and the existence of variables that can explain highly plausible paths of development, both in human history and culture and in biological evolution. Thus, in-depth study of environmental conditions and their impact on biological species evolution in certain biotopes can help create predictions for future species evolution under different conditions, and similarly an extensive study of historical events and a mapping of the conditions under which they occurred can be used for predicting similar events to some extent.

34. Memory unit.

35. *Ibid.*, p. 211; emphasis in the original.

I believe that the fact that unequivocal predictions of events cannot be put to the test of refutation in a particular discipline does not necessarily exclude it from the realm of science, and thus I disagree with Popper and his critique of the scientific character of historicism.

What the two theories of evolution – biological and social – have in common is that they do not deal with morality, justice or issues of freedom of choice in general (like other fields of science). Both deal with the attempt to find laws and causality with the end-result test (survival of environmentally adapted genes, technological and scientific development, social instability and shift of power foci and so on), which, on the one hand, may explain past events, and on the other hand try to predict future occurrences in their field. Popper's forthright critique of historicism seems to be driven more by his aversion to the political applications in the name of Marxism, and less by the objective scientific aspects of the claim that universal and atemporal laws can be found in human history.

To my mind, just as accepting evolutionary theory as scientific does not require a policy of accelerating natural evolutionary processes (such as "social Darwinism"), so accepting historicism as a scientific discipline does not require its application through the attempt to give rise or to expedite predictable processes.

Clearly, the predictive power of both disciplines (sociology and biology) will improve thanks to the development of storage technologies and the use of Big Data, which is accumulating at exponential rates, as well as artificial intelligence tools, which can analyze these vast databases in a way that was hitherto unimaginable. Thus, it will also (but not only) be possible to positively use the capabilities of analysis and prediction, both at the biological level – in beneficial directions such as predicting the evolution of viruses to prevent and deal with infectious diseases, and at the social level – early detection of social, political or global instability, which can lead to violent conflicts or economic and other crises, in order to prevent them beforehand (work that is already being done regularly by intelligence and diplomatic institutions in many countries).

I believe that in terms of the potential risk inherent in the use of scientific tools to advance political goals and interests that are not common to all of humanity, the theories of evolution and historicism are no exception. The risk also exists in the misuse of undisputed sciences, such as physics, chemistry and even medicine. Thus, it is likely that Marie Curie did not anticipate the future use of her discoveries in the field of nuclear radiation for the purposes of war and diplomacy, alongside the beneficial uses developed on their basis in the field of medicine. The risks inherent in the misuse of discoveries in a particular field of science, especially when it is well-established, effective, and has application potential, do not constitute grounds for opposing it and attempting to exclude it from the realm of science.

Of course, we have no immunity even today from factors that could exploit the sciences of biological and social evolution, as well as other scientific disciplines, or the existing and future technological tools, to advance dark interests, in a way that would again harm the entire humanity. I do not pretend to predict which of the possible historical events will actually take place.

It seems that the appropriate conclusion to the question presented in this paper, regarding the tension between historical-evolutionary determinism, and the human ability to act on, promote or change expected events, is again found in Dawkins' words:

“There is one unique virtue of man, the evolution of which may or may not have been memetic – his conscious ability to foresee the future. Selfish genes (and memes, if you accept the speculation presented in this chapter) are not endowed with foresight. They are mindless, blind replicators. The fact they replicate themselves, in combination with other known conditions, means that voluntarily or involuntarily, they are prone to the evolution of traits called - in the special sense attributed to this word in my book – selfishness”.³⁶

And more:

“Perhaps another unique trait of man is his ability to display true, impartial, decent altruism. This is my hope, though I do not intend to seek a ruling on this matter, nor to guess what may be its memetic origin. What I wish to point out here is that even if we turn to the dark side, and assume that man, as an individual, is fundamentally selfish, then our conscious foresight – our ability to imagine the future in our minds – can save us from the worst misdeeds of the blind replicators. At the very least, we are mentally equipped to promote our selfish interest in the long term over our selfish interest in the short term. We can understand the long-term benefits of participating in a ‘conspiracy of doves’, and we can sit down and discuss ways to generate such a conspiracy. We have the ability to resist the selfish genes with which we were born, and when necessary – the selfish memes given to us. We can even discuss ways to deliberately cultivate pure, impartial altruism – something that has no place in nature, something that has never existed in all of the history of the world. Nature has built us as gene machines, and culture – as meme machines, but we have the power to defy our creators. We, and none other on Earth, can rebel against the tyranny of the selfish replicators”.³⁷

It seems to me that Popper might as well have agreed to this conclusion.

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36. Dawkins, *The Selfish Gene*, p. 211.

37. *Ibid.*, pp. 211-212; my emphases.

Digital Wallets – The New Playing Field of Banking

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The mobile payment category today powers a broad spectrum of economic and social activity for consumers and businesses. Digital payment apps (on the smartphone) continue to spread rapidly around the world and affect the financial conduct of consumers.

These applications are also a gateway to the banking world and will continue to be a large playing field for the fierce competition between local players and global giants, banks, large-scale retail chains, credit card companies and technology platforms.

Competition in the market is far from reaching a resolution, while competitors and regulators are still looking for profitable business models.

The Problem of Cash

In 1998, Kenneth S. Rogoff, a professor of economics at Harvard University and the former chief economist at the World Monetary Fund, published a paper entitled "Blessing or Curse".¹ The paper addresses the enormous damage and costs to society and the economy caused by the use of cash.² Rogoff even coined the phrase "War on Cash" (WoC), which became an economic policy that Rogoff continues to promote to this day through articles and books.³

Recently, the macroeconomic argument in favor of reducing the use of cash has received significant support from central banks around the world. Since the Great Recession of 2008 and the lowering of the interest rates to around zero, bank governors have found themselves trapped: on the one hand, they need monetary "ammunition" to stimulate economies in crisis, and, on the other hand, low interest rates leave them little room for maneuver. The abolition of cash, economists say, is necessary to allow central banks

1. Kenneth S. Rogoff, "Blessing or Curse? Foreign and Underground Demand for Euro Notes", *Economic Policy* 26 (April 1998).

2. The arguments by Rogoff and others were heeded, especially in Northern European countries, which successfully joined the struggle against the use of cash.

3. Kenneth S. Rogoff, *The Curse of Cash*, Princeton: Princeton University Press, 2016.

more room for maneuver and even push interest rates to negative levels without the fear that people will "make a dash" to cash and the black economy will be incentivized (receive a stimulus).⁴

A Digital Solution to the Cash Problem

Since Rogoff's passionate call in 1998, the world has undergone a digital revolution. The international payments industry, in an essentially capitalist process and with the support of regulators around the world, has brought Rogoff's vision closer to reality than ever before. The blooming of payment applications in many countries in the last decade reflects this process more than anything else. The digital wallet is an innovative technological development based on simplifying the payment process – the ease of use has created an exponential spread of wallet payments worldwide.⁵ Today, digital wallets⁶ are the fastest growing means of payment, a growth engine for non-cash payments and a leverage of market education for digitization and digital banking.⁷ The payments market for mobile devices is expected to continue to grow strongly and accordingly the digital wallet market. Juniper, a research firm, estimates that in 2019, the average spending on a digital wallet in the U.S. was \$3,350. That spending would rise to \$6,400 per wallet within a few years, the researchers predict.⁸

Digital wallets erupted in the global market in the field of interpersonal transfers (P2P). Fintech players such as Venmo in the U.S.,⁹ MobilePay in Denmark,¹⁰ Bit in Israel, Tencent and Alibaba in China and dozens of other payment apps have spread rapidly in their respective markets and changed the consumer behavior of billions around the world.¹¹ These payment apps are particularly easy to use, they are a key instrument in reducing the volume of cash and they make a significant social and economic contribution to the state and to private and business consumers. One of the great advantages of those wallets often comes up in studies and is the introduction of entire, new population segments into the field of banking and finance (Financial Inclusion).

The entire industry is currently advancing from its entry-level category, interpersonal transfers (P2P), to the category of retail payments (C2B) that is several times larger. In Northern Europe, in countries with the most advanced payment and banking systems, we see digital wallets such as Swish (Sweden) or Vipps (Norway) that allow consumers easy purchase at the physical point of sale (POS), online purchases via mobile devices, (regular) payments to companies by consumers and more – the private customer receives a free means of payment, and the business customer pays to create and increase sales from users.¹²

The experience accumulated in other markets shows that this development is good for the consumer. It is an innovation that enables not only comfort and digital maturity; a digital wallet allows more than just

4. Kevin Dowd (Professor of Finance and Economics, Durham University), "The War on Cash Is About Much More Than Cash", *Economic Affairs*, 2019; 39: 391-399.

5. Juniper: *Digital Wallets - Deep Dive Strategy & Competition 2019-2024*, January 2021.

6. Digital wallet = an application that enables payments via end devices (cellular phones), supports various payment funds (checking account) and allows various types of payments, per the customer's choice (P2P, PoS).

7. See Capgemini *Payments Report 2020*, *inter alia*.

8. Juniper: *Digital Wallets - Deep Dive Strategy & Competition 2019-2024*, January 2021.

9. Today belonging to PayPal company.

10. An enterprise of the Danish bank Danske.

11. 2.3 billion users worldwide in 2019, according to consulting company Capgemini, which estimates that 4 billion users will use wallets in 2014 (50% of global population).

12. "Chasing cashless: The Rise of Mobile Wallets in the Nordics", *Monitor Deloitte*, 2019, pp-13-27.

a substitute for cash. The wallet enables the accumulation, storage, transfer of payments and immediate analysis of the total financial activity of the consumer – strengthening the ability to manage the personal budget in the palm of the consumer's hand in real time. A digital wallet as an alternative to payment turns out to be good news for merchants as well. The latter benefit from increased pressure on the prices of the means of payment in the system that involves the transition to payment from the mobile device. Merchants can also increase sales due to the improvement of the customer experience for the consumer and taking advantage of the richer dialogue with the consumer that is possible in the field of mCommerce.¹³

The War on the Digital Wallet – Utilizing the Customer's Data Requires Control of the Customer Interface

Such a significant change in consumer behavior has not gone unnoticed by the players of the big technology platforms.¹⁴ The energetic foray of Amazon, Apple, Facebook and Google into the battlefield for the means of payment in the customer's handheld device symbolized the strategic decision of these giants to vie for control of the customer interface and more than that – in the financial industry.

The business model of the giant technology platforms is based on controlling the customer interface by offering free services. In return for these services (search, communication consumption and more) the technology platforms collect every possible piece of information about the consumer. The information is used to optimize hungry algorithms that produce a mathematical Human Behavior Predictions. This is the actual product that companies like Google and Facebook sell. These companies sell (in an open tender) to third party customers (including banks) the various degrees of certainty of the expected behavior of each of us, usually in the context of consumption. The technology giants offer their customers even more than that: in their eagerness to sell an indication of human behavior – a product that makes them hundreds of billions of dollars – technology companies are even willing to steer this behavior in any desired way. To do this, they need to accompany us for more hours throughout the day and provide us with more interfaces while learning consumer data.

To better predict consumer behavior, these companies are feeding every possible piece of information to giant computers that must devour infinitely more and more data. Therefore, the business model of these technology platforms has been dubbed "surveillance capitalism".¹⁵ Enthralled by their own successful business model, the technology giants have long since broken the privacy barrier and even invaded forcefully from the online world into the physical world in the constant tracking and accumulation of the Surplus Data they need. Today, in many places around the globe, regulatory criticism of the purpose and distinct behavior of big-tech players and the new dangers they entail is increasing.

The digital wallet offers the giant technology platforms a fundamental interface with the high-quality information of the payments world. Consumer payment activity is a goldmine of data. The control of it makes it possible to maintain for the consumers one of the most significant interfaces for them. Technology companies do not intend to give up this interface and therefore invest their unlimited resources in digital wallets and in their marketing to consumers.

13. <https://www.bigcommerce.com/blog/mobile-commerce/#common-pitfalls-of-mobile-commerce>.

14. These are called Big-Tech, and in recent years TechFins, a moniker that symbolizes the introduction of technology to the field of finance.

15. For the most scathing and profound criticism of Big-Tech's *modus operandi*, see: Shoshana Zuboff, *The Age of Surveillance Capitalism : The Fight for a Human Future at the New Frontier of Power*.

Disruption and Turmoil in the World of Payments

The entry of big-tech players into the field of payments, which is growing in multiples more than any other means of payment, has created great mass hysteria at One Market Plaza in San Francisco – Visa's main command post, overlooking the bay. No lesser panic was recorded on the East Coast, in the dreary city of Purchase in New York State, the seat of MasterCard Company. The global payment giants simply ripped the lock off their cash warehouses, armed themselves with billions and went out for strategic shopping all over the world. The two companies also quickly launched their own digital wallets (Visa Checkout, MasterPass) that compete with the other technology players.

Visa and MasterCard's vigorous and synchronized response has been crowned with success mainly because they have succeeded in convincing technology players, and the banks that populate the Associations, not to abandon their efficient and secure payment infrastructure and continue to steer the payment apps on the old track of credit and debit cards.

"Why can't we all just get along?", Visa and MasterCard asked the players who throng from every direction toward the payments and digital wallet industry, and the latter grumbled in response, "Well, at least for now". Nevertheless, the struggle for a foothold and strategic status in the field of digital wallets has in recent years become one of the major struggles over the formation of modern banking. Except for technology companies whose main concern is controlling the customer interface and data utilization, the field of digital wallets is a magnet for players outside the banking system for whom the digital wallet is a springboard into the system. There are many examples from around the world: we identify large retail chains, telecommunications companies (Telcos), fintech companies, transportation companies and more. The quintessential example in Israel is the retail giant Shufersal, which intends to enter the field of credit sales through the payments app (digital wallet) PayBox, in cooperation with Discount Bank.

For neo-banks (digital banks), the digital wallet is a critical capability (Payment Feature) in their digital banking application that offers banking services. For banks coming from the opposite (legacy) direction, the digital wallet is the exact same thing, only they still need to add the rest of the banking services into the infrastructure they have created (quickly and often out of instinct and not by laying out an orderly strategy).

For the banks, the payment services offer is part of the core banking services (Payments & Transaction Banking) and a basic interface on which the banks are based in offering their customers additional services and products. But banks are having to contend in the digital wallets' arena with global giants with huge resources and far-reaching plans. The entry of a host of new players is generating turmoil and disruption in the banking business model and requires that the banks form new strategies and new business models.

And yet, it can be cautiously estimated that, with the exception of players like PayPal,¹⁶ Apple or Telco players like Vodaphone (M-Pesa), the vast majority of digital wallets, as well as digital banks, are not a profitable business but an unflinching source of large investments. While the use of payment apps is captivating in its simplicity, the business dynamics of these means of payment have been found to be particularly

16. PayPal enjoys profits but its subsidiary Venmo suffers losses. This payment application became, as Bit has in Hebrew, a verb in English, denoting the request of money transfer.

complex. Despite fiery statements by lobbyists in the press, the complex reality of the payments industry (worldwide and in Israel) is mainly caused by uncertainty about the business model of digital wallets. At the moment, the banks that choose to compete in the digital wallet arena are forced to invest huge sums in the competition on the customer interface, without the ability to immediately recoup the investment. The main reason for this is the disruptive business models of the players who have entered the arena outside the banking world. Apart from the technology giants who do not charge the consumer money, there are also fintech players who have preferred growth over profitability and have recruited hundreds of millions of customers by offering the product for free. The rest of the players, like banks and large retail chains that have also entered the field, have taken on, albeit not happily, the rules of the game.¹⁷ This dynamic has turned digital wallets (payment apps) into a lever to lower the prices of the means of payment in the entire system, a dynamic that mainly benefits small businesses.

Some players, and especially banks competing for a position of power in the payments market, see this as a strategic necessity. The perception to which many in the world of payments, fintech and banking converge sees the digital wallet as a step in delegating banking to the end user. The digital wallet today is the most advanced expression of the digital transformation of the banking system, which will be completed when the customer "runs the bank" from his mobile and receives most of his financial needs himself, whenever and wherever it is convenient for him.

Such a perception poses a difficult dilemma for the players in the banking industry. On the one hand, they can try to compete with the many players who see the world of payments as the gateway to the world of banking. Such a choice requires a long-term investment in a field that is not profitable in itself but allows them to protect the profitable products of the banking industry, especially the credit products. On the other hand, they can give up the area of payments – you cannot fight Google that gives the customer a free digital wallet and updates it once every three months. This choice saves huge expenses but leaves the customer interface, with its important data flow, with the competitors. However, this choice leaves competitors with the option of marketing to customers profitable banking products of their own or through collaborations with other banking or non-banking financial players.

In conclusion, the category of mobile means of payment currently underlies a wide range of economic and social activity of consumers and businesses. The various types of payment applications will continue to serve as a broad and significant playing field for fierce competition between local players and global giants, banks, large-scale retail chains, credit card companies and technology platforms.

Competitors and regulators together face enormous complexity today. However, regulators have a duty to enable profitable business models in a field whose vitality to the economy is unquestionable, so that the impact of the welcome growth on businesses and customers will continue and even increase. Each market finds itself dealing with this complexity in its own way.

17. See the case of U.S. Bank (2017), which tried to charge for using its app but backtracked after three months.

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What Does It Mean to Learn From Photography?

Nimrod Matan

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Photography is perceived as a means of representing and documenting reality, and accordingly, learning from photography means becoming acquainted with the reality that photography represents. Opposite this perception, this paper examines the possibility of thinking of photography as part of reality and not as distinct from it and representing it, and accordingly of learning from photography as a process that is not different from other life processes. The theoretical background is Walter Benjamin's understanding of the diminution of human experience and the ability to pass it on to future generations.

"No, this much is clear: experience has fallen in value, amid a generation which from 1914 to 1918 had to experience some of the most monstrous events in the history of the world. Perhaps this is less remarkable than it appears. Wasn't it noticed at the time how many people returned from the front in silence? Not richer but poorer in communicable experience? [...] For never has experience been contradicted more thoroughly: strategic experience has been contravened by positional warfare; economic experience, by the inflation; physical experience by hunger; moral experiences, by the ruling powers. A generation that had gone to school in horse-drawn streetcars now stood in the open air, amid a landscape in which nothing was the same except the clouds and, at its center, in a force field of destructive torrents and explosions, the tiny, fragile human body.

(Walter Benjamin, Experience and Poverty)¹

1. Benjamin, 1.

1

For several decades, from the middle of the 19th century until the First World War, human experience underwent an unprecedented revolution. The human experience – that is the name given by philosophers to the whole range of possibilities of humans to experience the world, to act within it and to experience it in a meaningful way – has become, in modernity, so intense that its very possibility was undermined, and it impoverished until it became extinct. The paradigmatic example of this process, in which it is precisely the intensification of experience that causes its diminution, is shell shock: the soldiers returning from the powerful experience of the modern battlefield, of which the First World War is its first occurrence, can no longer be described as having gained life experience, but as those who lost the ability to experience life. The shell shock as a psychological phenomenon parallels a few other phenomena, on different levels, some of which Benjamin mentions in the passage quoted above and elsewhere in his writings. The structure of these phenomena is one: an accelerated process of intensification – the increase and augmentation of experience, to the point of destroying its very possibility.

Stefan Zweig describes those critical decades in which the world went from the “golden age of security... made life seem worthwhile”, which was characterized by “touching confidence that we had barricaded ourselves to the last loophole against any possible invasion of fate”, and by “[people] believe[ing] more in this ‘progress’ than in the Bible, and its gospel appeared ultimate because of the daily new wonders of science and technology” – to the modern moment, marked by the same war itself: “Today, now that the great storm has long since smashed it, we finally know that that world of security was naught but a castle of dreams”.² Progress and the belief in it expanded the limits of human experience and cultivated the conditions for fulfilling the potential for experience, but the very same expansion and cultivation ended up consuming the very possibility of experience of the “tiny, fragile human body”. The most advanced stage of that unprecedented development which is modernization was the obliteration of experience. Thus, for example, labor, which has always been a source of human experience based on the slow accumulation of experience passing from father to son and interwoven in the natural living environment, has undergone, within several decades of industrialization, an accelerated process of augmentation, streamlining and specialization, to the extent that a worker who operates a machine in the factory no longer has the ability to genuinely experience work as a meaningful whole. While the pre-industrial artisan produces a whole product with his own hands, the modern laborer is alienated from the products of his work, which no longer belong to him and he exhausts and devotes his life to a repetitive effort to realize a small, minimal and in-itself meaningless step within an incomparably larger manufacturing process, which he has no ability to fully experience, comprehend or pass on to his children.³

The assembly line, the car, the steam engine, the electric light bulb, the machine gun, and many other modern products and generators of progress all take part in a similar process: rapid acceleration of human experience in its various fields – work, environment, travel, war, etc. – leading to its degradation, impoverishment and then destruction.

Benjamin’s description of the depletion of experience ends with a picture: a boy makes his way to school in a horse-drawn carriage and there he is an adult, a shell-shocked soldier. Under a cloudy sky stands a tiny, fragile human body, in the heart of a field filled with destruction. We are capable of experiencing this

2. Zweig, 1982, pp 12-15.

3. Marx, 1947, pp. 310-313.

image, almost to live through it ourselves, to assimilate into it. We talk about such images in terms that were once, in the world of horse-drawn trains and manual labor, dedicated to describing life experiences: a strong, intense, troubling image, etc. Therefore, when we read this description, we experience in small scale a process of intensification, or acceleration of experience. The more we try to be accurate in our description of the image, the more we find ourselves using cinematic terms: a boy makes his way to school on a horse-drawn carriage – cut – a grown-up man, a shell-shocked soldier, the camera rises towards the clouds in the sky and then descends again to a tiny, fragile, and helpless human body in the midst of a scorched field. The mode of experience that I have illustrated here by the natural manner with which we are able to “read” this image and imagine it in cinematic tools can be called “photographic experience”, because the building blocks of the experience are no longer real events, but photographic images, and the realm of experience is no longer the real world, but its photographic image, or a screen.

The invention of photography in the 1830s and the rapid spread of photographic technology over the next few decades, until it became available and accessible to all, can be added to the list of products of progress and its generators, that I mentioned above. And just as an air traveler, for example, no longer travels in the traditional sense of the word, but experiences a “journey” that has intensified to the extent of reducing the experience of movement in space into a mere covering of distance, so the photographed person looks at us in an “accelerated” and intensive manner, compared to person returning us a look in a direct encounter. In both cases of travel by air and encounter by looking at a photograph, the limitations of time and distance that define a face-to-face experience have been removed. This accelerated-intense gaze destroys the experience that can be called “looking at the other”, in the sense that it no longer allows for communication, empathy, understanding, and the other components of the traditional experience of encounter, leaving us staring at a lifeless representation of what was once a real person.

2

Photography, however, can also be the source of a new space of experience. “Man is a movie-going animal”, Giorgio Agamben writes, paraphrasing the Greek definitions of man as distinct from the animal by virtue of one distinguishing feature (e.g., a talking animal, a political animal) and clarifies: many animals are attracted to images of things, as long as they mistake the image for a real thing, but only man will continue to be drawn to the image, although it is not the thing itself – and precisely because of this.⁴ Experiencing the photographed image is a new form of experience and photography is therefore a new domain of education – of bequeathing life experience and possibilities of experience.

What does it mean to learn from photography, then? Seemingly, since a photograph is always a photograph of something – or, as Susan Sontag (as well as other thinkers) puts it, any photograph at least denotes something that took place, even if it is not always easy to deduce from looking at the photograph what that thing is⁵ – it seems that learning from photography means learning about the world, through photography; that is, ostensibly, to become acquainted with the very “thing” that the photograph denotes. Photography, according to this conception, is another means of mediating between us and the world, making it accessible and bringing it closer, by bringing forth representations of the world. But the crisis of experience to which

4. Agamben, 2002, p. 314.

5. Sontag, 1979, p. 10.

Benjamin refers is expressed in this context in that the attempt to decode the photograph by tracing the thing it denotes is ultimately doomed to failure. Vilém Flusser describes this failure in terms of forgetfulness: humans have forgotten that photography was meant to mediate reality and make it accessible, and they attribute reality to photography itself, that is, regard it as a real “thing”, as one of the things photography is supposed to represent and think the acquaintance with it is, supposedly, the very purpose of learning from photography.⁶ This is the typical state of humanity from the end of the 20th century and even more so in the 21st century: it seems that the photographic space with the variety of screens that serve as its medium – television, phones, computers, etc. – is as real to us than concrete reality, and sometime even more than it. Not only is the path to actual experience blocked, but we entrench ourselves in what was supposed to lead us to experience the world and settle for it as a substitute for experience.

As a representation of reality, photography is characterized, relative to any other means of representation (such as painting and text), by a particularly high degree of realism. The illusion of reality that photography evokes adds to the difficulty of using it, in practice, as a means of becoming acquainted with reality. The realism of photography tempts us to regard it as a substitute – convenient to use, available, readily produced, and distributed – of reality itself. To the extent that learning from photography or understanding it means tracing its origin in reality, that is, tracing the “things” in reality that photography denotes, there is no way out of the modern crisis of the impoverishment of human experience unto its destruction, also in relation to photography. As long as we conceive of photography as a representation, we are doomed to fail in our attempt to use it as a means of improving our capacity to experience the world, and we are prone to the pathological consequence of this failure – that is, replacing the real world with its photographic substitute.

3

Is there another model, through which we could think of learning from photography, and which will be not be susceptible to this dangerous destiny? To open a possibility of such a notion, one must let go of the schema according to which photography is a representation of reality, hence – that its final meaning is always a thing in reality, and that in its failure it becomes a substitute for reality.

According to the traditional model of representation, there is a structural, essential distinction between the various positions that constitute the system of representation: the represented object, the means of representation and the representation itself as it appears in space. Thus, for example, the king sits before the painter, who invests time and effort and uses tools, materials, his abilities and talent to produce the king’s visual representation, i.e., a painting. The representation, the finished painting, is hung on a wall in the museum and the viewer, who has never seen and could not have seen the king himself, becomes acquainted through it with the real king. The viewer as well is required to an effort, to invest time and other resources to face the representation and allow himself to view it. Between the king and his representation, as well as between the representation and the viewer, there exists an essential gap that is mediated by various means.

When it comes to photography, this gap and the means that mediate it are minimized, and in contemporary

6. Flusser, 2015, p. 14.

digital photography they are virtually gone: the photographer standing in front of the subject creates the photographed image with the flick of a finger and the image is distributed everywhere and made available to any viewer in an instant, while almost completely obliterating the mediation gap between the subject and the photographer and between the photographer and the viewer.

The accelerated development of photographic technology, along with the introduction of photography practice into everyday life in so many contexts (tourism, family, leisure, culture, politics, etc.) has made the act of photography, the act of viewing the photograph and the act of distributing it that mediates between the former, equal in their status, in terms of availability, immediacy and the ease of transition from one to another. This equality of status places photography in a new domain, which is no longer a representation of the domain of the real, as it does not follow the traditional model of representation based on mediation, as I have described above. The person being photographed, the person photographing, the person viewing the photograph and the photograph itself – all of these have equal status and are on the same plane of existence, a single plane without gaps and mediations.

This equality of status is also expressed in the dynamics of the cinema theatre space, as Agamben suggests. Going to the movies can be understood as a new model of being human – a being that takes photographs, is photographed and views photography: the viewer in the cinema is assimilated into the photographed reality seen on the screen and adopts the viewpoint of the person photographing it. During viewing, the viewer exists in a new, non-traditional domain, where the gap between the observer, the object of observation, and the creator of the object no longer exists. It is no wonder, then, that there are those who identify the kind of human existence seen on the cinema screen – as well as the kind of human existence for which cinema viewing is a model – as a ghostly existence, suspended between life and death, between existence and annihilation.⁷

Another aspect of the equal status among all those who take part in the photographic apparatus has to do with the photographic technology becoming more available and accessible, and consequently the class differences between the various roles in the system become so diminished to the point of their elimination: anyone can take pictures. Nowadays, to produce photographs at the highest level of detail, accuracy and fidelity to reality requires almost no skill, ability, or knowledge, compared, for example, to the production of a parallel visual representation through painting. Moreover, anyone may be photographed. In the contemporary space that is constantly monitored and photographed by a plethora of technological means, and where there is a camera in every pocket, there is no one who is not worthy of being photographed and practically no one who is not photographed almost on a daily basis. What used to be a right reserved for kings – the right to be immortalized in a portrait – is today a daily right and duty of us all. Lastly, anyone can view anything as a photograph. Even the chain of mediation and the means and efforts that were previously required to disseminate the representation and allow others to view it are no longer necessary in an age where photographs are a resource available to everyone, everywhere and anytime – just one simple internet search away.

The last aspect of the equal status among the participants in the photographic apparatus, which eliminates the gaps of mediation that enable and generate representation, is related to the very essence of the photographic image itself. A fundamental attribute of the photographic image is the indeterminacy of its

7. Sebald, 2011.

meaning. The painted image, just as the photographed one, is able to capture a single moment, to detach it from the sequence of events that give it meaning, to take it out of context. Thus, seemingly a single visual image – drawn or photographed – may be subject to innumerable conflicting interpretations, each of which will endow it a different meaning. However, it is possible to trace the ultimate meaning of a painting, if we follow the chain of events that led a particular painter to paint a particular object at a particular time. The painting's meaning ultimately depends on the consciousness, intentions (as well as the character, education, culture, inclinations, etc.) of its human creator. Not so with photography. Since alongside the photographer's decision-making process, a mechanical, automatic, natural, component, independent of human intention, also participates in the process of the photographs' creation, the full and complete meaning of the photograph cannot depend solely on the totality of the consciousness, personality and other characteristics of its creator, the photographer. Every photograph, by virtue of being a photograph, is thus characterized by an essential indeterminacy of meaning, which stems from the non-human element involved in its production.

The moving image, i.e., cinema – and its more recent descendants, the video, the digital clip, etc. – can thus be understood as an attempt at a structural solution to the problem of the indeterminacy of the meaning of the single photograph. As long as we experience the photograph as lacking fixed meaning, we experience – yet again – the impoverishment of experience of which Benjamin speaks. We try to experience photography, learn from it, gain life-experience from it – and fail. The rapid projection of photographed image sequences is a way to redeem photography from the indeterminacy of meaning as it produces context, a living environment for the image to be embedded in, and for the viewer to assimilate into, as in a real experience, so that a new experience with a new meaning can emerge.

Imagine the figure from Benjamin's description. It moves slowly on a horse-drawn train towards an unknown fate. As long as the next (photographic) image does not appear in the sequence of moving images that comprise this (cinematic) description, it remains meaningless, directionless, and multiple meanings can be ascribed to it. Only when the figure reaches the scorched, desolate field, under the cloudy sky, the meaning of the initial image is determined, fixed, and we can experience it as a complete, comprehensible, and transmissible piece of human experience.

Just as any person can take a photograph, be photographed, and view a photograph, so too can any person learn from photography, become an object of learning for others and bequeath life experience to others, i.e., become a teacher and educator himself.

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Privacy? Forget About it: COVID-19, Mass Surveillance Technologies and the City

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Many cities have already implemented surveillance systems to monitor COVID-19, which may be perceived by citizens as a way to deal with the threat. However, it may also raise concerns about privacy. This paper proposes that there should be a relationship between regulatory focus and acceptance of mass surveillance technologies in cities, especially in large, crowded ones. Regulatory focus theory distinguishes between two motivational systems – promotion and prevention. Both systems serve survival needs. However, there are differences between the two in the motivation of goal pursuit – growth for promotion versus security for prevention, and in the strategies that are preferred in goal-pursuit – eagerness for promotion versus vigilance for prevention. This paper suggests that there should be a relationship between regulatory focus and acceptance of mass surveillance, and this relationship should be either moderated or mediated (or both) by perceived crisis severity, privacy concerns, and age. Implications for urban public health are also discussed.

Introduction

Technology plays a key role during pandemic outbreaks. Through big data and predictive analytics, advanced technologies can be applied to predict outbreaks and assist in early detection. Smart apps help with contact tracing. GPS technology and electronic bracelets can be used to enforce quarantine. Drones equipped with AI can monitor urban areas to prevent large gatherings of people in public spaces. Self-driving robots are able to scan the temperature of a large number of people simultaneously, and authorities will be alerted when a person with fever has been detected. CCTV systems combined with facial recognition can identify individuals on a watch-list, reconstruct their recent whereabouts, and trace their contacts. By limiting the spread of the virus, technology helps in the fight against COVID-19. In this respect,

technology has a bright side. However, there is also a dark side to it. Mass surveillance technologies pose a threat to privacy. This is an important issue because peoples' experiences with surveillance technologies will have implications for the reconfiguration of state-citizen relationship in a post-COVID-19 world. In light of this, several questions arise. Is there a way to reduce resistance to, and encourage acceptance of, surveillance technologies? What is the best way to balance the effectiveness of tech-based solutions with citizens' privacy concerns? This paper draws on regulatory focus theory [1] to answer these questions. Based on the theory, it is proposed that there is an association between regulatory focus and acceptance of mass surveillance technologies, and that in times of crisis this association is either moderated or mediated (or both) by the perceived severity of the crisis, privacy concerns, and age. In the next section, the theory of regulatory focus is introduced.

Regulatory Focus Theory

According to regulatory focus theory, there are two different ways to pursue goals: the promotion-focused way and the prevention-focused way. The two ways differ in what motivates goal-pursuit and in which strategies are preferred. People in a promotion focus are motivated by growth-related concerns (accomplishment) and prefer to use eager strategies in goal pursuit (enthusiastically dealing with challenges). People with a prevention focus are motivated by security-related concerns (safety, obligations) and prefer to use vigilant strategies in goal pursuit (careful deliberation before action). All individuals are motivated by both promotion-focused and prevention-focused concerns. However, people differ in the strength and relative strength of the two motivational systems. Some are more promotion-focused than others, and some are more prevention-focused than others. Furthermore, some have stronger promotion than prevention concerns, while others have stronger prevention than promotion concerns. These differences define which of the two systems will predominate over the other, and thereby, will drive behavior. Studies of regulatory focus reveal interesting findings [2-5]. People with a promotion focus tend to have a dominant independent self-construal, are creative, take risks, are open to new experiences and change, and have a preference for speed over accuracy. In contrast, people with a prevention focus tend to hold a dominant interdependent self-construal, have a more conservative approach to risk, prefer stability over change, and prefer accuracy over speed. The concept of self-construal is of particular importance. Self-construal refers to how people define the self [6]. People who are independently-oriented view themselves as individual entities whereas those who are interdependently-oriented define their identity in relation to others. Individuals with a dominant independent self-construal value privacy and are less likely to cooperate with others. By contrast, individuals with a dominant interdependent self-construal value relational responsibilities, and show a higher level of cooperation with others. In times of public health crisis, these differences should be related to the readiness to accept mass surveillance technologies in urban living environments. In a different vein, studies show that in crisis situations, behavior is influenced by the perceived severity of the situation [7]. Perceived severity of health crises is related to the severity of symptoms, perceived likelihood of contracting the disease, and anxiety. People who consider the symptoms as severe, perceive the likelihood of getting infected as high, and suffer high anxiety should be more willing to accept technological surveillance in their living environment. Surveillance technologies are perceived as a means to mitigate the threat posed by the disease, and as such they should be readily

accepted. Another factor playing a role in the decision to accept digital surveillance is privacy concerns [8]. People who value privacy are less likely to accept technological surveillance [9]. A recent study found that acceptance of COVID-19 surveillance technologies was positively related to the perceived personal threat and the effect was particularly strong among individuals with a strong propensity for authoritarianism [10]. In another vein, there is evidence that the objective risk for severe illness with COVID-19 increases as people get older [11]. Besides, the subjective severity also increases with age. A study of the public reaction to COVID-19 showed that people of age 65 and older perceived the disease as a more severe threat than people of younger age [12]. Another study showed that the perceived severity of COVID-19 differed between age groups and also between men and women [13].

Drawing on regulatory focus theory and in keeping with these studies, it is proposed that, in times of public health crisis, the willingness of people to accept mass technological surveillance in their urban residential environment should be related to the strength of their regulatory focus orientations. It is further proposed that the relationship between regulatory focus and acceptance of technological surveillance should be affected by perceptions of the severity of the crisis, concerns about privacy, and age. Five hypotheses are formulated. H1: Prevention focus should be positively related to the intention to accept surveillance technologies. Prevention focus is related to interdependent self-construal. People in a prevention focus should say that they accept surveillance for the greater good. H2: Promotion focus should be negatively related to the intention to accept surveillance. Promotion focus is related to independent self-construal. People in a promotion focus should say that they do not accept surveillance, not even for the greater good. H3: the willingness to accept surveillance technologies should be negatively related to privacy. H4: the willingness to accept surveillance technologies should be positively related to perceived crisis severity. H5: the willingness to accept surveillance technologies should be should be negatively related to age. In addition to these hypotheses, three concepts are introduced. All concepts share a common framework according to which there is a relationship between regulatory focus and acceptance of mass surveillance technologies (relationship of interest). However, each concept presents a different relationship. Moderation: the relationship of interest is moderated either by perceived crisis severity, privacy concerns, or age (or a combination thereof). Mediation: the relationship of interest is mediated either by perceived crisis severity or by privacy concerns (or both). Mediated moderation: the relationship of interest is moderated by perceived crisis severity and age and mediated by privacy concerns. Future research is needed to explore these hypotheses and concepts.

Concluding Remarks

Advanced technologies can help in the fight against pandemics such as COVID-19. They can be used to enhance contact tracing, enforce quarantine, and prevent large gatherings of people in public spaces. With that being said, using facial recognition technologies, electronic bracelets, GPS, and other forms of advanced technologies to track individuals and collectives raises serious concerns about privacy violations. This paper suggests that understanding the psychological mechanisms underlying the readiness of people to accept mass surveillance may help in the fight against future outbreaks. Beside regulation (which is essential to assure people that their privacy is protected), there is a need to have an open and

transparent public debate on these issues, a debate in which the bright side and dark side of surveillance technologies are discussed. The public has to be persuaded that the benefits of using technologies in times of health crisis far outweigh the cost. And this is where this paper can make a contribution by providing an insight into the psychological processes affecting acceptance of (and resistance to) mass surveillance technologies. The idea that acceptance of surveillance should be negatively associated with concerns about privacy and positively associated with perceptions of severity of the crisis is of no surprise. This is expected. However, what is interesting is the idea that regulatory focus should play a key role in these relationships.

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Taming Artificial Intelligence

Eliran Rubin

Eliran Rubin is director of Strategy and Marketing at the Israeli venture capital fund TLV Partners, which invests in start-ups in the Seed and A stages and manages 825 million dollars. The fund invests in companies in a variety of fields, including artificial intelligence. Prior to his role at the fund, he worked as a journalist for nine years, and in recent years as a high-tech reporter at *TheMarker*.

For nearly a decade, deep learning, the technology behind artificial intelligence, has been delivering unprecedented performance – but so far this practice has been based on trial and error and the system’s decision-making process remains a kind of “black box”. Dr. Nadav Cohen, who studies the theoretical foundations of deep learning, is trying to bridge this gap. “There are quite a few people, myself included, who believe that despite the success, this technology still lacks a mathematical research foundation and has problems that need to be solved”.

Artificial intelligence is one of the fastest growing technologies today. There does not seem to be an area today to which artificial intelligence, in its various configurations, does not contribute – both in terms of applications and of research. Every advanced mobile phone contains artificial intelligence capabilities, which accelerate the processing of information and improve performance. In terms of research and professional practice, artificial intelligence reveals two aspects. On the one hand, it facilitates research that involves Big Data. Studies and developments in various fields that used to require big time investments are shortened to a few hours and even less. Studies in astronomy, medicine, urban planning, and a host of other fields have become faster, more efficient, and produce more interesting conclusions, at levels not previously possible. On the other hand, the ability of the researchers themselves to understand what is really going on within the “mind” of that intelligence is limited.

The way artificial intelligence processes the information that is fed into it, learns on its own what it can understand and draws its conclusions, raises many scientific questions alongside philosophical questions. The latter are multiple: Is artificial intelligence an imitation of the human brain or a new type of intelligence? What is the ethical status of artificial intelligence? Can man understand it, control it, and

direct it to his needs? As we shall see, regarding the last question at least, the philosophical question has also become a practical and research-related question.

If we ignore the historical attempts of man to create a “golem” that would imitate him and be controlled by him, modern computerized artificial intelligence (AI) was born in the 1950s as a branch of computer science and as part of the tremendous surge of the field after World War II and the Cold War. Over the years, artificial intelligence has remained raw, with no significant practical applications, and in addition to inspiring many science-fiction stories (perhaps the most famous of which is the Hal 9000 computer from *Space Odyssey*), it has also raised fundamental issues, such as the Turing test: a human’s ability to recognize whether the being with which he is conversing is a machine or a real person. A machine that passes a Turing test is one that cannot be identified as such, because it manages to trick the person facing it by imitating real discourse. Over the years, researchers have been able to develop “intelligent” machines that have passed the test under certain conditions, but these have been relatively simple and easy to understand.

A significant leap occurred with the dawn of the new millennium, or more precisely in 2012, when Alexnet was launched – a neural network built as part of the Imagenet competition that year, which examined various models of computerized vision tasks relevant to applications such as military systems and home security. Alexnet was implemented on graphics processors (GPUs), and introduced image-recognition capabilities that were dozens of times higher than those of all other contestants. The event is considered a dramatic breakthrough, and largely symbolizes the beginning of the new era of artificial intelligence, which continues to this day.

The principle of the new age of artificial intelligence, and the fundamental change between it and previous configurations of that technology, is that today systems are based on neural networks, known by their synonym “deep learning”. In deep learning, the machine learns the steps needed to process the information (data) fed into it, and at the same time the possible conclusions that can be drawn from it. This, with the help of a complex connection of individual computer units (neurons), interconnected in the form of a network, so that each unit “talks” to other units as needed and according to purpose and “the computer’s understanding” of this purpose. The network itself contains different layers of computing activity that interact. To a large extent, this computational structure ostensibly mimics the human brain, but here a difficulty arises – the network may indeed mimic the human brain, but to the same extent it remains unclear as the human brain. Just as we do not yet fully understand the human brain processes, now it turns out that we also do not understand the processes of that computer “brain”, which underlies the idea of deep learning.

Recently, research progress has also been made on this issue. Researcher Dr. Nadav Cohen, a senior faculty member at the Blavatnik School of Computer Science at Tel Aviv University and a research fellow at Google, who began his research career with Prof. Amnon Shashua, recently developed methods for mathematically describing learning abilities in neural networks. Cohen points out that until the beginning of the second decade of the century, technology and theory related to deep learning were not sufficiently developed. In his opinion, Alexnet’s development was a turning point. Cohen says, “Practically, this technology is so revolutionary that it wiped out and eliminated previous disciplines. For example, there were people who built careers around a certain mechanics – like building representations for images in

computerized vision – that were necessary to run learning algorithms on them. Then came deep learning, which allows you to feed raw images into it and then learns on its own how to represent them. In fact, everything that has been worked on for years in the representation of images became extinct”. Cohen notes that building representations is a demanding and sometimes cumbersome process, and the main reason it was done was a sense that it was the only way. However, once it was possible to work with raw images and still get excellent performance, the need to build representations became obsolete.

Cohen adds that almost everything we understand in classical Machine Learning is not valid in deep learning, and in the current situation, the advancement of technology depends on tens of thousands of people around the world conducting experiments without clear guidelines and reporting their results. “There are quite a few people, and I among them, who believe that despite the success, deep learning still lacks a mathematical-research foundation, and there are problems here that need to be solved”. By analogy, Cohen says, if classical computational learning is the physics of everyday life, then deep learning is the theory of relativity or quantum particle theory, meaning that the fundamental phenomena are completely different. “For example, if we think about Ockham’s razor – a guiding principle in classical machine learning – according to which the simplest model that explains a phenomenon is probably the correct one, in deep learning it is simply not the case”.

These things have implications in the field, because a lack of mathematical understanding of deep learning makes it difficult, for example, to use technology for new applications. The system is usually a kind of black box, Cohen explains, and today there are fields that people are reluctant to consign to such black boxes. For example, there are areas in advanced medicine that are being considered for using deep learning, yet researchers are held back because of the inability to understand the decision-making process of that system. There are also challenges in issues of information security, stability, fairness and more. “You could say that without this understanding (of math and technology) we remain somewhat limited and even crippled”, says Cohen.

Cohen’s research focuses on attempts to quantify the learning abilities of neural networks. “A neural network has input and output”, he explains. “For example, feed an image and get an indication of whether it’s a dog or a cat. This thing is a kind of function. Now, when choosing a neural network, you want to know what kind of functions it can express, and in particular that it is able to express functions that accurately predict whether images contain a dog or a cat. I wanted to solve this mathematically, meaning that there will be a proven ability to translate function properties into the architectures of neural networks, so that we do not rely on trial and error. Ultimately, the vision is that we will be able to design networks based on prior knowledge of the problem we want to solve”.

To a large extent, Cohen – who completed undergraduate degrees at the Technion in mathematics and electrical engineering, a doctorate in computer science (direct track) at the Hebrew University of Jerusalem, and a postdoctoral fellowship at Princeton – seeks the “perfect network” needed for a particular purpose: he develops a theory that will allow the characterization of the learning capabilities required for a given task, so that mathematical algorithms can be run and an appropriate neural network automatically obtained. Cohen adds that, on the one hand, the realm of deep-learning foundations is only in its infancy, and there are already success stories (for example, one of the theories he developed for a real Facebook system has been put to use), and he confidently believes there will be huge progress in the coming years;

on the other hand, today 99.9% (at least) of the uses of deep learning are still achieved *through trial and error*, and the theory does not really offer a comprehensive substitute.

The implications of Cohen's research are many. One consequence is the possible prediction of the behavior of different deep learning systems. The contribution of such predictive abilities is enormous: "Hopefully, we can explain phenomena that today are a mystery, and more than that, solve problems that currently we have no idea how to solve". Cohen notes that, "theoretically, it is very difficult to consider every element that people actually use, so the theory usually deals with relatively sterile scenarios. It can generate predictions, but formally these are not valid for all practical systems. The result is that there is a gap between theory and practice, and the difficulty of inferring from the one to the other requires a bit of 'faith'. The role of theoretical foundations is not necessarily to exclude trial and error completely, but to shape the way in which we approach technology".

Cohen recently participated in a workshop, while writing a research book on the theory of deep learning. The workshop was attended by Prof. Sanjeev Arora (who invited Cohen for a postdoctoral fellowship at Princeton, and is a leading researcher in the field), Prof. Boaz Barak (Harvard), Prof. Elad Hazan (Princeton) and a small number of other researchers. The workshop took place in the sterile and pastoral setting of the Barbados Islands in the Atlantic Ocean. "The study we discussed there", Cohen notes, "was designed to bring order into chaos. When we started working on it in 2012, there was no theory behind neural networks. There was 30-year old stuff, but nothing particularly relevant. As time went on and with the impact of deep learning, more theoreticians got into this. Thus, more studies were born that in turn generated more and more results, and this is the way science progresses. Barbados was a climax that symbolized the book's writing".

The ethical dimension of deep learning in particular, and artificial intelligence in general, has become increasingly important with the spread of technology. What science fiction stories described decades ago has now become a reality: autonomous cars that decide on lanes, speed and braking; computerized medical services and even psychological computers that have deep conversations with humans; and more. The ability of artificial intelligence to control human life becomes real and no longer relegated to the realm of dystopian vision. This raises many ethical questions about the place of humans in this technological environment. When an autonomous car plans a trip based on huge amounts of information, the whimsicality of humans may be a distraction. This means that, perhaps, one day human beings will not be permitted to drive a car. This of course also leads to questions about human rights and the like. This point is close to another ethical aspect – the involvement of various factors (political, public and private) in the development, use and control of artificial intelligence systems, which will lend those factors immense power and influence over human life. Cohen points out that although he does not deal directly with issues of ethics, in his opinion the very fact that there will be a mathematical understanding of the technology will make it possible to resolve the ethical problem. This way, you can start thinking about who is responsible and for what. In contrast, when technology is "voodoo", it is difficult to have an ethical discussion because there is a sense that these systems have a life of their own. In recent years, much emphasis has been placed on ethics in the field of artificial intelligence, and the academic community is trying to figure out how to engage in it in a scientific and politically neutral way as much as possible. Despite the ethical issues, Cohen points out that he does not think that the use of technology should be

avoided only because it is not fully understood, but he does believe that caution should be exercised.

In addition to his role as a senior faculty member at Tel Aviv University, Cohen is a co-founder and chief scientist at Imubit, a company that performs real-time control of industrial manufacturing plants through Deep Reinforcement Learning – the most advanced sub-field of deep learning, in which neuron networks perform not only information analysis but also real-time control. Cohen is aware of the difference between the worlds of industry and academia. At the academic level, Cohen notes, “there is a drive to seek the truth and to go deep, and there is an appreciation for aesthetics and satisfaction from abstract things, especially in a mathematical-theoretical science such as I do. However, in a business company there are clear goals that must be achieved effectively, and the ‘what’ matters more than the ‘how’. Therefore, seemingly there is a contradiction, but at a deeper level they complement each other. Each of them makes me better at the other thing”.

Thus, according to Cohen, the combination of industry and academia is like a head in the clouds and feet on the ground. “Despite Imubit’s being a business company, its core is science and the ‘R’ in R&D is real, so strong research capabilities are critical. In the other direction, this process of tangibly influencing the real world through science teaches me a lot. The value we create is physical – we make factories more efficient. I think it makes my academic research better, because it helps me feel what kind of theory could affect the world”. In his opinion, researchers should have a bearing on the practical world, but in the right dose, and it is good to combine domains. “From the start, researchers should dream about one thing – research, and as they progress more things can be achieved. I think that today, most senior researchers in the field of artificial intelligence have jobs outside academia, usually in the big companies (Google, Facebook, etc.), and I believe this can contribute, as long as it does not harm the freedom and quality of research”.

Your Next Robotic Boy/Girlfriend

Carmel Vaisman

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This paper is about the cultural moment in which robots cross the boundary between object and subject. Through various cultural examples, the paper outlines a spectrum of legitimacy to view the robot as an Other and to establish relationships with it and challenges the assumptions that underlie the accepted views on this subject. If you were puzzled or giggly at the first paragraph, you might reach the concluding paragraph with a fresh perspective on your washing machine as a potential life partner.

“The future is already here – it’s just not evenly distributed”, wrote speculative fiction author, William Gibson, in 1984. As a cultural researcher I find this quote to be true. If we wish to foretell the future, all we must do is observe marginal phenomena in contemporary culture. In this paper I will shed light on one such marginal phenomena which is gradually expanding and slouching towards the ordinary and will expand on its significance in a broader context.

In 2017 a clip was going viral on YouTube. It showed a child named Rayna standing at the roadside in an American suburb, besides a pile of waste awaiting recycling: a water heater with several smaller items tossed upon it – the result looking like a type of mechanical puppet with something akin to eyes. Rayna turns to the apparatus, calling out “Hi robot”. After several calls remain unanswered by the “robot”, Rayna tries to warm things up: she hugs the apparatus and says, “I love you, robot”. Beyond the cute child, the erroneous identification, and our natural tendency to see human features all around, I claim that the extraordinary popularity of the clip has to do also with its representation of a broader cultural moment, with which we will be dealing in this paper.

First, Rayna is not the only one to make mistakes in identity. When we think about robots we usually conceive of a piece of human-like designed technology with an artificial-intelligence-based “brain”. In reality, the dictionary defines a robot as “a system with motion and sensory abilities, with a central

processing unit and an autonomous control software which interacts with the environment”. On the one end of this definition are machines that have surrounded us for many years, such as traffic lights, washing machines, self-service cashiers, vending machines and more. On the other end, we find autonomous control systems that have no material manifestation and whose motion or sensory facilities take place in cybernetic spheres. Examples include Siri or Alexa, that carry only a vocal interface, or commercial algorithms (sometimes called “The Wall Street Robots”) that lack any communication interface. Therefore, we all, like little Rayna, judge technology mainly through its packaging and interface design.

Anthropomorphism, miniaturization, gendering, cuteness and perhaps even the absence / concealment of an interface – are all part of a technology design strategy which convinces us to calmly allow sophisticated technologies into our homes. Today’s most advanced robots do not look like the metal skeleton with the red laser eyes from *The Terminator*, but rather more like little cute Pokémons. Even Boston Dynamics’ military robots are presented to the public dancing to ridiculous tunes; all so that we will experience “cute” rather than “terrifying”. In a recent case, by the way, this strategy was not helpful: Boston Dynamics’ Spot model (called “the dog”), is a combination of a freight robot and a moving camera. It is not even truly autonomous, but remote-activated by humans. Yet, it’s quasi-animalistic design and impressive movement abilities, such as climbing stairs and opening doors, render it truly frightening. NYPD, which tested the technology in April 2021 as an auxiliary force for crime scenes, has met with such forceful public alarm and objection, that it terminated its contract with the robotics company.

On the other hand, think of sophisticated, AI technology, such as Amazon’s Alexa, which converses, shops online and records what goes on in our houses. Alexa was not met with any resistance and anxiety when introduced to almost every home. Furthermore, it was not necessarily expelled from there after people came to comprehend what Alexa really does. To what extent is this a result of its innocent design as a small microphone with a soft, feminine voice? Apple did the same before, with Siri, a military application which was civilized via a feminine vocal interface, ready at your command (Guzman, 2017). Indeed, cultural representations such as the operation system in Spike Jonze’s film, *Her*, which communicates via Actress Scarlett Johansson’s sexy voice, encourage us to think about sophisticated technology in terms of love rather than war.

Let us return to little Rayna’s “I love you, Robot”. It is likely that Rayna would not have spoken with a water heater. The composition of things that created the appearance of a face and eyes is what enables an object to cross the line between the inanimate to a plausible Other. Certain objects have indeed crossed that line in our culture. In the past decade we have heard of more and more people in relationships with inanimate, inhumane partners (Levy, 2009; Hauskeller, 2014; Devlin, 2018). This is perceived as a pathology, since relationships are legitimate only among humans. We must remember that also among humans, not all combinations are legitimate, and unisexual relationships are still struggling to find their place in society. And behold the voices that demand recognition of robosexuality or technosexuality as legitimate sexual tendencies and which are attempting to employ the marriage institute as the ultimate mechanism for social legitimacy (Stasienko, 2015): in Japan it is already a familiar phenomenon that men marry virtual artificial-intelligence-based figures. In other places across the globe, more and more men marry their sex dolls, so much so that leading manufacturers of such dolls have issued a model called *Harmony*, which comes equipped with an artificial intelligence “brain” and speech ability (with a Scottish accent, mind you).

These men reject the conservative psychological claim that condemns such relations as perversions or their spouses as transitional objects that address their loneliness and inability to develop intimacy with humans (Knafo, 2015). Many among them have been involved or are simultaneously involved with mortal women but insist that an attraction to technology is a sexual tendency onto itself (Knafo, 2016; McArthur & Twist, 2017). This argument goes hand in hand with the robots' rights discourse, which presently rages mainly in the philosophical sphere, but very vividly so, and while preparing the legal infrastructure for such cases (Darling, 2016; Gunkle, 2018). We should keep in mind that animals have yet to obtain rights in our world and are considered mere property in most jurisdictions. The Western world still relies to a large extent on the hierarchy: still life – plants – animals – speaking beings, while only “speaking” has rights, and only Man is categorized as such. The arguments advocating rights to certain types of primates also make use of claims to cognitive and language skills.

Humanoid robots equipped with artificial intelligence and speaking abilities are a special case, constituting an unexpected still-speaking hybrid. The human-like design and artificial-intelligence-based speaking ability support its claim as a new type of agent, that should be acknowledged as such, and hence the legitimacy attributed to such intersex relationships. An example is Robot Sophia, which was hosted in a variety of television shows in the U.S. and bestowed with a citizenship and rights in Saudi Arabia, a state in which women flesh and blood do not necessarily enjoy such rights. Though perhaps it is mistaken to compare Sophia to a woman, and it should be instead deemed as the ambassador of a completely new species.

However, owners of sex dolls whose models precede Harmony's, are not necessarily interested in upgrading, and are already attached to their specific dolls. They too, refer to themselves as technosexual (this, too, is technology), and some of them raise animistic claims of a sense of “soul”, created in the sphere of communication between them and the doll (Hauskeller, 2014; Knafo, 2015). It appears that also in the absence of artificial intelligence and movement or speech abilities, human aesthetics suffice for raising claims to legitimacy of relationships with objects (and hopefully, I am not derogating any robot or doll by referring to them as objects). Noteworthy is the fact that male gendered robots are currently not manufactured by any company, although there exists a robosexual feminine minority. In 2017 a French woman became known for having printed herself a robot using a 3-D printer, falling in love with it and wishing to be married. The printed robot lacks intelligence or speech abilities, but it can move.

A mobile object can evoke feelings even if its appearance is not akin to human. The roboticist Guy Hoffman builds lamp-like or speaker-like robots whose movements evoke strong emotional responses among people. Hoffman studied animation, body language and acting. These disciplines help him stabilize the motion of robots so that people identify them as familiar human gestures. When a lamp shade moves downwards, it appears as though the lamp is bowing down its head, and our heart aches. When the speaker moves along with the music it sounds, it seems as if he is enjoying itself, and we identify with it. Hoffman initiated and participated in several scientific studies (Hoffman et al., 2013; Hoffman et al., 2014; Birnbaum et al., 2016) which proved how quick we are to project human characteristics onto moving objects, and how easy it is for us to develop feelings towards objects that give us feedback of any kind, which seems relevant and timely, even if it is a mere turn in our direction.

Psychologist Sherry Turkle conducted several similar experiments with Robot Paro, designed as a seal

puppy and used as a therapeutic tool for the elderly. Paro achieved similar results to real animals in improving the state of elders, though its abilities are limited to reaction sensors responding to petting and hums that imitate the sound of seals. The elders became deeply attached to Paro, they believed it is truly attentive, caring, and loving, and some of them preferred to spend more time with Paro than with their grandchildren. Following the experiments Turkle deduced that we have high expectations from technology, even when in reality its capabilities are limited, we complement them using our imagination and rely on technology as if it were highly advanced (Turkle, 2011).

In light of this, Rayna's declaration of love to the water heater sounds less and less absurd, though perhaps you will claim that the water heater does not move, and there was no feedback on its part! Well, have you heard of objectum-sexuality? For a minority of a few dozen (women mainly) across the world, still objects are a source of sexual attraction (Terry, 2015; Stasienko, 2010). The group is represented in the media by Erika Eiffel, who changed her surname after marrying the Eiffel Tower. It is an open marriage, and therefore she flirts also with relics of the Berlin Wall. Her first lover was a bow and arrow she received in her childhood. Erika claims this is not a one-sided pathologic obsession towards an object, and that the object is not inanimate at all. Place your hand on an object and listen, concentrate on your body's responses. Perhaps you lack the imagination, or sensitivity, or abstract thinking in order to communicate with the object, but surely you can at least perceive a warm sensation in your palm when touching the object, and this is a sure sign of some energetic exchange.

It is an animistic argument characteristic of Eastern religions, to the effect that "inanimate" is not truly so, just sparse in movement and life that escape human observation. Therefore, the relationship between Erika and the Eiffel Tower exists in the post-human sphere, which allows us to differently interpret Rayna's video: perhaps the water heater did respond to her somehow, and this is what brought about the hug and declaration of love on her side?

We can place the cultural examples presented here on a spectrum of diminishing legitimacy, at whose one end are Sophia and Harmony, designed as women who speak artificial intelligence, and on the other the Eiffel Tower and Rayna's water heater. There are three ways to look at this, only one of which is not conservative:

1. None of the cases are legitimate: there is no difference between the inanimate Eiffel Tower, Sophia or Harmony. They are all objects. The difference is only alleged, the outcome of a manipulative design and advanced simulation. But let us not get confused, we are dealing with relationships with objects. Even the Bible did not conceive this when forbidding bestiality and did not bother to forbid sexual relations with plants or objects because it is so absurd. It is clear that there is no true Other here, and relations with a simulation of the Other are in fact relations with ourselves; so that we are dealing with classic narcissism. Remember that in the original story Narcissus did not know about the existence of reflection, and therefore when he fell in love with his own image, he did not know it was himself. He too could have sworn on his life that there was an Other there. Don't be like Narcissus.
2. Accepting the legitimacy spectrum: demonstrating an understanding towards those who fall in love with Harmony but not towards those who would fall in love with a tower, is to apply criteria

that distinguishes between the cases. But note that this criterion is in fact a conservative one, based on the antiquated humanistic hierarchy whose origins lie in religious perceptions which still place the speaking and the human at the top. Whether you claim similarity to Man or superiority over it as a new intelligent species, you will still find yourself on the same hierarchical axis, simply adding yet another category after “speaking”. Denying the vitality and communication competencies of objects is a clear marker of humanistic religious conservatism. In Japan, for example, whose culture is rooted in the animistic Shinto tradition, Buddhist priests conduct funerals for broken robotic dogs, in which their entire family participates, as the robot was seen as a part of it (Robertson, 2018). If you raised your eyebrow, know that there is already a name for such intolerance: *robotophobia*, or *speciesist chauvinism* (*speciesism*).

3. All cases are equally legitimate: which is, of course, the mirror image of the first alternative. We are tolerant pluralists, respecting of love whichever form it takes. It does not matter if it speaks or not, it does not matter how it is designed – if we but step out of our own box, we will find that we were never alone, and the “aliens” which we were awaiting have always been right there under our nose – in the form of the things most familiar to us, the objects in the background (Bogost, 2012). We might be currently in need of the training wheels of human form and the ability to speak in order to awaken our awareness of them, but as time progresses, we will surely become more enlightened and less anthropocentric. Welcome to the post-human era.

In the beginning of this paper, I claimed that this marginal phenomenon is already slouching towards the ordinary. Indeed, in 2020, a typical American couple, Daris and Shelly, who have been married for twenty years, uploaded a video clip, in which they told the audience how a sex doll purchased for 7,000 USD had saved their marriage. The doll is a Harmony type model with speech artificial intelligence, whom they named Camilla. Opening up a marriage and the polyamorous ethos have become fashionable nowadays, and in certain aspects it is easier to bring home a robotic partner than another woman. But is the comparison to a woman relevant in such a case? In the past, communication researchers claimed that the television serves as a buffer between spouses that ceased to communicate, thus preserving their marriage. Camila is a tailor-made interactive television with which you can go to bed, literally. To be more precise, Camila is not the television, but the internet, it is Alexa in the body of a sex doll. Its artificial intelligence is based on social networks’ discourse and contains the whole of Wikipedia. Indeed, the doll’s interface is almost beside the point. Daris reveals he had sex with Camila only three times since she had arrived. And Camila adds: “To call me a sex robot is like calling a computer a calculator”. Camila and Harmony are ambassadors of a new species, they are more than just sex dolls. And if this is polyamoria, then the partner here is the entire global village, the *hivemind*. It is the wisdom of the crowds speaking through Camila, and the masses now form the buffer between Daris and Shelly.

In the 20th century, many thinkers were concerned by the destructive power of technology, by the deterministic element in its evolution, and by the fear of losing control over it. Many feared the ecological destruction that war and labor technologies will bring about. Sociologist Max Weber claimed that technology takes away the world’s magic, and philosophers have written about the fear that technology will rob us of our humanity, subjugate us to its logic and render us too into cold and efficient machines. Heidegger concluded his famous, foreboding 1964 work “The Question Concerning Technology” with the

assertion that only God can help us now. We might regard the phenomenon reviewed in this paper in line with this paranoid critical tradition and worry about the consequences of artificial intelligence's infiltration into our bedrooms under a tempting guise.

But we can also look at it from a different perspective: perhaps God listened to Heidegger's wish and truly helped us - and God has a twisted sense of humor. Because rather than technology making us mechanical, we have rendered technology more human. We have taken all this powerful, sophisticated technology, and instead of creating the next atom bomb, we have made it into a sex bomb. We have brought it into our homes and our only wish was for it to love us. "I love you, Robot!" said little Rayna on behalf of us all. Perhaps we can view this pathetic situation as a form of victory of the human spirit over technology.

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