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What is Right and Wrong with Social Engineering?

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Abstract

This article addresses ongoing questions regarding the conception and practice of social engineering. Social engineering appeals to a set of diverse concepts which marks the beginning of professional sociology and scientific management in America and Western Europe. I trace the roots and original metaphors underlying theories of social engineering and social technologies. In addition, I analyze Karl Popper's views related to social engineering and invite the reader to understand better his ideas for social philosophy and epistemology.

In the future, I plan to write on several topics for the SERRC. At present, however, I want to look at the practices of restructuring society and human behavior known as social engineering. The concept is not new and has its own history. I have dealt with social engineering when different educational and creative formats were tested to connect humanists with technicians, and social knowledge with social practice, in order to bridge the “two cultures” described by C.P. Snow. Only recently has the significance of humanistic knowledge (and, so, related academic salaries) increased in Russia. (Other social contradictions, including limitations of rights and freedoms, have become only more pressing.)

Social engineering, as a practice, entails diverse interpretations and numerous myths—some of which I will address here. I examine this range of ideas both from the standpoint of a Russian intellectual tradition and from English-language literature.

I invite SERRC colleagues to participate in a dialogue to help clarify the origins and shaping of the ambivalent concept of social engineering. Unfortunately, not all questions get rigorous answers and these emerging questions require more attention and thorough discussion from scholars. The main themes remain complex and multi-dimensional. My research, then, challenges our understanding of several statements, circulated in the literature, regarding social engineering. These statements—presented in **bold**—are treated from different points of view. I ask readers to consider with me whether or not they agree or disagree with these statements, and what our positions might mean for the future conduct of social engineering and human governance.

No strict definitions or set of features constitute social engineering.

Rising from the spirit of industrial modernization and scientific management in North America, social engineering as a practice was incorporated in extremely diverse contextual frames—progressive politics, reformation movements, social work and religious services.¹

¹ Davis, Allen F. 1964. “The Social Workers and the Progressive Party, 1912–1916.” *The American Historical Review* (69): 3, 671–688. <http://www.jstor.org/stable/1845783>; Hatfield, James M. 2018. “Social Engineering in Cybersecurity: The Evolution of a Concept.” *Computers & Security* 73, 102–113. doi: 10.1016/j.cose.2017.10.008; Henderson, Charles R. 1920. *Social Duties from a Christian Point of View: A Textbook for the Study of Social Problems*.

This applied attitude was associated with representatives from both the Democratic and Republican political parties, but essentially followed from Theodore Roosevelt's Progressive Party and Franklin Roosevelt's New Deal program. Clearly, the meaning of social engineering has changed over time.

Originally having American roots, social engineering has been extended by planning practices within socialistic countries—the USSR in particular. In America, technocratic projections by Thorstein Veblen and his successors favored a centralized economy, social planning approach and vertical power hierarchies. According to Veblen, technocratic societies should be designed on the basis of expert knowledge and collaborative policy, egalitarian values and top-down management. Within the framework of the 20th century, technocratic societies aimed to overcome the contradictions of capitalism and improve the conditions of laborers. Many patterns in Veblen's thinking were akin to Karl Marx's dispositions and the Soviet reception of his philosophy came swiftly. As a result, Soviet ideology incorporated willingly the reformist pathos of technocratic projections.

The Soviet state responded to technocratic principles of management in order to realize the modernization and industrialization of their newborn country. Simultaneously, Soviet thinkers produced original management theories, including the scientific organization of labor on the basis of Taylorism, economic cycles and economic planning by Nikolay Dmitrievitch Kondratyev or "tektology" by Alexander Alexandrovitch Bogdanov.

The history of Soviet economic planning includes prominent contributors such as Vasilii Vasilievitch Leontiev (input-output analysis), Leonid Vitalievitch Kantorovitch (theory of optimum allocation of resources), Grigory Alexandrovitch Feldman (mathematical models of economic growth), Stanislav Gustavovitch Strumilin (system of material balances), Gleb Maximilianovich Krzhizhanovsky (the state plan of electrification), Valerian Vladimirovich Kuibyshev (the Chief of Gosplan), and Evgeny Alekseevich Preobrazhensky (the "new economy").

Scientific methods and expert knowledge supported Soviet planning. Statistical and economical committees, planning commissions and research institutes were distributed within the country and tried to perfect planning methods. Over time, these committees allowed the Soviet state to maintain competitive types of growth and high levels of leadership (staying a "closed society" in numerous aspects of daily life). Still, the terms "social engineering" and "social technology" did not dominate in Soviet economic theorizing. These terms were used more frequently in Western discourse on scientific management and administrative strategies.

Historically speaking, social engineering has been conceptualized in several different directions. Social engineering may refer to a wide range of managerial approaches:

- (1) The scientific business management conceptions of Frederick Taylor, Henry Ford and their followers;

Chicago: University of Chicago Press; Jordan, John M. 1994. *Machine-Age Ideology: Social Engineering and American Liberalism, 1911-1939*. Chapel Hill & London: The University of North Carolina Press.

- (2) Technology for social betterment within the Progressive reformist movement in America;
- (3) Restructuring social institutions on the basis of legislative social engineering developed by Roscoe Pound;
- (4) Urban planning and democratic change according to models of the Chicago sociological school;
- (5) The technocratic centralized governance of engineering experts for Thorstein Veblen and his followers;
- (6) The Soviet Union's "utopian" engineering or state planning methodologies applied in economics and politics; and,
- (7) Recent transformations join social engineering with hacktivism, neuro-programming and IT services "for good".

The underlying ideology of social engineering presupposes a rational, scientific and practically justified methodology for planning and creating social order. Within alternative theoretical frameworks, social engineering gets described as horizontal or vertical, centralized or distributed, state or local, socialistic or liberal, collectivistic or individualistic, democratic or authoritarian, religious or secular, human-friendly or human-hostile. Social engineering may be measured on different scales from small piecemeal social projects, to large historical transformations comparable with social revolutions. The scales, frameworks and practices of social engineering act like clay for molding diverse theories and delusive political speculations.

Social engineering means political centralization and socialistic governance of the economy.

After Karl Popper, socialist planned economies and centralized governance were associated with the image of "utopian" social engineering. Popper considered the Soviet way of thinking as a form of utopianism and historicism. Such thinking lacks flexibility and receptivity to the changing parameters of society. It sets universal, abstract, rigid schemas for social development which aim to rule the course of history and people's destinies. In this framework, social actors are not independent creatures. Human behavior is predetermined by collective reason, transpersonal structures or historical circumstances. For Popper, 'social engineering' and 'social technologies' express the quintessence of the technocratic centralized state with vertical power hierarchies and intentional human oppression.

Additionally, Popper is no less responsible for understanding social engineering as democratic social change taking place within Western civil societies. Democratic engineering ensures liberty and downplays the role of the state:

State intervention should be limited to what is really necessary for the protection of freedom. We must intervene, but knowing this to be a necessary evil, we should intervene as little as possible. Thus, we should try

rather to achieve a free market by protecting its freedom, than to control the market by state intervention.²

Piecemeal social engineering aims to solve concrete problems by available “earthly” means, whereas a utopian engineer thinks over large-scale plans and dreamy conceptions without properly indicated effects. The task of social engineering is “the construction or alteration of social institutions” and is an essentially reformist and progressive task for the whole society.³ Actually, it has never been a small issue in comparison with the distinct problems that social workers help to solve.

One can find the passages in *The Poverty of Historicism* where Popper describes and compares the organic growth and the artificial the construction of social institutions:

Just as the main task of the physical engineer is to design machines and to remodel and service them, the task of the piecemeal social engineer is to design social institutions, and to reconstruct and run those already in existence. The term ‘social institution’ is used here in a very wide sense, to include bodies of a private as well as of a public character. Thus I shall use it to describe a business, whether it is a small shop or an insurance company, and likewise a school, or an ‘educational system’, or a police force, or a Church, or a law court. The piecemeal technologist or engineer recognizes that only a minority of social institutions are consciously designed while the vast majority have just ‘grown’, as the undesigned results of human actions. But however strongly he may be impressed by this important fact, as a technologist or engineer he will look upon them from a ‘functional’ or ‘instrumental’ point of view. He will see them as means to certain ends, or as convertible to the service of certain ends; as machines rather than as organisms ... Thus public or political social engineering may have the most diverse tendencies, totalitarian as well as liberal.⁴

If the reformation of the Soviet Union in the period of Perestroika is taken as an appropriate historical case, it reveals a kind of large-scale transformation and not an escape from social engineering. In the current moment, even the transformation of a distinct social institute seems to be excessively large.

The state applies social planning at all levels of power—city, region, regional cluster, federal state, international associations —by creating program documents, accepting laws, making agreements between social actors, or setting cultural policy. The means for consolidation of actions vary widely. Social planning symbolizes both macro- and micro- changes. It may be bound with the state policy or social work on the level of communities or urban design for a city.

Inside the rising smart cities, social technologies augment the virtual fabric of urban infrastructure and internet-mediated interactions. In this emerging sense, a creator of virtual worlds for smart cities may be explained as a social engineer, or a designer of social

² Popper, 2009. *The Open Society and Its Enemies*, 122.

³ Popper, 2013. *The Open Society and Its Enemies. New One-Volume Edition*, 21.

⁴ Popper, 1957. *The Poverty of Historicism, Vol. I*, 64–66.

structures and virtual spaces. The power of their imagination and the power of information technologies are applied together for influence on human behavior. The produced effect changes the existing patterns of living, ways of judgement and those arrangements for virtual spaces, which mediate communications in the highly technological cities.

We might witness that, on many occasions, the notion of social engineering is extremely abstract, flexible and interchangeable.

Social engineering dehumanizes society by equating humans with machines.

Just as medical explanations of human bodies often seem rationalistic, abstract and analytic, sociological expositions of human actions often seem dry and inhuman for many of us. It is difficult to accept that human beings delegate a significant aspect of their inner rationality to outer referees with varying perspectives and conclusions. Doing so invites rejection by those people who stand for the dignity of the autonomous self and against analogies between humans and machines, humans and robots, or humans and trained animals.

Frederick Taylor was recognized as a founder of scientific management and a creator of principles for effective organization of labor and business practices. His ally Henry Ford successfully applied those principles for massive production of goods and conveyor arrangement of labor. Both entrepreneurs cared more about structural patterns of organization and financial outcomes of enterprise, than associated psychological aspects and the existential plight of workers. While Taylor and Ford's approaches got significant results, their applied approaches were considered by successors as mechanical and dehumanizing. Both Taylor and Ford became associated with social engineering and the industrial conditions from which social technology emerged in response to the challenges of Western urbanization and modernization. Still, social engineering turns out to be a more positive outcome of growing rationalization in human management than vice versa.

A more negative sense of social engineering links it with dehumanizing, exploitative policy (colonial, racial or economical) practiced in developing areas (Asia, Africa, South America) by Western governments or international institutions. Graham Harrison in *Neoliberal Africa* (2010), describes social engineering as neoliberal economic policy applied for finance and business regulation in the African domain.⁵

Neoliberal policy entails the dominance of individual liberties, free markets, unleashed entrepreneurship, laissez-faire policy, reduction of public expenditure and external credits used to reboot the recessionary economy of a region. Typically, this kind of policy promotes wide privatization and external investments. Harrison illustrates how neoliberalism creates a privileged economic and political class, which pursues a policy in interests of the global capital and financial institutions (including the World Bank, International Monetary Fund and the World Trade Organization).

⁵ Harrison, Graham. 2010. *Neoliberal Africa: The Impact of Global Social Engineering*. New York: Zed Books, Palgrave Macmillan.

Starting from 1979–1981 and until the end of the century, neoliberalism expanded its influence on different social segments—from economics and politics to education and scientific research. The majority of African states were affected also by neoliberal policies in previous decades. Then, the external debt of these African countries increased several times. The overall results were not satisfying, strictly speaking, as key economic and social markers went down. Especially effected were issues concerning income, health, life expectancy, education and safety of people, as Harrison notes.⁶ Yet simultaneously, Africans received certain benefits regarding democratization and the political liberalization. The *Harvard Business Review* noted:

Promoters of these reforms hoped the changes would make developing countries more attractive to foreign investment and would integrate those countries even further into a competitive, but peaceful, global economic network. In its most extreme form, the vision became one in which these countries would become part of a liberal, open world economy that promoted Western values such as democracy.⁷

Similar considerations on the African state of affairs are offered in the United Nations Report, but its conclusions are more positive.⁸

This approach does not seem the most consistent way of thinking about social engineering. It introduces unconventional usage of the concept; for example, when “neoliberalism” is chosen as another name for social engineering. From an historical standpoint, social engineering was much closer to left-wing policy and support for a strong state. For Harrison, the state provides conditions for neoliberalism, and neoliberal reforms are not possible without institutional reliance and control. He asserts the irreducible role of the state in major economic programs and projects.

Popper associates social engineering with power relations in closed societies. Social engineering was seen as supporting authoritarian forces inside socialistic political camps. Popper believed that closed societies are more organic and tribal in nature and, so, this justifies their social structures and hierarchies. The biological ties of closed societies are essentially stronger than social ties and connections in open societies:

In what follows, the magical or tribal or collectivist society will also be called the closed society, and the society in which individuals are confronted with personal decisions, the open society. A closed society at its best can be justly compared to an organism. The so-called organic or biological theory of the state can be applied to it to a considerable extent. A closed society resembles a herd or a tribe in being a semi-organic unit whose members are held together by semi-biological ties—kinship, living together, sharing common efforts, common dangers, common joys and common distress. It is still a

⁶ Harrison, Graham. 2010. *Neoliberal Africa*, 39–40.

⁷ Checa, Nicolas, John Maguire, Jonathan Barney. 2003. “The New World Disorder.” *Harvard Business Review*. <https://hbr.org/2003/08/the-new-world-disorder>.

⁸ United Nations Document. 2001. “Economic Development in Africa: Performance, Prospects and Policy Issues.” New York and Geneva: United Nations, UNCTAD/GDS/AFRICA/1TD/B/48/12.

concrete group of concrete individuals, related to one another not merely by such abstract social relationships as division of labour and exchange of commodities, but by concrete physical relationships such as touch, smell, and sight.⁹

In contrast, open societies might be described in mechanical terms and robotic analogies as if they are based on constructive operations similar to social engineering. Open societies presume a more abstract and intentionally organized set of interactions and that is partially how Popper foresees the future of internet-mediated, networked communities. Keeping cybernetic and biological metaphors in mind, one can maintain that open societies are more interconnected with the external environment by the means of multiple ties and exchanges of resources and information.

Scientific groups, or scientifically-orientated social actors, perform the critical processing of information in open societies. Consequently, open societies are more preferable and advantageous. Meanwhile closed societies, on Popper's reasoning, develop fewer interconnections and slowly begin to stagnate and decline. Closed societies become unable to cope with the challenges of the environment and incoming stimuli. Customs, irrational beliefs, or other sorts of received wisdom are not the best instruments for processing information. In the Soviet Union, ideology preserved the regime and led the country to an inevitable crash, as if the brain as the central processor of social body refused to provide bodily support. Currently, the fake information and bullshit of mass media play a similar role in the destructive social processes and "new world disorder". The scientific grounding of beliefs lends a preferable and sustainable basis for social development and political decision-making.

In the post-industrial age, a social engineer is a suspect character with a questionable reputation.

The mechanical metaphors accompanying discourse on social technologies and social engineering refer to the history of the industrial revolution in Western Europe and the modernization of the United States which took place during several decades in the 19th and the 20th centuries. This history established the emergence of mass production, the expansion of the industrial sector and the growth of national corporations. Social engineering appeared as a product of these great events and intellectual efforts harnessing technological revolutions and social transformations.

If the first half of the last century was industrial and technocratic, the second takes post-industrial shape and democratic values. In light of this historical shift, the original meanings of social engineering became unclear and less valuable.

Still, it was possible to reformulate these meanings. With equal success and persistence, the engineering metaphors and analogies referred to the growing rationalization of social and political relationships. Ideas, theories and even individual states of mind might be understood as tools and adaptations used to succeed in the social surrounding. (Such thinking

⁹ Popper, 2013. *The Open Society and Its Enemies. New One-Volume Edition*, 165.

provoked ambivalent understanding of the first American sociologists, when some of them were interpreted as social Darwinians—e.g., Albion Small and Lester Ward.)

From the standpoint of post-industrialism, social engineering refers to several kinds of cyber-phenomena—hacker’s interventions, depersonalized algorithms of data processing, or electronic means of spying and social control. In Frischmann and Selinger’s *Re-Engineering Humanity* (2018), social engineering points out to a world of interconnected devices and interconnected communications which gather human data for power and market purposes.¹⁰

The main danger of the highly technological world is the dehumanization of human beings living inside its imperfect “walls” where inhabitants of virtually connected spaces start to behave like mechanic robots and brainless machines performing inbox commands and prescribed programs. The fully automated world allows outsourcing of cognitive abilities to smart technologies. Smart technologies serve to outperform un-enhanced creatures. They lead towards hybridization of reality resulting in the combination of bodies with information technologies and smart environment.

Adam Riggio noted in a post (2018) for the SERRC that *Re-Engineering Humanity* questions our nature and the possibility of being autonomous individuals in the highly technological world.¹¹ Old philosophical dilemmas about free will (limited by our biological bodies, social prescriptions or entirely physical barriers) are augmented by considerations concerning the power of digital technologies and means of electronic control. Riggio writes:

[T]he core elements of these control mechanisms: the engineering of our social and physical surroundings through the internet of things and smart environments, the extension of our thinking processes into smartphone technology, the monitoring and feedback of our behaviour through surveillance and data mining, and reducing our legal obligations to corporate internet monopolies by reducing legal contracts to an unthinking step in activating computer applications.¹²

He blames “oligarchic corporate elites”—Facebook, Palantir and Google—for data surveillance. They own the means for content and data production and impact behavior of internet users. Moreover, these IT giants analyze user data and understand social processes better than people themselves or any outer observer with scientific background. A significant part of internet communications gets mediated by digital services. There is asymmetry in awareness with of facts and fact-checking ability between users and IT companies. Knowledge is money and Silicon Valley corporations know how to transform data into the object of market relations and, so, into a source of power.

It is the awkward situation when good choices are absent. Every user chooses between two alternatives—to proceed slowly without necessary information, or sign a contract with hard- and soft- ware developers to use an effective tool for communication, business and

¹⁰ Frischmann Brett and Evan Selinger. 2018. *Re-Engineering Humanity*. Cambridge: Cambridge University Press.

¹¹ Riggio, Adam. 2018. “Humanity’s Halting Problem.” *Social Epistemology Review and Reply Collective* 7 (9): 45-52. Access: <https://wp.me/p1Bfg0-40X>.

¹² Riggio, 2018. “Humanity’s Halting Problem.”

knowledge. Electronic contracts are almost never read by users and silently accepted with the purchase of a device and program.

Frischmann and Selinger believe that in the post-industrial age IT companies and research institutions will become the major techno-social engineers. Facebook, Amazon, Google, Apple and Microsoft take leading positions in IT and AI fields of development. As humans turn into machines, they will be central processors for handling information and action. We already transmit to these companies a significant part of our lives and knowledge about ourselves.

The negative connotations of social engineering as a concept should prevent its usage.

Social engineering, as a practice of electronic control, sparks conflicting reactions and receptions both in scientific literature and in public discussions. On one hand, electronic services provide conveniences for daily life and communications among citizens or between citizens and powerful organizations. In Russia, these conveniences are felt given multiple applications for smart cities, delivering goods and services in the most comfort and quick format. The number of applications grow as “mushrooms after the rain” and steadily increase in their variety.

On the other hand, digital technologies expose dangers for privacy, autonomous decision-making, psychological and physical well-being, and social normality. Digital technologies spread fake information and manipulate with data and consciousness—a significant focus for multiple fields of research.

The negative meanings of social engineering might discredit the notion and prevent its usage, but that has occurred until recently. Social engineering remains an expression of instrumentalist reason and quintessence of political rationality, but no longer associated with the left-wingers or vertical socialist governance.

Popper characterized social engineering as a sort of utopianism and historicism based on large-scale historical projections. He emphasized that in totalitarian systems human beings serve as raw material for building a fictitious future in accordance with their leaders’ horizons and ambitions: “the state is just if the ruler rules, if the worker works, and if the slave slaves”.¹³ Popper remarks on the justification of servitude in the philosophical writings of Plato, Hegel and other thinkers:

Each must strive to assert and prove himself, and he who has not the nature, the courage, and the general capacity for preserving his independence, must be reduced to servitude. This charming theory of personal relations has, of course, its counterpart in Hegel’s theory of international relations. Nations

¹³ Popper, 2013. *The Open Society and Its Enemies. New One-Volume Edition*, 87.

must assert themselves on the Stage of History; it is their duty to attempt the domination of the World.¹⁴

Popper described three totalitarian states—Plato’s ideal society, Hitler’s Nazi Germany and Stalin’s Soviet Union. They all prescribed universal world-views, “high” goals and values for the citizenry. The “true” and “unrevisable” ideology was more important than happiness and destiny of humans or social groups. Ideology justified social revolutions and random victims for future progress; although, Plato preferred the status quo if the planned state was already achieved. Apparently, whether ideology serves to justify social change or social order does not matter. In any case, ideology must be tested by empirical considerations and more naturally developed social practices. Popper demonstrates how absolutizing ideology opens the reservoir of evil. Another name for this evil is historicism.

Actually, historicism conserves imagination and social action. On the one hand, it makes clear the picture of the past, present and future development. Historicism presupposes a universal logic for all human progress as it was described in the “space odyssey” of absolute spirit by Hegel or social formation theory by Marx. On the other hand, historicism prescribes certain plans for action to embody the general image of the future. An historicist way of thinking is close to religious faith because it requires one to believe in its rightness, goodness and rationality (without appropriate scientific ground).

It is true that Marx believed in the scientific status of his theory of social formation. And it was largely supported by evidence from social theory and history. More likely, Marx’s theory fit the historical moment and explained it. Popper meant that Marx did not regard his theory as a scientific hypothesis. He treated historicist statements as universal and necessary laws that direct the course of social progress:

Marx saw his specific mission in the freeing of socialism from its sentimental, moralist, and visionary background. Socialism was to be developed from its Utopian stage to its scientific stage ... And since he assumed prediction in the field of society to be the same as historical prophecy, scientific socialism was to be based upon a study of historical causes and historical effects, and finally upon the prophecy of its own advent.¹⁵

Popper compared social and historical prophecy with “intellectual disease” and “oracular philosophy”.¹⁶ This kind of absolutism led to the dogmatism and conservatism of the Soviet political philosophy. Popper alerts us that large-scale historical prophecy should not be confused with scientific prediction which is possible and more desirable:

The social engineer does not ask any questions about historical tendencies or the destiny of man. He believes that man is the master of his own destiny and that, in accordance with our aims, we can influence or change the history of man just as we have changed the face of the earth.¹⁷

¹⁴ Popper, 2013. *The Open Society and Its Enemies. New One-Volume Edition*, 225.

¹⁵ Popper, 2013. *The Open Society and Its Enemies. New One-Volume Edition*, 295.

¹⁶ Popper, 2013. *The Open Society and Its Enemies. New One-Volume Edition*, 226.

¹⁷ Popper, 2013. *The Open Society and Its Enemies. New One-Volume Edition*, 21.

Popper reformulates social engineering in terms of piecemeal social transformations. Piecemeal engineering does not aim to change a system, but deals with its distinct parts and concrete problems. It is a reformist pathway without large breaks in the past and projections for the future. Piecemeal engineering does not speculate on history as it deals with the actual needs of the present day.

Thinking in terms of the future, the social engineer might be the right character for transhumanism. Social engineering has taken on so many meanings that it now fits almost every aspect of the transhumanist imagination. In reality, this concept often works as precautionary, rather than proactionary. As if the chosen word warns us against the possible destruction of what is most important, delicate and valuable—our own human nature.



The new year might be a good time for more cheerful themes. But one difficult year may not lead to another one. The themes presented in this paper have interested me for some time. I am happy to address any comments regarding my thoughts, questions and statements.