

# Formation of management thought in Russia and early USSR from the 1800s to the 1920s

Formation of  
management  
thought

## Heroes and their creations

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### Abstract

**Purpose** – During the first quarter of the twentieth century in Russia rapidly developed management thought, generated by many reasons, including socio-economic and political transformations, the results of scientific and practical activities of domestic and foreign experts in management. The purpose of this paper is, first, to acquaint readers with some of factors of the development of the history of Russian Management Thought in nineteenth century and at the beginning of twentieth century and, second, to present the most striking results of the formation of the History of Soviet Management Thought (SMT) in post-revolutionary Russia in the form of the movement of the so-called “The scientific organization of labor” (SOL), including “The scientific organization of managerial labor” (or SOML).

**Design/methodology/approach** – The review and causal analysis of the process of formation of the SMT and historiography of the SMT, a brief description of the institutions of SOL and SOML and a comparative analysis of little-known works of some Russian authors on management topics of nineteenth century are chosen as research methods.

**Findings** – The paper emphasizes the action of objective *historical inertia* (or “non-Markoviness”) of the process of development of managerial thought, manifested, on the one hand, in the stable action of some management paradigms but, on the other hand, in identifying paradigmatic anomalies, in identifying the need for constant development of managerial thought, in the development of sought-after ideas and concepts of management, and even in the institutionalization of applied scientific research in the field of management throughout the country (in the form of SOL and SOML).

**Originality/value** – The paper attempts to attract the attention of researchers to the little-known Russian and Soviet authors and their little-known works in the field of management thought.

**Keywords** History, Management, Management thought

**Paper type** Literature review

### Introduction

The purpose of this paper is to locate Soviet management thought (SMT), which helped shape the behavior of one of the world’s most significant economic and military powers for most of the twentieth century, within the broader traditions of Russian management thought and the history of management thought (HMT) more generally. The paper will emphasize a number of key points. First, the dynamism that characterized Russian management thought in the early 1920s – a dynamism that was to be curtailed by the rise of Stalinism and its associated purges – reflected three main factors. First, it built on a long tradition of pre-revolutionary Russian management; a tradition that was associated with attempts to reform Russian society and modernize its economy. Second, it was influenced by ideas drawn from the West, most particularly those associated with “Scientific Management” and Frederick



Taylor; ideas that became the basis for the main management theoretical framework in the early Soviet Union – the scientific organization of labor (SOL). This movement sought to not only revitalize the Soviet economy but also improve the intellectual and social capacity of individual workers. The third factor that impacted upon SMT in the early 1920s was clearly Marxism, the Bolsheviks seizure of power under Lenin, and the resultant Civil War with its devastating human and economic consequences. It is the argument of this paper, however, that Russian management thought in the early 1920s was *not* simply a variety of Marxism. Rather, it represented a genuine movement of inquiry, synthesis and adaptation; a period of innovation curtailed by the rise of anti-theoretical forces more concerned with immediate production.

### **The origins of Soviet management thought**

Let us briefly dwell on some of the most important reasons and/or factors of the origin of SMT in the second decade of the twentieth century, which were manifest in the nineteenth century. Among them were social, economic, political, legal, cultural and scientific factors (both in Russia and in other countries), as well as personal factors, more precisely the ideological characteristics of the authors whose ideas and concepts shaped understandings of management. The beginning of the early SMT was also influenced by a number of specific historical and intellectual precedents. These included the repeated attempts to reform the Tsarist public administration, including the attempted coup d'état at December 14, 1825 (the so-called Decembrist uprising by junior and mid-ranking officers in St Petersburg); more than 60 years of preparation for the abolition of serfdom; the educational activities of the Free Economic Society and the creation of new scientific and technical societies; the organization and holding of All-Russian Trade and Industry Congresses; the distribution in Russia of works by Russian and foreign researchers and practitioners on production management; and the publication of teaching aids and training in the field of public administration and business management in Russian universities and commercial schools. If we look at the studies of Russian scientists during the nineteenth century in the areas of history, law, management, sociology, political economy and politics, we also find that there are chapters and whole sections containing historical analysis of the development of management thought. All this took place in the context of a developing economy, shaped in large part by the interaction of the state bureaucracy with the activities of large entrepreneurs and industrial groups. Among those most interested in applying and developing new management ideas were representatives of family business dynasties, some of whom boasted of nearly 200 years of experience. Prominent among these families were the Prohorovi, Demidovs, Mamontovi, Morozovi, Guchkovi, Maltsovi and Ryabushinskie dynasties, as well as individual businessmen such as Samuil Polyakov, Vasily A. Kokorev, Ivan D. Sytin and many others (History., 2000; Barishnikov, 2006; Smetanin, 2016).

Of particular importance in stimulating early Russian management thought were the ideas enunciated in 1803 by the famous Russian statesman, Michael M. Speransky, in his major study, "Note on the establishment of judicial and government institutions in Russia"; a study that outlined principles for lining national policy and management behavior with the statement that the "organizing of management should generally be: 1) consistent with the general state law and institutions; 2) based on unity of execution; 3) subject to reporting in the form and substance of business; 4) decreed in a single plan and in all of its parts; 5) comprehended with local institutions and 6) equivalent to the means of execution" (Speransky, 1803).

Arguably, the first major Western influence on Russian management occurred in 1832 when Charles Babbage treatise *On the Economy of Machinery and Manufactures* was published in Russia (Babbage, 1832). In this work, which consists of 35 chapters, Charles

Babbage outlined the results of his calculations as to the effect of replacing manual labor with machine labor. These ideas of Babbage resemble in many ways today's interest in the "Digital economy", but on a different technological basis. Babbage also outlined the results of his research as to the effects of the separation of production and managerial work; research that provided experiments and conclusions about the optimal distribution of workers in manufacturing, agriculture, transport and postal services. This treatise soon became well known to various professors of Russian universities, as well as statesmen and nineteenth-century entrepreneurs. It was particularly influential at the four classical universities already functioning in Russia, including the Imperial Moscow University. It was also used as a text at several commercial schools that taught Public Administration and Business Management, with the goal of training both government employees and future entrepreneurs.

The enthusiasm for both economics and public sector management issues was soon evidenced in all of Imperial Russian Universities, where special departments (categories) were opened during the 1840s at various law faculties with the goal of educating public sector managers (or "cameralists"). In 1869, the first volume of Karl Marx's *Capital* was also published, influencing the views of the Russian public no less than the aforementioned treatise of C. Babbage. Also, highly influential during the years 1865-1868 was a work published in German in seven volumes treatise, *Die Verwaltungslehre* by Lorenz von Stein (Stein-von, 1865/1868); an author who coined the term "welfare state". It was also Stein who urged scientists to study problems of management, writing: "The one, thoroughly engaged in management, will realize soon that there is no science that would equal this one in its richness and value". In 1874, Ivan Tarasov, Associate Professor of the Imperial Kiev University and, subsequently, Professor of the Imperial Moscow University, published a review of the main provisions of von Stein's doctrine of Management in Russian, thereby bringing these ideas to a wider audience (Tarasov, 1874). In 1880, Victor Goltsev – head of the Law School of the Imperial Moscow University – returned from a stint at the University of Vienna where he studied under Lorenz von Stein – published an article entitled, "The Doctrine of Management" (Goltsev, 1880). Then in 1881 – the same year that Frederick Taylor won the United States tennis championship in doubles – Goltsev delivered "The Doctrine of Management" as a course of study at the Imperial Moscow University. Goltsev's course not only embraced and explored systematically for the first time in Russia all the methodological issues of management science – its subject, objectives and methods of study, functions and relevant administrative bodies – but also developed its own interpretation of management thought. Like von Stein, Goltsev's course emphasized the role of the state in fostering an "improvement of the individual".

Goltsev's course was soon replicated in other educational institutions of Russia. In 1883, at the Kazan University, Professor Victor Ivanovsky gave a course "The Doctrine of Internal Management" (Ivanovsky, 1883). Previously, in 1883-1885, Ivanovsky had worked at universities in Berlin and Vienna, studying Lorenz von Stein in Vienna. In his course, Ivanovsky introduced the concept of "economic management", by which he understood state activities aimed at the economic well-being of the individual in ways that satisfied his physical and spiritual needs. The course also taught that the objective need for economic benefits, on the one hand, and the limited availability of individual opportunities for their acquisition, on the other, are the reasons that gave rise to business activity on behalf of the state. The content, organization and forms of these activities are determined by "the general structure of state and social life" and "those laws that govern phenomena of economic life". As we shall see, Ivanovsky quite closely approached the definition of the term "economic management" that was subsequently adopted in Soviet Russia. At the same time, a number of textbooks on business management were published by Russian businessmen. Of

particular interest is a specialized textbook, *The Basics of Mechanical Engineering: Organization of Machine-building Factories in Technical and Economic Relations and Production of Mechanical Works*, which was developed between 1883 and 1885 by the Russian mining engineer, Ivan Avgustovich, who was serving at the time as Professor of the St. Petersburg Institute of Corps of Mining Engineers. In this textbook, he summarized the accumulated domestic and foreign experience on the subject of the textbook and anticipated many subsequent textbooks in Russia and abroad (Time, 1883/1885). Subsequently, he published more than 600 scientific papers in developing theories of cutting metals and wood and, subsequently, in working in plastics. In 1888, the Professor of the Kiev University, Dmitry Pihno, also paid attention to the problems of organizing production in different branches of the Russian economy; understandings subsequently synthesized in his major works and in two editions of the training course on *Foundations of Political Economy* (Pihno, 1890, 1899). The closing years of the nineteenth century also produced the first major study into Russian management history. Entitled, *Russian Factory in the Past and Present. The Historical Development of Russian Factories in the XIX Century*, this work was authored by Mikhail Tougan-Baranovsky (Tougan-Baranovsky, 1898). The *Russian Factory*, which located Russian industrial development in a broad historical background, remains one of the most important sources on Russia's industrial development.

In many ways, the development of Russian management thought can be seen as reflecting two "social mirrors", or forms, each of which was embedded in various state institutions. The first of these rests on the various scientific and technical societies and associations which were created in pre-revolutionary Russia. Two of these societies were particularly significant. First, there was the Liberal Economic Society (LES), created in October 1765 with the aim of "searching, approbation and popularization of progressive tools of the household management and developing the economy of the state". Beginning in December 1765, the LES began publishing collections of scientific and practical articles on the economy under the title *Proceedings of the Liberal Economic Society*. In the period from 1765 to 1914, 280 volumes of "LES Proceedings" were published (The Imperial [...], 1765-1915). The second key society was the Imperial Russian Technical Society (RTO) created in 1866, the society setting itself "the task of promoting the development of technology and industry in Russia". Beginning in 1867, the RTO published the journal *Notes of the RTO*; a journal that provided articles on the problems of business management. (Notes of the Imperial Russian Technical Society, 1899). Significantly, the RTO had branches in various regions of Russia, each of which had their own journals, publishing articles on the specifics of enterprise management in these regions. The second "social mirror" were the various industry-wide and sectoral conventions (both all-Russian and regional), including the congresses of scientific and technological societies. At the congresses, organizers brought together leaders, managers and specialists from industrial enterprises, railways, postal and communications and the agricultural sector-made addresses. During this period, Russia held three all-Russian Trade and Industrial Congresses, several dozen branch and/or regional congresses and congresses of scientific and technical societies (Protocols. . ., 1872; Proceedings., 1883; Proceedings., 1897). Finally, at the beginning of the 1890s, Russian Minister of Finance Sergei Witte passed through the Russian Council of State the "Regulation on Commercial Education"; a regulation directed toward fostering the activity of Russian industrialists and entrepreneurs through the establishment of commercial schools. Building on earlier networks of commercial education, S. Witte launched a campaign to establish a number of commercial and technical higher education universities in Russia during the 1890s.

The most important work that completed the development of RMT in the nineteenth century was Vladimir Lenin's treatise, *The Development of Capitalism in Russia* (Lenin,

vol. 3). With more than 700 pages, and a list of references from over 500 sources, Lenin's treatise was published five years after Frederick Engels released his edited third volume of Marx's, *Capital*. In the Preface to this volume, Engels pointed out that Marx studied in a long and careful fashion many of the original source materials on the economy of post-reform Russia (i.e. since the 1860s). He suggested using the example of Russia to concretize and develop further his doctrine about the evolution of capitalism in agriculture. Russia, with its diversity of land tenure and exploitation of agricultural producers, should have played the same role in the land rent section as England played in the First volume of *Capital*. Although Marx failed to carry out this plan, as Engels points out, this plan of Marx was carried out by Lenin in the *Development of Capitalism in Russia*. At the same time, on the basis of a study of the Russian economy, Lenin was guided by earlier Russian workers on management and capitalist development. Therefore, in other words, the rapid development of the "Soviet management thought" immediately after the Revolution and in subsequent years did not begin from a "tabula rasa".

### Vladimir Lenin and Soviet management thought

The main contribution to the development and organization of research on the management of socialist production was made by Vladimir I. Lenin. Lenin (1870-1924) was a major theoretician of Marxism, the main organizer and leader of the October Revolution of 1917 in Russia, a Soviet political and state figure. Over his life, he published more than 10,000 works of various kinds (monographs, articles, letters, etc.) on various topics: philosophical, political, social and managerial works that under the Soviet Union were published in the form of *Collected Works* in 55 volumes (Lenin, 1873/1924). Among his most significant works in relation to management were articles about the scientific management system of Frederick Taylor. Significantly, one of the main factors spurring both theoretical and practical interest in management in pre-revolutionary Russia were Frederick Taylor's two works – *Shop Management* (Taylor, 1903), published in 1903, and a few years later, the treatise *The Principles of Scientific Management* (Taylor, 1911). These works served as an impetus to the formation in Russia of the "Taylorist Movement".

Being very familiar with Taylor's works, and understanding the "urgency of the moment" in post-revolutionary Russia, Lenin was the initiator of the largest single experiment in the HMT on a single application question – the "scientific organization of labor" (SOL, or "Taylorism", in the Soviet Union). If you follow the changes in Lenin's views and assessments of Taylor's system, made before and after the revolution, they serve not only as an example of scientific synthesis and assessment of the level of managerial thought at a particular historical stage but also as a useful lesson in the methodology of any historical and scientific study. Even the short quotes of Lenin, shown below, demonstrate the *development* of the *views* of the same researcher in the same management system, when the conclusions are largely, if not all, determined by the objective state and assessment of the relevant historical context: the political and socio-economic situation within the country, the country's external political and socio-economic environment, the personal experience and knowledge acquired by the researcher. Thus, in 1913, Lenin wrote in the article "Scientific sweat wringing system" that, "the progress of technology and science in a capitalist society means progress in the art of wringing sweat." (Lenin, v. 23, pp. 18-19). Similarly, in 1914, in the article "Taylor's system - the enslavement of man by machine," Lenin wrote: "Taylor's system, without the knowledge and against the will of its authors, conditions the time when the proletariat would take over all public production and assign (to) their workers, commissions to correct distribution and regulation all social work."

(Lenin, v.24, pp. 370-371). Once in power, however, Lenin's previous hostility to Taylorism was transformed. In 1918, in the work "Regular tasks of the Soviet rule", he wrote:

To learn how to work – the Soviet power must put this task before the people in all its scope. The last word of capitalism in this respect, the Taylor system-like all the progresses of capitalism-combines the subtle brutality of bourgeois exploitation and a number of the richest scientific achievements in the analysis of mechanical movements under labor, the expulsion of unnecessary and awkward movements, the elaboration of the correct methods of work, the introduction the best systems of accounting and control, etc. The Soviet Republic must at all costs adopt everything valuable from the gains of science and technology in this field. The feasibility of socialism will be determined precisely by our success in combining Soviet power and the Soviet management organization with the latest progress of capitalism. It is necessary to create in Russia the study and teaching of the Taylor system, the systematic testing and adaptation of it (Lenin, v. 36, pp. 189-190).

The transformation in Lenin's attitudes to Taylorism reflected a fundamental change in Russian/Soviet management. The Russian Revolution of 1917 had the same effect as virtually all previous revolutions in other countries. It led to the destruction of one management system and the approval of a new one which, in the case of the Soviet Union, was based on a so-called socialist production management system. The models of Socialist Utopians had already tried on several occasions on a small scale: individual enterprises, associations and cities. In this case, it involved one of the largest and most important societies in the world, where one system was changed for another overnight. This required the leaders of the new young socialist republic to operationally organize, first of all, applied research on the adaptation of old but useful means of management and the development of new and effective means of management.

By continuing the study of the revolutionary period and taking into account the specific situation and new challenges, Lenin developed new principles of management, new functions of the Soviet State authority and its bodies. In his work, he sought to justify the "creative, active, constructive role of state power and the management system in building a socialist society". As we will see, this objective is not very different from the management model of the police state. For although the environment had changed, but the essence of supremacy of state power remained. It was power and authority that Lenin put forward as factors which, with socialist property, would be the organizer of socialist construction, declaring: "The one takes the top, who possesses the highest technique, organization, discipline, and best machinery." Significantly, Lenin considered the science of management as a system of sciences. He also repeatedly stressed that all management work requires special characteristics. Lenin also emphasized the idea of improvement, as a special function of management, the idea of creating a special management improvement body, the idea of a special type of management improvement worker.

Although Lenin often spoke on combating bureaucracy in management, in practice he formulated and implemented a system of "military communism"; a system only partially modified in 1921 with the allowance of limited property ownership (mainly in agriculture) and market exchanges with the so-called New Economic Policy. Around this economic and managerial model – organizational, administrative and economic – emerged a number of competing proposals. The first relates to the names of Josef V. Stalin and his group, L.B. Kameneev and G. Zinoviev and their like-minded groups, as well as L.D. Trotsky and his group. Despite their often bitter (and subsequently) murderous hostilities, both these factions favored an extension of state control. In opposition, favoring a greater reliance on market forces, were N.I. Bukharin and his group. As a result of an intense ideological struggle, Stalin and his companions prevailed; a victory that owed much to the input of F.E.

Dzerzhinsky, V.V. Kuybyshev and G.K. Ordzhonikidze. For instance, Dzerzhinsky (the founder of the Cheka, subsequently the KGB) devoted attention to the development of improved forms of managerial organization. Kuybyshev and Ordzhonikidze emphasized management improvement studies. A statesman, diplomat, journalist and the organizer of the League for the SOL, Platon M. Kerzhentsev (1881-1940) and the talented scientist Alexey K. Gastev (1882-1938) actively developed the concept of organizational management. Kerzhentsev's first major work, *Principles of Organization*, was published in 1921, with a second edition in 1923 (Kerzhentsev, 1923a, 1923b, 1923c). The book's publication was viewed as the first Soviet textbook in the field of organizational studies. Lenin praised the book very positively. In his work, *Better Less, But Better*, Lenin wrote of this work: "To announce a competition now for the production of two or more textbooks on the organization of labor and especially managerial labor [ . . . ] You can take Kerzhentsev's recent book as basis." (Lenin, v. 45, p. 395). In addition to this monograph, Kerzhentsev published two other major works in 1923-1925, *Scientific Organization of Labor and tasks of the Party* (Kerzhentsev, 1923a, 1923b, 1923c) and *Wrestling for Time* (Kerzhentsev, 1924), and two guidance manuals for young organizers, *Organizer's Manual* and *Organize Yourself*.

An important aspect of Kerzhentsev's work with regard to the development of the management theory was its emphasis of the organization as a whole as the object of research. He studied the organization, as an object, independently of the area – production or nonproduction – it operates in. On the basis of this approach, he developed the principles of an "organization", explored the organization's goals and objectives, types and forms of organizations, issues of institutional connection and organizational methods. The main element of an organization, according to Kerzhentsev, is the human factor.

### **Alexander Bogdanov (Malinovsky) in history of management thought**

In the 1920s, the sciences that form the theoretical basis of production management were actively developed. In particular, the doctor, founder and director of the Blood Transfusion Institute (1926), philosopher and economist Bogdanov-Malinovsky (1873/1928) made a significant contribution to the general theory of the organization, his ideas acting as a precursor to the fields of cybernetics and general system theory. Bogdanov-Malinovsky – Malinovsky being his real name and Bogdanov his "revolutionary" name – was a bright representative of the organizational and technological approach to management. "Any task", he noted, "can and should be regarded as organizational".

In his most substantive work, *Universal Organization Science: Tectology* (Bogdanov, 1912) – and in his subsequent publications (Bogdanov, 1925/1927a/1927b/1929) – Bogdanov anticipated many ideas of cybernetics, system theory, synergetics and other sciences. "We will call Universal Organization Science," noted Bogdanov in 1912, a "Tectology". In translation from Greek, this means "the doctrine of construction". "Construction" is synonymous with the modern notion of "organization" and/or "organizing". In the foreword to the first part of his major work, Bogdanov (1912) wrote "The experienced years – years of great disorganization, as well as the great organizational attempts - have created an urgent need throughout the world for the scientific raising of the issues of organization." Accordingly, Bogdanov's *Tectology* is a general theory of organization and disorganization, a science on the universal types and patterns of structural transformation of any system. The basic idea of tectology is to equate the organization of systems at various levels to a micro-world, be it in the biological or social systems. Bogdanov was also one of the pioneers in the use of mathematical techniques in the analysis of organization and management. In particular, he developed the law of the smallest forces ("the speed of the squadron is

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determined by the speed of the slowest moving ship”), which is the basis of so-called network planning and management.

To describe the important operating patterns of organizations, Bogdanov introduced and defined a number of new scientific terms: *dynamic equilibrium, progressive and conservative selection, regulator and biregulator*. Progressive selection, which is at the basis of a system’s emergence, growth and development, includes mechanisms for *positive and negative selection*. In the case of positive selection, there is an increase in the heterogeneity of the components and in the number of internal links within the system, thus increasing its complexity and the degree of autonomy of its parts. Bogdanov’s suggestion of a positive selection as a means of enhancing the autonomy and functional integrity of the organization prefigures the modern ideas of multipurpose and multifunctional work based on multipurpose technologies. These principles underlie the concept of an autonomous interdisciplinary working group, the system unit of a new type of enterprise. *Positive selection* is seen as improving not only the organization’s efficiency (e.g. average productivity) but also its volatility. Therefore, measures are necessary that weaken its operation and are covered by the term “negative selection”. Negative selection improves order and homogeneity and the level of centralization and coordination of individual actions increases. Negative selection improves the structural integrity and resilience of the system, but also reduces its functional efficiency. The orientation of selection, on which the emergence of forms of organization depends, is relatively stable in the unchanged environment. Conversely, in a rapidly changing environment, the selection process is in one direction or another. Modern examples of positive selection are the standardization and clustering of individual enterprises. Examples of negative selection in the context of “development, focused on satisfaction of customer needs to the fullest extent” (such as, for instance, “Design for quality” or “Design for manufacturing”), is the reduction of the number of parts, simplification of their connections and assembly procedures.

It is evident that, with Bogdanov’s model, structural selection mechanisms are closely linked to the definition of a rational measure of decentralization – the centralization of the system. Centralization speeds up adaptation and makes it easier to specialize in system elements. However, as centralization progresses, it is increasingly difficult to improve technology and innovate. Therefore, some level of decentralization must be established to ensure greater security of the system (autonomy contributes to survival) and the possibility of productive development of individual links ‘ initiative. At the same time, opposite trends should be initiated and supported in relation to the classical principle of specialization, namely, the idea of multi-functionality, reintegration processes and the rotation of individual functions at enterprises. These ideas of Bogdanov on the *effective relationship between decentralization and centralization, specialization and reintegration at organizations* surpassed their time for 70-80 years.

Bogdanov’s name is also related to *the purposeful development of organizational structures based on prediction of future directions of their development* and, above all, *development in crisis situations*. His concept of “collective structure”, which facilitates the blurring of facets between managers and employees, could be considered a direct precursor to post-Taylor organizations. *The more complex the organization, the more likely it is to encounter in its development a crisis situation and the need for structural adjustment*. Bogdanov was also one of the first in the world to introduce the notion of systematicness, indicating that *the organization is a whole that is larger than the sum of its parts*. The idea of structural sustainability of the system and its conditions was developed by him. In the system itself, he was one of the first to see two types of patterns: the *forming*, that is, the



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patterns of development leading to a system switch to another quality and *regulatory*, i.e. patterns of operation, that contribute to stabilizing the system's current quality.

Bogdanov also introduced a number of interesting concepts that characterize the stages of development of different systems. For example, the term "complexia" is used by him to refer to a situation where the system is a purely mechanical grouping of elements that have not yet begun interoperating processes. This is distinctive for cases when, say, an entrepreneur begins to create an organization (hires staff, buys machinery, premises, etc.), but the organization is not yet functioning. The term "conjugation" (according to A. Bogdanov) means a stage of development of the system, when cooperation between individual elements of the system begins (for example, employees have established formal and informal relationships). The term "ingression" expresses the transition of the system to a new quality (e.g. increased cohesion, mutual understanding, good team-work), and the notion of "disingression", on the contrary, means the process of the system's degradation, its disintegration as a cohesive grouping.

Bogdanov is generally credited in Russia with the development of *personal tectology* – the science of organization of life activity. He considered consciousness and self-awareness, the desired identity of consciousness and existence, action and existence as the starting point of such organization. Self-awareness is the starting point, originally, the basic principle of management, the implementation of which involves self-knowledge, self-education and self-regulation.

#### *First steps of Taylorism and scientific organization of labor in Russia*

With regard to attitudes toward Taylorism in Russia, at the beginning of the twentieth century, according to Platon Kerzhentsev, argues that Russian management science "evolved from (either) the angle of acceptance or rejection of Taylorism" (Kerzhentsev, 1923b, p. 28). In other words, Taylorism was central to changing managerial approaches in Russia and, subsequently, the Soviet Union. Judging only by the list of works in Kerzhentsev's reference list, the analysis of Taylorism and the accompanying theoretical studies of trends in management began in Russian literature at the beginning of the past century, almost immediately after Taylor's publication of *Shop Management* in 1903. One of the first in the area of SOL – as Taylorism came to be known as in the Soviet Union – was the School of Professor Nikolay N. Savvin, who published the work, *Cutting Metals and Instruments*; a work that has gone through a number of editions (Savvin, 1905), (Savvin, 1934), (Dmitriev, 2014). Representatives of this school, on the basis of Taylor and N.I. Savin's works began practical activity on the Zthe principles of the SOL at a number of factories, especially the "Ayvaz" machine plant in Petersburg, built on the latest European technology. It was also one of the few Russian factories that introduced Taylor's system. Indeed, before the First World War, there were only eight enterprises in Russia which were organized under Taylor's system; a total that was, admittedly, superior to that of France, which boasted only one.

Ideas in terms of labor organization and management were reflected in different literatures in pre-revolutionary Russia. In 1916, the engineer Leonty Levenstern established his own publishing house and began publishing books of a special series, entitled "Administrative and Technical Library". The aim of this series was to spread the ideas of Taylor and his followers in Russia (and, of course, in Russian). This series included such treatises as Taylor's *The Art of Cutting Metals* (1909), *Administrative and Technical Organization of Industrial Enterprises* (1912) and *Improvement of Pay-As-You-Go Systems* (1914). The series also published Frank Gilbreth's *Study of Movements as a Way to Increase Productivity in Any Work* (1913), G.L. Gantt's *Modern wage Systems and the Selection of*

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*Workers in Connection with the Profitability of the Enterprise* (1913), and F.A. Parkhorst's *Practical Methods of Reorganizing an Industrial Enterprise* (1914) and *From the Director of the Steward to the Messenger. Experience of Written Instruction for Employees of Industrial Enterprises* (1916).

In the same series, L.A. Levenstern published his short book (consisting of two parts), *Scientific Basics of Plant Management. Scheme of Scientific Organization of the Plant*. In his work, L.A. Levenstern identified two basic principles for the scientific system of organization. The first principle went like this: "The scientific system of the organization is really based on scientific evidence." (Levenstern, 1913, p. 4), whereas the "second principle of the scientific organization of work is the scientific selection, on the basis of laws, machines, material and people worked out scientifically" (Levenstern, 1913, p. 5). Describing the SOL, Levenstern noted, "The scientific system does not rely on any new principles at all; it represents only a consistent implementation of the old, already well-known principles with a new, expedient relationship between them, ensuring high productivity of labor and machines. The scientific system consists of 75% of the analysis and 25% of common sense" (Levenstern, 1913, p. 19).

Works on Taylorism and SOL were also regularly published in the magazines *Russian Wealth*, *The Magazine for All*, *Labor Organization*, *Time*, *Management Issues*, *Commercial School and Life*, *Commercial Agent* and *Factory and Plant Business*. The last listed of these magazines, in particular, represented itself as one, "devoted to the questions of the scientific foundations of plant management, the administrative and technical organization of industrial enterprises, methods of increasing labor productivity, popularizing the latest discoveries and inventions in all fields of technology and developing theoretical and practical tasks in connection with the calculation of manufactures and the commercial organization of factories and plants". (Factory and plant business 1913, 1914, No, 4). Among those who supported and disseminated Taylor's ideas in Russia, it should also be noted was Professor Nikolay A. Kablukov, who in his report *The Economic and Social Significance of the Taylor System* argued:

In the Taylor system, personality as such is of great importance. They do not adapt a person to business, but, on the contrary, choose the right thing for the person. This represents a completely new beginning in the setting of the business in the factories". And further, emphasizing Taylor's ideas related to the refusal to organize the administration" according to "the military model", he said: "everything is assumed as a common affair of the administration of the factory and workers, and this generality does not follow from What else, once from the technical and economic bases of production, from the increase in productivity, can we say the profitability of the enterprise, but based not on squeezing out of the worker a large number of its labor forces, but on a more correct use and these forces, corresponding to the structure of the human body and the abilities and properties of the individual person (Kablukov, 1915, p. 98).

The situation in Russia in the first years after the revolution was difficult from a socio-economic point of view, as well as from political perspectives. Arguably the most significant problems stemmed from the fact that ideology – and the operation of the economy on the basis of a scientific management (or/and organization) system – stemmed from a single center represented by the leadership bodies of this country. At the same time, the management of the economy as a whole, as well as individual branches of the economy – industry, railways, machine building, defense, agriculture, education, medicine, etc. – remained objects of management, which for the most part became objects of public property. Moreover, the country's economy was in a damaged condition as a result of the just-concluded First World War and the Russian Civil War (1917-1922). During both the First World War and "military communism" (1917-0921), the scientific principles of labor

organization within the production process could not be widely disseminated. Instead, they were used in truncated form and only at individual military production enterprises. At the end of the Civil War, however, with the transition to the New Economic Policy (1921), the movement for the scientific organizations of labor and management rapidly intensified. One of the reasons that explain the rapid development of research on issues relating to SOL in the young Soviet republic was the urgency of addressing the problems of minimizing labor costs throughout the country. In these years of harsh “military communism”, however, there was no room for theoretical and methodological studies. Because of the difficulties experienced in the aftermath of the Civil War – extreme economic devastation, the low literacy of the labor force, a population exposed to war and malnutrition – public opinion demanded the finding of means to quickly resolve purely practical solutions. That is why they were decided to adapt, with little modification, Taylor’s idea of timing and standardization of labor processes and optimizing the organization of jobs.

In addition to Lenin, Bogdanov and the previously mentioned Platon Kerzhentsev, managerial thought in Russia in the early twentieth century was also developed by other scientists, administrators and practitioners who made a significant contribution to the development of various theoretical and applied management issues and, above all, in the adaptation of Taylor’s ideas in Russia. Among these practitioners and research studies were Savvin (1905), Charnovsky (1911), Levenstern (1913), Esmansky (1920), Burdiansky (1921), Bogdanov (1921), Bogdanov (1923), Yakovlev (1921), Behterev (1921), Yermansky (1922), Zhdanov (1922), Vitke (1922), Vitke (1924), Vitke (1925), Strelbytskyi (1923), Vasiliev (1923), Vasilyev (1924), Kannegiser (1923/1924), Bizov (1925), Podgaecy (1925), Drezen (1925), Dobrynin (1926), Rozmirovich (1926) and Dunaevsky (1928). Each of the above listed were active participants in the process of forming managerial thought in the young Soviet republic in ways that contributed to the development of SOL and SMT. We give only the words of one of them – Nikolai Charnovsky, the author of the treatise, *Organization of Industrial Plants for Metal Processing* (1911). In commenting on the tasks relating to the scientific organization of production, Charnovsky (1911, pp. 1-2), recorded ideas that captured the common view of the time, that:

The task of the relatively young branch of technical knowledge, which is called the “organization” of enterprises, is to compare and analyze the whole set of factors, both scientific and technical and economic, cultural and other, affecting the production, and the conclusion of the conditions that determine in general the success of production in each enterprise. Asking, on the one hand, with the tasks and methods of technology and based on its scientific findings, the Organization of Enterprises, as science, seeks to establish the methods of the technical economy of production in certain local conditions, and the combination of technical means enters only as a particular task into a common task - to achieve a certain economic result of production.

With the formation of the Soviet Union and the ending of the Civil War, several specialized scientific institutions and laboratories became involved in researching scientific issues of management, notably: The Central Institute of Labor (CIL, the director was A. Gastev), the Taganrog Institute of Production (TINOP, the founder and director was P. Esmansky), the All-Ukrainian Institute of Labor (AUIL, the director was F. Dunaevsky), the Kazan Institute of Labor (KINOL, the director was I. Burdiansky), the Central Laboratory for the study of labor at the Institute of Brain and Mental activity (Leningrad, the director was V. Behterev), the Institute of Management Technics (IMT, the director was H. Rozmirovich) and others. According to official statistics, in 1923 there were 58 institutions in the Soviet republic that were, in one way or another, involved in the study of SOL issues, including production management issues (Scientific., Scherban, 1965). In 1925 the USSR also published the review book, *What to Read on the Scientific Organization of Labor*, written by I.N. Janzhul

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and E.G. Liberman. This contained not only a summary of an incredible 700 odd works on the SOL, but also an evaluation of each of these works (Janzhul and Liberman, 1925).

A major Soviet contribution to the development of the management theory in the 1920s was made by the studies of the CIL, led by Alexey Gastev. The CIL was one of the first institutes in world history to systematically study the problems of labor organization and management (Gastev, 1921; Gastev, 1927). It should be noted that Gastev was also responsible for the translation and distribution of Henri Fayol's classic work, *General and Industrial Management* (Fayol, 1917, 1923); a work which was published in 1917 in Paris and published in the USSR in 1923, with a Preface of Alexey Gastev.

*The first science conferences on scientific organization of labor and management in Russia in the 1920s*

In the early years of the Soviet rule, managerial experience had accumulated, many facts as to the application of management theories had been collected and the results of research on SOL had been published; all of this in the context of profound changes in the organization of public production. These reasons, as well as public interest in improved production and living standards, led to a need for a collective exchange of views. In 1921, the first all-Russian Initiative Conference on the SOL and Production was convened in Moscow (The First, 1921). In the journal *Labor Organization*, published in those years, the evaluation of the Conference was expressed in the following terms: "the first, both in Russia and throughout the world, experience of intensive debate on labor issues" (The First, 1921). In fact, Russia in the nineteenth century already had had such an experience, both in the substance of most of the issues discussed at the Conference, and in the form.

The conference attracted 313 participants and some 100 guests who worked in the following five sections:

- organization of works in mechanical production, railway workshops in particular;
- organization of works in rail transport;
- organization of management and its parts;
- reflexology of labor; and
- activities to integrate work on the SOL and their practical implementation.

The reports of participants in the Conference raised theoretical issues such as the organization of labor at the societal level, business planning, physiology and psychology of work and attitudes toward Taylorism. For example, Alexander Bogdanov in his report to the Conference substantiated his idea of creating the science of "Tectology", arguing that the planned organization of the economy of Russia – on the scale of the whole country – is possible only on a strictly scientific basis, on the basis of organizational experience, generalized in science. In the majority of the reports, a number of key initiatives were proposed. The most notable of these called for the construction of a new system for the organization of labor and management that would replace the totalitarian system of "military communism".

The first all-Russian forum also found significant differences in the theoretical interpretations of SOL and management. The most controversial differences related to attitudes toward Western concepts of management, particularly Taylorism, and the development of a methodologically correct approach to SOL. During the discussion on the first issue, two directly opposed schools formed: Taylorists and anti-Taylorists. The first group, the Taylorists (I. Kannegisser, N. Gredeskul, and others) were inclined to equate Taylorism with the SOL and management, arguing that the teachings of Taylor are not only

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fundamentally undeniable but also universal, i.e. almost entirely acceptable in any socio-economic context. The second, anti-Taylorist group (especially Osip Ermansky) strongly objected to the thesis of the political-ideological neutrality of Taylorism, arguing that it was inadmissible to identify it with the “scientific organization of labor”. In arguing this latter position, the anti-Taylorists claimed that Taylor’s doctrine favored maximum output and effect, beyond human capacity; an intensification of labor which was incompatible with the values of the new Russian regime.

It is evident from reading the details of this First Conference that its participants were well aware of the complexity and multidimensionality of the concept of SOL and management, highlighting “not only the economic and technical side but also socio-economic and psycho-physiological”. This interpretation laid the basis for an integrated approach to analysis the analysis of management issues. It was not coincidental that the Conference was attended by representatives of a variety of specialties: technicians, engineers, economists, psychologists, physiologists, doctors, etc. The general resolution of the conference defined SOL as follows: “The Scientific Organization of Labor is due to be understood as the organization based on a careful examination of the production process, with all the conditions and factors accompanying it. The main method is to measure real time, material, and mechanical work expenditure, analyze all the data received, and synthesize the slender, most profitable production plan.” (*The First*, 1921). However, the subsequent adoption of the resolution that SOL is based on the findings of psychophysiology, reflexology and hygiene processes of human labor and fatigability – a definition that ostensibly allows for the fulfillment not only of the requirements of “economizing production” but also of the interests of workers – is clearly one of unilateralism. It ignores the economic, social, political and other aspects of the problem and thus runs counter to the integrated approach, the ideas of which the conference resolution had laid down.

By providing the first broad discussion of labor issues, the Conference was an outstanding event in the history of Russian domestic management. In the wake of the conference, moreover, a broad research effort, under the banner of SOL, was initiated in all organizational and management domains; a short-lived but bright period in Russian history which came to an end with the completion of New Economic Policy. In this reform period, built around above-mentioned scientists like A. Gastev, N. Vitke, F. Dunaevsky, P. Esmansky, E. Rozmirovich and many others, the first Russian management schools were formed. It should not be also forgotten that the process of establishing and developing domestic scientific management had taken place in a difficult historical context. Accordingly, the attention of scientists was focused on issues such as the rational organization of workplaces, improvement of management structures, streamlining of the business processes, the creation of simple and low-cost forms of accounting and reporting, monitoring of tasks, etc. It would, however, be misleading to believe that there were no theoretical and methodological studies undertaken in the 1920s. Most significantly, a debate took place as to the definition of “management” and the need for a special management science. In the view of most Russian participants in this debate, the management of production cannot be interpreted as an art. Instead, management should become an independent science, an area of well-defined scientific assumptions and conclusions.

It is important to emphasize that the pioneers of scientific management in Russia, without denying a certain role of intuition and individual qualities of the organizers in management, gave priority to the study and use of management principles that objectively reflect the needs of production. “Knowledge and experience in the area of labor management”, *Podgaecy (1925)* noted, are amenable to scientific organization. In addition,

the more systematized the management experience, the faster it will turn from an art that is confined to only a few individuals to a science that many businessmen can and should learn. This question as to the existence of sustainable patterns in the organization and management was raised by many Russian researchers at this time. Management study, [Podgaecy \(1925\)](#) had no doubt, “should lead to the creation of certain rules and laws of management science.” In other words, as early as the 1920s, Russian scientists presented issues of the subject of the science of labor organization and production management.

As the researchers of the 1920s emphasized, methods for the development of industry always go hand in hand with the development of the science itself. “In medicine”, for example, – wrote [Vasiliev \(1923\)](#), “one powerful tool is widely used, without which there would not have been many, most important achievements – the clinical method of recognizing disease. In economic life, too, there is often a need for a ‘clinical method’, and the works that are performed on it are fully entitled to the adjective ‘scientific, to the right to be referred to as “scientific organization”. In the case of the science of management in Russian literature, the following methods and techniques for the study of organizational and management processes were formulated:

- the principle of systematic observation of events occurring in management;
- the principle of emphasizing certain objects of the totality of phenomena, their isolation, decomposition and description (method of analysis);
- the principle of connection of individual links of the studied process to the “centripetal whole” (synthesis method);
- the principle of measurement of observed events (in time and space); and
- the principle of experimentation and, in particular, testing of practice.

It is also important to note that the management science was imagined by Russian scientists to be cross-sectoral, applicable to all spheres of life in equal measure. This approach drove a search for basic patterns and principles of management, common to the various sectors of the national economy and of application of people’s physical and intellectual abilities. Thus, the development of scientific management in Russia from its earliest stages was carried out in the organic unity of applied and theoretical studies. In addition, scientists of the 1920s were able to identify a sustainable relationship between the degree of theoretical and methodological development and the level of specific applied research. They also pointed out that the neglect of methodological issues was detrimental to not only to the development of management science, but also, ultimately, to the pace of improvement in practical management; an outcome that would cause management to lose its theoretical foundation.

As debates intensified, the need arose for a Second Union-wide conference. There was a particularly passionate debate between the so-called “Platform of 17”, reflecting the positions of P. Kerzhencev, I. Burdyansky, M. Rudakov and other prominent personalities of the SOL movement in the country, and the “Group of Four”, who upheld the views of the science school of the CIL, headed by A. Gastev. The representatives of the “Platform of 17” advocated the need for broad theoretical generalizations in the area of SOL and management and for the wide involvement of the populace through various grass roots cells, circles and societies. Supporters of A. Gastev cautioned against the dangers of excessive theorizing and suggested that practical issues should be addressed first. Significant disputes also arose on the crucial methodological definition of SOL. According to V. Kuybyshev’s testimony, the main initiator and organizer of the Second conference, there were about twenty of these definitions. Nevertheless, Kuybyshev concluded that the differences between them were not so irreconcilable.

The second all-Union Conference on SOL was held in Moscow from March 10 to 16 1924. The conference was called “All-Union”, because between the first (“All-Russia” in 1921) and the second conferences (December 1922) the USSR was formed. Significantly, the largest of the seven Conference’s sections was the *Management section*. A great deal of attention was devoted to methods of rationalizing the state apparatus, business, reporting, office equipment and other practical issues. The slogan under which the conference was held is highly denominated: “Because of life, for life, not torn away from life!” In its final resolution, however, the Conference emphasized practical rather than theoretical outcomes, declaring that: “The attempts to interpret SOL as a coherent system of labor organization must be categorically rejected. This interpretation, based on the incorrect, unmarxist notion of the possibility of creating a perfect system of labor organization in a speculative way, is almost completely sterile and leads only to idle conversations and harmful theorizing. SOL need to be understood as a process of introducing into the existing labor organization the improvements in the overall productivity of labor, achieved by science and practice.” Clearly, this definition of SOL was understood to be primarily a rationalization activity in the field of labor organization and management. There is no doubt that such an approach vilipends the significance of the methodological developments that had for some reason been named not only “speculative” but also “unmarxist”. Today, the “grave” accusation against the theorists of the SOL is even amusing, because it is well known that the “perfect system” of organizing the future of society was created by Karl Marx precisely in a “speculative” way.

The interpretation of SOL proposed by the Conference revealed not only the fingerprints of V. Kuybyshev’s, the dominant party official and statesman in the field. It also reflects the particular historical time period; a period that placed a primacy on solutions to practical problems. The recovery of the national economy required huge sums of money, which needed to be urgently found in the country without banking, external assistance or credit. In this regard, the focus was on cost cutting and austerity. This is what the concept of the second Conference was based on, the essence of which was set out by V. Kuybyshev (1924): “More faith in the business we’re starting here, more practicality, more healthy knack of reality, less torn from life theorizing.” In accordance with this political line, the Conference ([The Second Union-wide Conference, 1924](#)) put forward the main tasks in the area of SOL:

- processing and exchange of experience with Western theorists and practitioners;
- linking research to the needs of production;
- establishing close links between SOL institutions and laboratories and their specialization;
- experimental study of work in production and management as well as of individual labor processes;
- organization of training for coaches capable of introducing best working practices; and
- introduction to work and learning at all levels and in all types of schools the principles of SOL.

After the Second Conference, applied research begin to dominate the theoretical and methodological debates in Russia. This was accurately noted by [Goltsman \(1925\)](#) who stated, “The debate on the desirability of labor sciences is gradually being transferred to the study of its basic principles. This is already a step forward.” The foregoing did not at all mean that methodological studies had been discontinued. It is just that their share in the overall organizational and management issues had been reduced, if not marginalized. And,

as if in a way that reinforces the observed trend in the development of domestic thought, by emphasizing it, a change of name takes place: The SOL movement is increasingly referred to as rationalization, and the terms “SOL”, “management”, “scientific management”, while still being used, are increasingly being replaced by the word “rationalization”, used as their synonym ([The Second Union-wide Conference., 1924](#)). A golden era of Russian management research was about to be replaced by a much darker time.

### Conclusion

The article examined various sources and factors that were behind the formation of Russian management thought in the early twentieth century. The first of these is expressed in the ideas of scientists and management practitioners who received education and experience in the management theories and practices of the nineteenth century. The second is the pre-revolutionary and revolutionary ferment that characterized Russia in the early twentieth century. The most noted outcome of the resultant synthesis was the movement that became known as the SOL; a movement that represented the fusion of Scientific Management concepts derived from Frederick Taylor with domestic Russian ideas and concepts. Although influenced by Marxism, this movement was initially distinct from it, opening up a dynamic and innovative period in Russian management thought; a period that was to be curtailed by the rise of Stalinism from the mid-1920.

It should be noted that the above-mentioned and other stages in the development of international and Russian management thought have become the themes of regular International conferences on the HMT and Business, held at the Moscow State University since 1996. In particular the topic of the First conference in 1996 was “Development of Management Concepts: yesterday, today, tomorrow”, topic of the 5th and 6th conferences (in 2002 and in 2003) was “Problems of measurement in Management”, topic of the 7th and 8th conferences (2004, 2005) was “Scientific concepts of Management vs. real Management” ([The Proceedings of the International conferences, Marshev, 1996/2018](#)). The theme of the 19th conference in September 2018 was “Managerial labor and roles of managers: past, present, future”. In addition, the theme of the 20th conference will be “Management and managers: yesterday, today, tomorrow” which will be held in June 28-30, 2019.

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