Abstract
The main issue of this paper is to find the theoretical foundations of the presence of Machine in the works of Russian Avant-garde artists, or to provide an explanation for the Machine aesthetics; this will be carried out by tracing those foundations in the ideas of Karl Marx. During the 1917 revolution, Marx’s ideas were effective in opening Russian art’s doors toward the Machine. According to the hypothesis of this study, the Avant-garde artists chose different ways to express their ideology to be in step with the revolution; thus the application of the Machine and displaying its features, was one of the most prominent characteristics of their works. It was in the same direction that certain artistic schools such as Russian Futurism, Constructivism, and Productivism Emerged, and the presence of Machine elements was their common feature. These elements that somehow represented the era of giant automatic systems highly attracted Marx’s attention in writing his social philosophy. Thus, the Russian Avant-garde art’s structure, has its origin in Marx’s practical philosophy. The question is how these Russian Avant-garde artists, saw themselves along with the revolutionaries and in the same line with the workers. In this context, and considering the existing documents and evidences, it will be clear that one of the key components of the emergence of the Machine into the realm of art was the annihilation of the social contradictions intended by Marx, namely, the contrast between the progress of science and the human welfare that should have been brought by it, and the difficult conditions which the masses were actually struggling with. The artists believed that in this manner, the Machine was no longer in the hands of Capitalists exclusively; instead, by fitting in the comprehensive realm of art, it could have belonged to the individuals. Breaking with tradition, and what Marx had recommended for raising the level of the proletariat’s consciousness are among other key components. According to Marx, this could accelerate criticizing the existing situation, by expanding creativity and the spirit of inquiry toward a dynamic critical culture. The last component is to display the nature and manner of production, after the revolution; it aims to create the construction flow, and to encourage the proletariat to strengthen their society and to progress it through industrial development

Keywords
Introduction

Art history and its developments represent the influences it took from the realm of ideas and thoughts and their consequent social conditions. Thus, the Avant-garde art that derived from modern societies is no exception. The industrial revolution was undoubtedly a massive event that played a significant role in the formation of modern art; it changed human life in all intellectual, philosophical, economic, political, cultural and artistic aspects and engaged thinkers such as Karl Marx — who certainly is among the greatest in this field and founded his practical philosophy on the basis of the industrial revolution, the era of machines and automated systems — more than ever. Marx’s philosophy which is based on the analysis of social relations, deals with the society in the machine age particularly in the scope of labor and capital. Marx’s major topics such as labor, capitalism and the quality of worker’s life, considering their significant role in social conditions were welcomed. Since the domains of thought and art are closely related, modern artists responded to the development of new technology and advanced industry. The unprecedented appearance of the machine age’s elements in artworks, along with the debates about technology and its manifestations in artists ideas, specially the Russian avant-gardes who seemed to be completely familiar with Marx’s philosophy due to their presence amidst revolution’s flame, all strengthens the hypothesis of the era’s thoughts influence on art.

Futurism was one of the first schools that revealed its attitude toward the process of automatization. With regard to their ideology and political approach, Italian futurists took a positive stance toward the machine age. Within the futurism manifesto, published in the February 1909 in the front page of Le Figaro, Marinetti, “abolishing any attachments to the past, welcomed the arrival of mechanized forces to new world”. In Russia, Futurism spread fast, not only in the visual arts but also in literature and performing arts. It should be noted that the emergence of Russian futurism paved the way for other avant-garde schools, such as Constructivism, Productivism and Rionysm. But the point is, regarding characteristics these movements had in common, such as the application of machine elements or machine parts, or even evoking such ideas, how can we outline the aesthetic components of Russian avant-garde art? For not only the foundation of Italian futurism was undeniably connected with the realm of politics, but also was the history of science and technology in Russia of the twentieth century; hence, it does not seem that the origin of this form of art in the west and east Europe was based on the same political principles. It is also surprising to assume that the iconoclasm of modern art which traveled a long way from east to west Europe was without any ups and downs and that the art’s form and content didn’t go through any change in this direction. The publication of Kamfut — which is comprised of an abbreviation of communism and futurism- in Petrograd, January 1919, could indeed be considered as a reason to the foundational difference between Russian and Italian futurism. For, according to the manifesto which was provided by its primal members, this publication was founded as an opposition to Italian futurism which was increasingly collaborated with fascism. “Would-be members had to belong to the Bolshevik party and to master the principles of the cultural communist ideology”. (Bowlt, 1976:164) Since the majority of Russian avant-garde artists rose from Eastern Europe, one can clearly see the influence of Social-Revolutionary conditions resulted from thinking and social developments that threw light on art and culture. There is no doubt that the flame of Soviet Marxist-Communist revolution, opened new horizons to art and culture and paved their way to unknown territories. It seems that in order to find the origins of new forms of art in any period of time, one must primarily analyze the mindset of that era and trace the backgrounds of its social, cultural and artistic transformations.

Hence, it is crucial to discuss the constitutive factors of the 1917 Revolution, which according to the
leaders of labor movements and Russian proletariat, were formed based on Marxist principles, and soon to be accompanied by the artists. Therefore, it seems necessary to address the ideas of Marx in the first place. It should be noted that what is regarded as Marx’s “philosophy of art” is not intended in this article, rather, those aspects of Marx’s philosophy and social views will be discussed that caused the formation of Russian revolutionary and avant-garde artist’s new approaches. The application of the machine elements in art is one of their outstanding results. Moreover, there was a tendency stimulated by the ideas of revolutionary Marxists and particularly their leaders to use machines after 1917 revolution, especially at the time of Lenin and the period known as Reconstruction after the civil and foreign war; the outcome of these tendencies was ultimately the birth of certain art movements such as constructivism and Productivism.

Thus, in order to provide an explanation of the aesthetic components of Russian avant-garde art based on the era’s philosophy and thought, this article deals with Marx’s ideas in the field of technology and machinery to draw these components; accordingly, they primarily will be looked for in Marx’s exclusive ideas about machine, then in the iconoclastic attitude to develop what Marx calls the egress of proletariat from passiveness along with growing a critical spirit, And last, in the need to promote Communist society.

**Research background**

Most researches done to date on the Russian avant-garde art can be placed in three general categories: The first category describes works of art by enumerating their characteristics, generally or partially, in the form of a work, an artist or a school. Articles such as “The Idea of Constructions as the Creative Principle in Russian Avant-garde” and, “The Cognitive Line in Russian Avant-garde Art”, both by Patricia Raling, belong to this category. These studies focus on the features of artworks, rather than the theoretical principles and reflective sources of art. The studies of the second category, include “Avant-garde & Totalitarianism” by Tzvetar Todorv and Arthur Goldman; this article, through detailed assessments and via inductive reasoning, attempts to show the relationship between art and politics in broad terms, paying more attention to common beliefs, which leads to ignore the differences -as exist between Russian and Italian futurism- that are derived from fundamental differences. The third category such as “The Idea of Avant-garde in Art and Politics” by Donald, E Egberg and “Art in Exile: the Russian Avant-garde and the Emigration” by John Bowlt have focused on what happened after the revolution and Stalin’s policies of repression and censorship, reviewing the evolution of forced migration of Russian Avant-garde art to the west and it’s replacement with the government art. The dominant view in the scope of theoretical researches about Russian Avant-garde machine arts, in most cases remains exclusively within the three mentioned categories. But in this way, other aspects of the issue will be lost. Now, the necessity of this article arises from the necessity of understanding the emergence of the machine art and also from the necessity of providing it with an aesthetic account; and in doing so, it has benefited from reliable sources to prove it’s hypothesis. Karl Marx’s “Das Kapital” and Russian Avant-garde artists’ manuscripts that were published at that time as articles in the press, and today are collected as titled “the twentieth century art documents”, are regarded as the most important sources. Richard Stites’s “Revolutionary Dreams”, which provides detailed analysis of the Russian Avant-garde’s ideals and their compatibility with social events, is also of great importance. “Karl Marx on Technology and Alienation” by Amy Wendling which explores the mentioned concepts from Marx’s viewpoint, and also Julia Vaingurt’s “Wonderland of Avant-garde: Technology and the Arts in Russia of 1920th” which focuses the art of the twentieth century Russia and recognizes main ideas of Russian Avant-garde based on the foundation of a fantasy utopia rather than their functionality, are among
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Bagh- e Nazar, 14 (48):45-60

... crucial available resources.

It should also be noted that this article is descriptive and analytical based on research methodology, fundamental in terms of the purpose and is based on the qualitative data analysis and interpretation. Also it enjoys a philosophical perspective that is shaped by the philosophy of technology, particularly Marx’s philosophy. Also a library method for data collection has been used, and since the research’s data are qualitative, the analysis of the literature is done on the basis of demonstration and reasoning and assumptions are measured by rational criteria.

Marx and the Machine

With the advent of new technologies which its domain extended from single, manual tools to the wider range of giant automatic and mechanized systems, new thoughts on technology had emerged which dealt with not only science and technology but also other fields such as humanities and cognitive knowledge. These instances caused the emergence of various approaches. Karl Marx, who reflected and theorized about technology through his social philosophy, was one of the first intellectuals who grew concern about advanced machine tools and their effects on human society. Donald Mackenzie believes: “Marx argued that in the most significant complex of technical changes of his time, the coming of large-scale mechanized production, social relations molded technology, rather than vice versa.” (Mackenzie, 2015: 217). It means that the emergence of technology did not change the hierarchy of social classes, rather it was the ruling class that changed the nature of technology by dominating it for its own favor. Therefore, Marx’s major ideas, that include supporting the proletariat, describing workers conditions as opposed to capitalism, their exploitation by capitalists, and their transmutation resulted from the alienation created by the division of labor and also their confrontation with automated systems that was attracted different societies including tsarist Russia, led to the formation of the international working men’s association in the late nineteenth century. “Social democratic party of Germany in 1891, affirmed Marxism as their official ideology. (Bashiriyeh, 2011: 26). Also, the background of the International socialist union of workers which attempted to defend the working class, returns to the “international associates of workers” which “was founded in London in 1874, and later was called “the International” […] and fell apart in 1876 due to internal disputes” (Ibid, 37). Consequently, the second and third “International” were established respectively in 1879 and 1920. Thus, considering the history of drawing on Marx’s theories to promote workers conditions against the dominant capitalism system, left-winger parties in Russia set Marx’s idea as their exemplar in order to achieve their goal and to create solidarity among workers and the proletariat.

But after all, it should be asked what art went through, in the initial years of the twentieth century which coincided with the expansion and increase of the number of workers parties in Russia? It primarily appears that it was involved in a paradox, according to which, it claimed to support the proletariat and workers riots as well as using the newfound industrial elements to undermine the traditional views of art and to dissolve all criteria of art which was comprehensible for the masses. It seems that the avant-garde artists, who acted revolutionary in the field of art and society, were in line with the ideology of the Revolution, in other words, Marx’s ideas. Therefore enough attention must be paid to their reading of Marx’s ideas which is manifested in their works, to determine in what way Marx’s philosophy would have effected on the machine aesthetics in works of Russian avant-gardes.

In his philosophy, and particularly in Capital, Marx focuses on the nature of social developments. Marx’s famous proportion involves superstructure and infrastructure, in which all domains of human action including art and culture constitute the superstructure, and are under the economic and productive conditions, in other words, the infrastructure. “The mode of production in material life, determines the general character of the social, political and spiritual processes.
of life” (Ibid: 14). “The hand-mill gives you society with the Feudal lord; the steam-mill, society with the industrial capitalist”. (Vermass & Kroes, 2011:86)

In a period that the economy is reinforced by giant machine forces and is identified with a policy that forms capitalism, then a crisis would be established, in which not only the productive forces would be exploited by capitalist to produce added value, but also and little by little it would be lost in a state of alienation.

“On the one hand, Marx supports the scientific and technological revolution in the means of production that is expressed in machine usage. In this revolution, Marx sees the opportunity for machines to fulfill their promise to liberate human beings form drudgery, to shorten labor time and intensity, and to leave more time for self. Cultivation, that is, to overcome or eliminate alienation [...]

On the other hand, Marx has seen machines bring about the opposite effects (Wendling, 2009:174).

In fact, Marx believed that the main reasons of this crisis are the machines inspired by the spirit of capitalism. Marx intended to liberate this massive power from the domination of capitalist through political means and proletarian revolution, to leave it for the workers. According to Marx, the Utopian society could be established only through such circumstances. “Machines, the most powerful tools to improve productivity by shortening the working time for the production of commodity, at the same time could be a vehicle for capital and it’s most powerful tool to prolong the work-day and going beyond normal ranges in an industry that primarily dominated by it” (Marx, 2008:440). This means that for Marx, that instead of being naturally a way to achieve leisure, independence, creativity and solidarity for workers, the machine has become a force in the hands of capitalism to capture workers and their energy. Marx thought that proletariat could achieve the ownership, including the possession of the means of production, through political channels and this happens in a communist government.

“Continued machine production in the communist mode of production should result not only in continued but in increasing material wealth, because the capitalist fetters on significant and technological progress, will be removed. Consequently, real wealth will be free” (Wendling, 2009: 115).

Russian avant-garde artists took this part of Marx’s view and used it as an aesthetic principle in their works. It could be said that artists had two general purposes for using machine as a distinguished symbol of technology: First, to liberate industrial and scientific forces from capital; for science and technology could cause poverty, corruption and destruction under the control of capital, whilst progressing and evolving; and second, to pave the way for the unity of workers and machines, in order to push forward the communist society, and also as Marx says, to provide leisure, independence and more creativity. “The origin of such a surprising phenomenon in the history of modern industry is that the machine will come to set aside all natural and ethical restrictions which confine prolonging the work-day. And here is the economic paradox in which the most powerful tool of shortening the work time becomes the most definitive way to transform all lifetime of workers and their families to the work time” (Marx, 2008: 443).

In regard to Marx’s words, it is clear that the artists who considered themselves to belong strictly to the working class, applied the machine to eliminate that paradox. Moreover, if on one hand, we take into account Marx’s following quotation: “With its wonderful blessing to shorten worker’s working-time as well as optimizing it, we see that, the machine becomes the factor of worker’s hunger, aging and disability and of dissolving his creative power” (Marx, qtd. In Lifshitz, 2007:165), and, on the other, mention the constructivist film maker, Vertov, who has stated: “We discover the souls of the machine, we are in love with the worker at the bench, and we are in love with the farmer at his tractor, the engineer on his locomotive. We bring creative joy into every mechanical activity. We make peace between man and the machine. We educate the new man”
(Lynton, 2005:132), then, it will become clearer to us. Dzyga Vertov, who displayed the integration of man (workers) and the machine (loom) in his works titled “man with a movie camera” 12, speaks of creative pleasure which is gained only by reducing worker’s work-day; in fact, what causes man to establish a critical relation with his environment, is his characteristic questioning, therefore, it can be said that Russian artists realized that the emergence of such creativity would result in formation of critical culture.

With the Communist-Marxist revolution that led capitalist’s to lose power, the machine, which previously caused worker’s exploitation and self-alienation, would become a useful industry to improve worker’s life. “The proletariat in the process of creating a new society, resolve contradictions in human culture [...] 13 [and] present the path to a culture without class distinctions and through an artistic evolution which is inspired by the deep and rich ideology of proletariat, lead it to the full destruction of disparity between social and artistic evolution, and in this way contributes the unprecedented growth of the art on the basis of its mass” (Lifshitz, 2007: 171). In the same direction, El Lissitzky recognizes his great ideal and that of Russian avant-garde art, to achieve a classless society, in which ownership of the means of production is not in the monopoly of a certain class, but available to the mass, and this reveals in art by using the machine elements. Lissitzky wrote in 1932: “whatever I created was an invitation for the spectator, not to dazzle his/her eyes, but as a stimulus for action, to mobilize the enthusiastic endeavor for the great ideal of creating a classless society” (Lynton, 2005: 133). In this regard, yet another quotation of Lissitzky indicates his awareness of Marx’s idea: “My cradle was rocked by the steam engine. Since then it has steamed off to join the ichthyosaurs. Machines have ceased to have fat bellies full of entrails. Now is the time of the crammed skull of the dynamo with its electronic brain. Matter and spirit are transmitted direct into crankshafts which provide immediate motive power.” (Ibid). Suffice to say that Marx emphasizes elsewhere: “A necessary step in the transition from manual to machine tools which relies on manpower, is the usage of an artificial mechanism that converts the reciprocal motion into a rotational one. Such a mechanism is the crankshaft which its invention is the most important things in machine’s early evolution. The close connection between tool and hands which is actually used as an extension of the action, is disconnected by the involvement of the crankshaft” (Ingold, 1995: 196).

Marx discussed this issue in order to describe the change of worker’s labor situation, which is primarily based on the skillful systems of the workers themselves, and then, on a preset system which its driving force is generated from worker’s muscle force; this is the same conclusion that Lissitzky drew from the transformation of the steam engine to the electronic brain.

Marx believed that:” in communist future scientific and technological advance will be truly maximized in order to expand the general wealth of society without dividing it into classes” (Wendling, 2009:105). The society without class distinctions is
emerged through the egression of proletariat from a passive mode in the face of the ruling power, and this time the machine will be exploited by the worker, which leads to the abolition of the antagonistic contradiction that Marx saw between capital and work force by proletariat. This very contradiction caused the conflict between the productive forces of society and its artistic achievements, between technology and art, between science and poetry and between the great cultural possibilities and infertile spiritual life of man (Lifshitz, 2007:170). This attitude was furthered for several years among other Marxist artists in different countries; insofar as Laszlo Moholy Nagy\textsuperscript{14}, the Bauhaus’s professor, whose works shows an obvious interest in the mechanical, wrote in 1922: “Everyone is equal before the machine… there is no tradition in technology… no class-consciousness” (Strassheim, 1996:55) Thus by bringing the machinelike into their art, Russian avant-garde artists intended to dissolve the permanent paradox between the progress of production tools and deterioration of human quality in a unity created by art.

**Machine and the Iconoclasm of Art**

Explaining the current situation in the period of capitalism that “its origin does not return to the development of technology, but lies in the development of the relations of productions” (Mackenzi, qtd In Heidegger, et al, 2015:228) and what will be there as utopia in the community under the rule of the proletariat, Marx recognized that the transition from the first to the second was possible merely by revolutionary forces and the transition of power through politic channels, and that it would the task of the proletariat to pave this way, by promoting their awareness and insight unto the current situation and the events that could take place\textsuperscript{15}.

The aesthetic approach of Russian avant-garde artists was partly originated from that, as it was no accident that traditional Russian art along with the revolutionary protest movement, turned to such iconoclastic attitudes as futurism which “was based on breaking with all links to the past and a belief in and hope for the future” (Lynton, 2005: 104) particularly in the period of the failed revolution of 1905 to the October 1917 revolution.

Alexi Gastev\textsuperscript{16}, the futurist poet who was a blacksmith and political anarchist before the war, “with passionate enthusiasm described the new industrial machine as an animate force” (Buck, 2000: 7). Gastev, reputed as the prophet of mechanized man and the poet of the machine, wrote in 1919: “an epoch, the like of which has never been since the creation of the world, has opened. The pillars propping up old horizons of belief, and beauty have collapsed. Cascades of novel ideas gush forth amid the storms of war and revolution; and trains of new words wind their way through the smoke, the blood, and the joy of the revolution. (Stites, 1989:38&39) So it is clear that Russian artists benefited from iconoclasm to play the role of awakening the masses and removing them from passivity. This position is parallel with one of Marx’s famous phrases: “individuals make their history themselves but not exactly as they want; they don’t make history under a selective condition, rather they do under circumstances that they encounter with, certain conditions inherited from the past.” (Marx qtd. In Macenzy, 2007: 224)

This distinctive iconoclasm in the realm of art marked...
two ways toward achieving revolutionary goals: first, to create a revolutionary inflamed atmosphere and second, a movement of de-familiarization in order to raise the awareness of the community. It seems that both approaches share a common point, same as the one Julia Vingurt mentions: “only by divorcing technology from its compulsory association with instrumentality can we approach so complex phenomenon as the machine aesthetic of the 1920” (Vaingurt, 2013:5)

**Machine and the Revolutionary spirit**

Inspired by Italian futurism and principles of Marinetti’s manifesto, Russian futurism benefited its emotion to create the revolutionary spirit; principles such as looking to the future rather than the past, courage, audacity and revolt, coupled step ready to jump, hitting with fists, loving to take risk and trying to be reckless. Russian pioneer artists praising technology, made the futurism in the service of the revolution which its leader stated later: “Communism is Soviet power plus the electrification of the whole country” (Lenin qtd. In Bruno, 2009: 481).

Marx pro-theorists, whether those who are considered as progressive, or those who are called retrogressive Marxists, all believe that: “art has a wide-ranging, constructive impact on various spheres of material and cultural life, and establishes a dynamic role in the process of transforming the real world” (Sim, 2011: 16).

From this perspective, it will be discussed why and how the artists benefited from their art toward revolutionary ideologies.

Utilization of characteristics derived by or associated with the machine in the works of futurists namely, noise, speed, motion, vibrant, unity and solidarity of the components, established a common link between artist’s aesthetic approach- which was to some extent influenced by political motives- and the intention of bringing together a united mass and a revolutionary inflamed atmosphere; a social revolution to overthrow the capitalist system. One of the most obvious examples of this praxis was the opera of “Victory over the Sun” which was performed in St. Petersburg Luna park in 1913 and audiences showed such an intense reaction to the extent that there was chaos and uproar, in its only two performances. Interestingly, until the art of social realism in the Stalinist Russia, this opera was remembered as a revolutionary art masterpiece.

It is said about this opera that: “the first highly organized, multimedia performance that was also the most notorious which billed as the first futurist spectacle in the world” (Salter, 2010:11). The opera was composed of futuristic poems by Khlebnikov and Alexei Kruchenyk, setting and costumes by the painter Kazimir Malevich and music- including strident and strange noises- by Mikhail Matyushin; a mixture of artists, most of them came together with a common purpose.

![Fig. 3. Kazimir Malevich, costume Design for the Opera Victory Over the Sun, 1913. Source: Bakhrushin State, Central Theater Museum.](image-url)
This opera which ends with displaying an aircraft’s crash into the scene, shows a group of strong men (futurists) who steal the sun and imprison it, in a sealed box to abolish past traditions, and “finally travel somewhere that despite extreme disorientation it is easier to breath” (Buck, 2000: 7). It is no accident that Marx states: “if the new forces of society (industry and technology) are supposed to work properly, they need only new men who command them”. (Marx qtd. In lifshitz, 2007: 166). Also in 1929, Rodchenko who was responsible for designing the costumes for the performance of a work by Mayakovski used a pattern similar to iron man, to depict a hero who is waiting for a communist utopia. Apart from the “theme of the triumph of technology over nature and modern man over the sun” (Lynton, 2005: 93), is not the stimulation of the community to protest and riot, among the creator’s important factors? Factors which due to the protests and turbulences of audiences, were achieved at the beginning of the performance. Salter writes: “they acted as a kind of fragmented chaos of an increasingly technologically transformed twentieth century.” (Salter, 2010:12). This opera was part of a wave of futuristic performances which provoked social unrest, but it doesn’t seem that only the turmoil arising from the technology at the beginning of century was the creator’s purpose, particularly if we consider the flamed years of the Russian revolution and artist’s policy toward it. In fact, it seems that the artists, as Marx says, have stood above their community and not only anticipated the revolution but tried to antedate it or to push masses to achieve it as soon as possible and in this regards, using their creativity, they stimulated the social changes strongly. Also, Russian futurist artists expressed that futurism was not connected to proletariat simply for revolutionary inflammation or just hatred of the past forms, but, despite breaking the limits, there was another proximity. In December 1918, Nathan Altman asserted in the second issue of communist art publication that:

“Proletariat art will be collective: the principles that distinguish the proletariat as a class from all other classes and this is the same characteristic which can be seen in the works of Russian futurism. You cannot make any object or phenomenon out of picture, because each part of a futurist picture acquires meaning only through the interaction of all the other parts; because a futurist picture live a collective life this will be more clear in comparison with the old picture since in the art of past, each picture for himself, each wants to be distinguished like the old world, the capitalist world, works of the old art live an individualistic life. Only futurist art is constructed on collective based. Only futurist art is right now the art of the proletariat”. (Altman qtd. In Bowlt, 1976: 163 &164).

Machine and critical awareness
Other machine aesthetic component in works of art,
was a critical purpose to challenge the dominant situation and also to inform the masses and workers who were faced with the machines. Marx recognized forces of production, relations of production and consciousness as three important social elements’ also he believed that “when there is irreconcilable conflict between them, a crisis will emerge in capitalism.” (Lifshitz, 2007: 161). Thus, the artists by using their acumen tried to reduce the intensity of this conflict by acting in the scope of the third component (awareness).

One of the most striking features of defamiliarization or distancing in the work of art, is to stop everyday life and to prevent its repetition, which flourishes in notifying the mind toward objects and discovering its relation with them, beyond the stereotyped boundaries. The necessity of this fact, led Russian artists to use certain elements that already had no way to art. Using machine elements issued a great iconoclasm in the realm of art; a realm which according to the Russian Avant-garde artists, was merely the territory of fine arts and the art of bourgeoisie. The presence of the machine outside the factory and workplace could have made the workers familiar with machines, beyond their everyday encounter. This caused people to take some distance from the everyday life in which they were overwhelmed, and be able to analyze their situation with wisdom and awareness, setting aside their habits. “Bringing art to the public can be interpreted as the pioneer artist’s usage of innovative, different measures and practices to stimulate people to lay aside current traditional thinking which is obsolete and politically invalid. (Sim, 2011: 21). Thus, the artists benefited the unfamiliar machine element in their works in order to teach the manner of iconoclasm to the people and also to help them be aware of their abilities and conditions regardless of the conflict with the everyday work; in this way, the basis for the emergence of individual and collective creativity will be provided.

In 1912, when Russian futurists published their manifesto, they expressed “slapping in the face of commons taste” (Salter, 2010:11) as their main purpose. It would be naïve if we consider this idea as an insult to the common taste to despise it, rather it appears that the slapping is a symbolic expression of the awakening a nation; the proof of that is when Mayakovsky- who published mentioned statement-declared: “there is a socialist enthusiasm within me which is sure that antiquity is sentenced to death and destruction”. (Mayakovski, 2004: 29) Artists made their individual creativity prominent by constructing their own machine-like works which were an innovative combination of art and technology. They conveyed the sense that the mass, particularly the working class are creators of the machine and should govern it and not the vise versa. The importance of this, will be clearer when we remember Marx’s statement in Das Kapital: ”when the work tool takes the form of a machine, it becomes a competitor for workers”. (Marx, 2007:46). He also speaks of “the war between workers and the machine” (Ibid, 452) in the age of capitalism; because according to him, in the capitalist mode of production “the machine does not play merely the role of a superior competitor which always seeks to make workers redundant, but also it is the force against the workers”. (Ibid, 466) One can conclude that the third component of the Russian avant-garde machine aesthetics was creating a critical culture which questions the nature of current situation why to know how one could create a more desirable condition. In fact, artists approached Marx’s viewpoint in their attitude toward art; a viewpoint according to which, the artist attains a particular aspect of social expression, which is the result of the relative separation of artist’s mind from his contemporary social awareness. They believed that if there was no creativity in the realm of technology (here the machinery), it was the man who would descend in repetition during his daily work, and this would result in dissolution of the critical, inquiring culture.

In January 1919, Nathan Altman published the manifesto of futurism-communism assembly - known as Kamfut- in the journal of communal art.
in which he remarked:
“Bourgeoisie ideology, cover under the guise of universal truth- the morality
Of the exploiters, under the guise of the eternal laws of beauty- the depraved taste of the
Oppressors.
It is essential to start creating our own communist ideology.
It is essential to wage war against bourgeoisies ideology.
It is essential to summon the masses to creative activity”. (Altman qtd. in Bowlt, 1976:166)
In order to draw the means of production or machinery into the realm of individual creativity, artists established a deep rapture between the traditional fine arts and the pioneer art of their time, and in this way, be able to cease the repetition of everyday life and pave the way for attaining a critical and inquiring culture through art. In fact, artists discovered that power transition merely through political channels, in other words, the displacement of ownership from capitalist to workers through revolution and political ways, would not succeed—that is exactly what happened at the time of Stalin—rather, it is the role of art and a critical and inquiring culture which is crucial to this process.29

Machine, production and development
Production and development are other components of the machine aesthetics of Russian avant-garde artists, which particularly appeared after the 1917 revolution in order to rebuild the devastations that were brought up during the revolution and the first world war, and to develop the communist society. In fact, applying the machine in art, was an affirmation to ideas of Marx on “the usefulness of machinery to enable the communist mode of production and also to found the new society” (Wendling, 2009: 205). Russian artists who regarded themselves in the proletariat front after the revolution, were trying to take their steps more quickly by approximating their works to the elements that play important roles in lives of the masses and their quality and by taking advantage of technology in order to meet the common needs of communist society.
During the 1920s, Constructivist artists such as Rodchenko, El Lissitzky, Tatlin and Vesnin brothers30, all have attempted to establish a link between art and technology “to contribute to economic growth of the new society of Soviet Russia and for a new contribution of theoretical and practical labor which is a symbol of their communist society values”. (Rose, 1986:125) Lenin, the leader of the revolution of 1917, expressed:
“the war taught us much, not only that people suffered, but especially the fact that those who have the best technology, organization, discipline and the best machines emerge on top; it is this the war has taught us. It is essential to learn that without machines, without discipline, it is impossible live in modern society, it is necessary to master the highest technology or be crushed”. (Lenin qtd. In Stites, 1989:147)
The conquerors of the 1917 revolution who saw themselves in competition with the countries of Western Europe, did not want absolutely to fall

Fig. 5. Georgii Krutikov, a drawing from the “City of the Future”, 1928.
Source: Vaingurt, 2013: 143.
behind them in terms of progress and technology. Georgi Krutikov\(^1\), senior of architecture, in his thesis in 1928 presented a project based on the element of motion in architecture called “the city of the future”\(^2\), which shows signs of hope for the future of technology-driven Russia and for surpassing western societies.

Also, in this regard, Nikolai Punin remarks:

“man is technological animal, so should be accompanied with modern technology. In this respect the role of the machine, as a factor of progress, is immense in the modern artist’s development. […] the machine has revealed to him the possibility of working with precision and maximum energy, economizing his energy. Machine shows in the artists aspiration, to regulate his own artistic creative forces […] and these are the condition that guarantee us the really intensive growth of european culture. Insofar artists should strives to approach the machine in his creative process and regulate himself with the contemporary progress”. (Punin qtd. In Bowlt, 1976:175)

The revolutionary association of Russia which included avant-garde artists, at the outset, supposing that they could have communized the ownership of the means of production, turned enthusiastically to technology and its manifestations to promote culture and living standards and to achieve the desirable quality of them\(^3\). However, it should be noted that “avant-garde artists recognized technology as a symbol of rationality”. (Rutsky, 1999:2) Therefore, a part of what they pursued as machine aesthetics was form’s following of function- that means whatever the form might be, it indicates the mechanism- which appeared in montage and assemblage- a practice similar to what happened in factories.

The ground of the newfound movements at that time, including Constructivism and Productivism, shows the intention of their founders for building and production. But as mentioned before, the artists who

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Fig. 6. Liubov’s Popova, set design for the “Magnanimous Cuckold”, 1923. Source: Vaingurt, 2013: 70.
used the machine, emphasized on production and manufacturing process rather than making functional tools. In Modern Art, Lynton says: “simulation of technology or adoption of processes that were analogous to the ones serving technology and industry were among choices of artists who wanted to link the idea of art to the world of industry”. (Lynton, 2005:115) In other words, artists tried to manufacture their thoughts and ideas in order to emphasize on the making process and to encourage the masses to do activities in this field.

It seems that in this debate a paradox rises; on one hand, one sees the outbreak of the first world war, the devastations of the revolution and the new state of Russia, which had begun accelerating industrialization program, and on the other, there are aesthetic designs of avant-garde artists who wanted to serve the nascent revolution in their own way, by presenting non-functional works. Susan Buck, author of Revolutionary Art believes that: “avant-garde artists like utopian dreamers were eager to interpret the revolutionary future as their own”. (Buck, 2000:5). Also Julia Vaingurt on Tatlin’s works especially one titled Letatlin (flying machine) says: “we find them leading to whimsy, to improbable, seemingly fantastic results. These outcomes are often interpreted as artist’s unfortunate failure to accomplish their creative tasks by ruling power”. (Vaingurt, 2013: 4)

Since Russia’s new government had focused on fast production and construction, it drew its attention to technology, but in the field of art, and particularly during Stalin’s age, the government preferred to put the task of propaganda and of reflecting the

Fig. 7. Vladimir tatlin, the model of “letatlin”, 1923. Source: Vaingurt, 2013: 109
ideal conditions after the revolution on its shoulder, instead of expanding itself beyond social-realism. “Socialist realism was not created by the masses but was formulated in their name by well-educated and experienced elites who had assimilated the experience of avant-garde” (Groys, 1992: 9).

Thus, after the communist regime was stabilized, the Russian avant-gardes who were considered as the leading Marxists, and not the reactionaries, gradually distanced government’s goals, until this attitude was so culminated at the time of Stalin that their art dubbed as degenerate. “the movement called constructivism which was an experimental method and so close to non-traditional art, integrated art, science and technology without being credited among the twentieth century Marxist political circles, for the theoreticians of orthodox Marxism regarded experimental arts or anti-realism as inherently opposed to socialism” (Sim, 2011: 20).

It was in line with the policies of Stalin that the committee of the party in 1932, commanded all artistic groups to be united under a single group with one form and a common goal. It seems that the dictatorship of Stalin could not stand an art which had a sharply critical view to lead the audience to reflect, so it preferred a art that would be presented as a ready-made food mixed with policies of the ruling party.

**Conclusion**

Modern world is considered as a vibrant era, due to the emergent phenomena that are created on the basis of rational approaches, and the dynamism in the realm of philosophy, humanities and arts. Whilst extensive advances in the field of science and technology were emerging, the philosophical and artistic schools appeared in response to their surroundings and circumstances of their time and as fast as the scientific achievements spread, they too extended their domains. Hence with the universality of applying automated systems and the resulting changes in the workplace and because of the masses and particularly industrial workers dissatisfaction from created conditions, Marx’s ideas which supported the working class, and criticized the capitalist mode of production and its added value for the capitalist became popular in various societies.

Scientific achievements and competition among capitalists, the contradiction created in the public mind to what Marx recognized as the conflict between the three constitutive elements of society, which are, the productive forces, relations of production and consciousness, caused the occurrence of communist-Marxist revolution in Russia in October 1917. In this unrest situation, full of tension and inflammation, art could not hold itself in an environment isolated from the atmosphere of its era. In this regard, and by removing the boundaries of art, not only Russian avant-garde artists struggled along with the labor parties and the masses to achieve ideal goals of proletariat, but also and even after the revolution, they attempted to take proper steps in a way that they had predicted and promised, maintaining their leading and inspirational characters. Avant-garde artists chose different ways to express their ideology and to keep pace with revolution; accordingly, the combination of art and technology, or applying the machine and displaying its features was one of the most prominent properties of their works which might still be considered as their characteristic.

The main issue of this article was to explore theoretical foundations of the machine’s presence in Russian avant-garde artists’ works or in other words, to explain the machine aesthetics from their point of view, which was done by tracing the foundations in philosophy of Marx, who is somehow the leader of the 1917 Russian revolution. In this context, and regarding the evidences, it was found that removing the social contradictions, posed by Marx, namely the contrasts between science and the welfare which must have been brought to man and the difficult situation for the masses, was one of the components of the machine’s entering to the realm of art; according to the artists, in this way the machine monopoly was gone and with it’s arrival at the pervasive field of art, the machine would belong to all members of society. The second component is iconoclasm, and what Marx had recommended as rising the level of consciousness of the proletariat. This iconoclasm in art not
only stimulated a revolutionary spirit among the masses but also, using bizarre elements intended to defeat the opiate role of traditional art and by de-familiarizing the work and everyday life, it made the masses aware of their situation and what they could attain, and above all it actualized the possibility of creativity and critical inquiry- that according to Marx it has the potential to critique ruling conditions- in order to stimulate a critical culture. And the last component is, to display the nature and method of construction which formed after the revolution in order to develop constructing movement and to encourage the proletariat to consolidate the pillars of their society and to propel it through industrial progresses. Despite all these components and their theoretical foundations, what occurred a few years after the 1917 revolution on the political scene went very different way from the artists’s intentions, hence this type of art moved to Western Europe to reach its goals.  

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Endnote

1. Radical artists and critics such as Nathan Altman (1889-1970), Osip Brik (1888-1945), Boris Kushner (1888-1937), Nikolai Punin (1888-1953), Vladimir Mayakovski (1893-1930) and David Shetrenberg (1881-1948) were the primonial members of KOMFUT.


3. This conflict is the same as Marx says, the contradiction between the production forces and social relations, the conflict between the development of science and technology and the growth of poverty among the masses.


17. It should be noted that apart from the production of goods by artists for the masse production- items such as chair, bottle, cloth- machine elements were outside the scope of application in the realm of art. Thus, although russian artists as part of their aesthetic approach considered functionalism and wanted to be in service of the nascent revolution to reconstruct the society, but many of their works could hardly be among th tools.

18. Victory over the Sun.


20. Futurist Poetry is the artificial word making which includes the industrial and technological terms and by mixing them with literary words creates a special language. The first russian futurist poet is owned khlebnikov who wanted a language that goes beyond the meaning and in this way, caused a common language between humans. He wanted to make words empty from meaning until only remain sound.


24. Natan Altman (1889-1970) leningrad: “studied painting and sculpture at the Odessa Art School. After studying at the Academy of Russian Art in paris in 1912 and membership in the Youth Alliance, in 1918 reached the chair of the professeur in Pegoskuma/ Svomas and was the leader of Communism-Futurism publication. He also designed for Mayakovsky’s writings and the designe of Urtsky Square is one of his works. Altman spent in paris from 1929 to 1935 and returned to Russia in 1936”. (Bowl, 1976:161). He recognize himself as a revolutionary government united like many others leading artists and considered all leftist movement in art as futurism.

25. It should be noted that those artists who based machine aesthetic on the stream of consciousness, belong to the leading marxists class who considered art in terms of its effects on audiences rather than educational art.


27. Works like this is considered usually as part of the functional art, but it should be noted that most innovative machines, made by artists on that era, didn’t be functional. But critics like Julia Vaingurt refused it.


29. For more information about the importance of a critical culture in socialist societies refer to Marx and Technology: A Critical Reading of Marx’s Ideas in the Field of Capital and Technology, Ghane Basiri, 2011.


33. Naom Gabo and Antoine Posner in the statement of their own realism- which didn’t concern the traditional realism but rather shows absolute and essential features of reality- published in 1920 in Moscow, annonced: “today we proclaim our words to you people. In the square and on the street we are placing our work convinced that art must not remain a sanctuary for the idle, a consolation for the weary, and a justification for the lazy. Art should attend as everywhere that life flows and acts…at the bench, at the table, at work, at rest, at play; on working days and holidays…at home and on road… in order that the flame tolive should not extinguish in mankinad” (Gabo & Posner, qtd. in Bowl, 1976: 214)

34. “A veritable ‘aviation mania’ took hold among workers and peasant after the Bolshevki Revolution particularly the young. Voluntary clubs of air enthusiasts were founded in 1973 which had a membership of fifteen milion by 1934. The exhortation ‘Workers, Take to the Air!’ was used in campaigns to raise funds for financing new aircraft as far as peasant were advised to contribute their corps- rye, oat, wheat and even suking pigs-to be converted into cash for flying machines” (Buck, 2009: 5).

35. It is said that the communist government like this allocate the progress of technology to military equipment and ammunition and defense. For more information refer to Marx and Technology: A Critical Reading of Marx’s Ideas in the Field of Capital and Technology, Ghane Basiri, 2011.
Reference list