

Representation of Science in Two Realistic Novels of Different Cultures

Aziza K. Akhmedova¹, Elmira D. Muratova²

Abstract— Given the expansion of realistic novels just before the World War II, this article analyzes the representation of science in American and Uzbek novels. A close reading of *Arrow smith* by Sinkler Lewis and *The Three Roots* by Pirimkul Kodirov shows that the authors' approach to create realistic characters of science sphere bear similarities. A careful analysis is given to the interplay of facts and fiction in the novels, the representation of the authors' aesthetic ideals by means of protagonists and the tools that enable the creators to achieve realistic description of characters. As a result of the comparison, the type of literary relations between the two national literatures in the mentioned period is clarified and the similarity of the two novels explained. It is concluded that similarities of the novels are both a result of mediated form of internal contact and typological affinities.

Key words— character, realistic novel, fact, fiction, aesthetic ideals, intelligentsia, narration.

I. INTRODUCTION

The Uzbek scholars studying the relations between national and world literatures have undertaken various studies related to the theory and practice of comparative literature. Though the roots of comparative studies of Uzbek literature go as far as the classic literature, in which Persian, Arabian and other Turkic cross-cultural relations were studied, the Uzbek modern comparative school started the research on Uzbek and Western literary relations in the second half of the last century. Uzbek comparativism developed mostly under the theories of soviet comparatists like V. Zhirmunsky, D. Durisin, as well as “Wellek school” and French school of comparativism. Comparative literature in Uzbekistan has been taught to the students of philological departments as a course on literature in BA. and MA. programs. The number of researches in this field is fortunately increasing which stems from the fact that the national literature cannot succeed in isolation. The higher intertextuality level of the work, the more it is likely to appeal the world readership. Today, at the age of multiculturalism, the discipline is renovating its theoretical and terminological basis throughout the world. We focus in the article on identification and explanation of the similarity between two realistic novels written by American and Uzbek authors.

The main goals of our research are to study the similarities between the two realistic novels and to estimate the authors' art of character creation. To achieve this goal, the following tasks were implemented during the study:

¹ Aziza K. Akhmedova, Candidate of PhD, e-mail: aziza.ahmed@inbox.ru

² Elmira D. Muratova, PhD, associate professor, Uzbek State World Languages University Tashkent, Uzbekistan

- to reveal the advantages of the novels' comparison;
- to study how the novelists, provide the interplay between facts and fiction to achieve a realistic description;
- to compare how the authors, reflect their aesthetic views by means of the protagonists;
- to analyze the authors' approach to narration, creation of individualized speech of the characters;
- to identify similar characters in both works;
- to analyze the authors' mastery in using stylistic devices;
- to provide explanation of the similarities between the novels of the American and Uzbek novelists.

The term “comparative” requires clarification. Comparative means measured or judged by comparing [Hornby, 1, p.231]. Based on the definition quoted above, we assume that by comparison a more objective criticism of the work is achieved which also implies the measurement of the general tendencies of the genre the works belong to. The adequacy of comparative analysis is provided if the two works discussed are at the same level. That concerns both the structure of the works and a general issue of the two literary works. In this sense *Arrowsmith* and *The Three Roots* are considered realistic novels the analysis of which can highlight the main characteristic features of the novel development in American and Uzbek literature in the first half of the last century.

Sinclair Lewis who was born in 1885, in Minnesota, USA, was one of the prominent novelists of the twentieth century. Lewis made significant contributions to American literature mainly through novels on contemporary themes. His novels are greatly remembered thanks to his uniquely “factological” realism and the art of creating original characters. As for, Pirimkul Kodirov born in Uzbekistan, in 1928, was a novelist. Kodirov was regarded as one of the greatest Uzbek novelists and scholars. He was a master of historical novels and one of the founders of Uzbek realistic prose. The features of factological realism are also found in Kodirov's novels. Thus, we may state that the novel *Arrowsmith*(1925) by Lewis and *The Three Roots* by Kodirov show significant similarities.

The biography of S. Lewis was widely covered by several scholars— MarkSchorer, Martin Light, and John T. Flaganan. A worldwide popularity came to the author thanks to the Nobel prize. Hutchisson states, by 1930 his eleven novels out of thirteen were translated into Russian, German and Polish, seven into Hungarian, Danish, Norwegian and Czech, six into French, four into Dutch, two into Spanish and one (*Babbitt*) into Italian and Hebrew.[2].Uzbek readership accepted Lewis' novels through Russian translation and research works by I.Anisimov, S. Dinamov, A. Elistratova, M. Mendelson, B. Gilenson and I. Mazirka.The article sheds a different light into the novelist' art by juxtaposing *Arrowsmith* with the novel written bythe Uzbek author.

To achieve objectivity of the conclusions we applied comparative-historical, comparative-typological, and linguistic methods. The factors that influenced and shaped the personality of the novelists are also taken into consideration.

Various similarities can be observed in the works of Sinclair Lewis and Pirimkul Kodirov within their writing career. To begin with, both S. Lewis and P. Kodirov have made contributions to their national literature through the depiction of ordinary people in realistic novels. They both were regarded as good novelists and wrote predominantly about middle-class people, intelligent layers of society. Mostly the authors prefer professional and working or middle-middle class as social setting for their novels. Both writers' character creating style is defined by strong social-awareness. Particularly, the discussed novels show closeness in several aspects.

II. INTERPLAY OF FACTS AND FICTION IN THE NOVELS

The argument of this paper suggests that the two novels bear significant similarities in terms of an interplay of facts and fiction, aesthetic ideal of the author and stylistic tools used by the writers to depict realistic characters. Both novels depict the picture of the educational and scientific sphere, almost the same period of time (the first half of the twenties century) and involve intellectual characters. The obvious distinction between the two is that in “Arrowsmith” the main characters are scientists dealing with medicine, whereas in “The Three Roots”— the humanitarian sphere, historians are in the center of the novel. Both novels bring to light critical aspects of human nature, particularly that of researchers and intellectual people. Both authors use conflict of similar types to ascertain an overall theme. Although the novels use different settings in the expression of their ideas, the underlying themes S. Lewis and P. Kodirov choose to focus on are similar. If *Arrowsmith* gives a lens into ethical, professional and personal dilemmas in a medical career during the 1920’s, *The Tree Roots* does the same only with the humanitarian fields, particularly the study of history in 1950’s. Like Lewis, Kodirov explores the imperfections of the academic departments responsible for teaching history without hesitation or fear. Chiefly, the ultimate conflict of both novels is man versus himself and man versus society. The protagonists Martin (*Arrowsmith*) and Mahkam (*The Three Roots*) are highly influenced by benevolent ideas of their mentors. At the core of the novels is a familiar concept: men struggling for their ideals. Both S. Lewis and P. Kodirov wish to make statements on the science ethics with their novels, but choose to emphasize different spheres— medical research and research on humanities. Both novels feature scientists/scholars as central characters and made, as we mentioned above, a new literary investment to their national literature.

The novel *Arrowsmith* tells a story of a person’s maturation through his career path. The novel’s protagonist Martin, a young man with great interest in science and medicine, undergoes a challenging path of maturity. Martin is tormented by a conflict within himself between the commercialism and physicians and his true love for scientific research. Martin moves from rural medicine (North Dakota) to public health (a small town in Iowa), to bacteriology (a fashionable Chicago clinic), to basic research (New York, the ‘ultimate’ city) and finally to “pastoralism”. [Doctorow,2, p. 456]. The novel *Arrowsmith* was the result of a close collaboration with science writer Paul de Kruif who worked at the Rockefeller Institution of Medical Research in New York. As a son of a general practitioner, Lewis had a wide conception about medical life. After the novel *Babbit*, he decided to write a hero story and choose a sphere of a medical research not accidentally. S. Lewis’ reverence of his father’s and brother’s vocation played a serious role in the creation of the main character of the novel — Martin Arrowsmith.

The Three Roots, Kodirov’s first novel, turned to be a great event in Uzbek prose. It was the first novel describing University life in Uzbek literature. The plot of the novel resembles English campus novels since the events take place in the faculty of history. The main protagonist Mahkam, a student, greatly admires the historians and professors of the faculty. Later he finds out that there is a fierce struggle for academic reputation among the individuals of the staff.

The primary issue in which these novels are engaged is the interplay between fiction and facts: we assume these novels to be realistic because they are based on an actual institution, on a real University in a real life. Still, both novelists are not concerned with sociological accuracy or representative samplings so much as they are to create novels which will be true to their ideals about academic life, intellectual people and research ethics. Both novels indicate a high level of factual and documentary features which do not actually spoil the poetics of the novels. Almost all the characters in *Arrowsmith* are developed after certain prototypes. Martin

Arrowsmith resembles De Kruif himself, an idealistic, stubborn young scientist, who gloried in the routines of the lab. Max Gottlieb, a professor of bacteriology, is a synthetic character taken after the biographies of George Novi (an American bacteriologist, organic chemist, and instructor) and Jacques Loeb (German-born American biologist noted chiefly for his experimental work on artificial parthenogenesis). The author mentions the names of the scientists in the novel. The Mc Gurk Institute was shaped by de Kruif's recollections of the Rockefeller University in New York. While S. Lewis and De Kruif collaborated they were fascinated by each other's talent. "Once facts had pinned him down, Red never tried to make do with phony movie science,"— De Kruif would write. But Lewis countered by drafting this acknowledgment: "I am indebted not only for most of the bacteriological and medical material in this tale but equally for his suggestions in the planning of the fable itself — for his realization of the characters as living people, for his philosophy as a scientist." [14.].

As for P. Kodirov, his first novel *The Three Roots* was written after his memories of the University he graduated from. The events of the novel are based on the real situations that took place at the history faculty of Tashkent State University at the beginning of the 1950's. Most of the characters—professors, students have prototypes. For example, professor Akbarov, in whom Kodirov combined the characteristics of great Uzbek writer Abdulla Kahhor, is a historian repressed for his democratic views. The author remarked that professor of history Abdurahmon Hamraev, who taught them at the University, was a prototype of one of the central characters of the novel— historian Toshev. Mahkam's beloved –Gavhar, with whom the protagonist studies at the faculty, repeated the author's experience with the girl named Sofiya who left for Moscow to study.

A blend of real historical facts and fiction has been used in various forms since narrative began with sagas and epic poems. Helen Dunmore, an English writer notes that novelists stray into "dangerous territory" when they fictionalize real people.[15.] It requires great talent from a storyteller of a realistic novel to persuade the audience. Particularly, modern novels concerning science and research issues challenge the writers if they do not belong to the academic society. If S. Lewis overcame the challenge by collaborating with a specialist, Kodirov being a historian himself worked more independently, and later even turned to writing historical novels. The truthfulness of the novels, however, does not turn the novels into documentaries or non-fiction. The plot of the both novels is concentric which allows to highlight the psychological evolution of the heroes. The authors actively use "free indirect speech" which conveys the thought of the characters by the all-knowing authors' words.

The creators face events, facts which deeply impress them. As the result of over thinking, metaphorical conclusion about the events formed in their minds and urges them to express it in a piece of writing. So the literary work is not direct but metaphorical reflection of the reality. Whether the reflection is direct or metaphorical, actually, draws demarcation mark between fiction and non-fiction works. There are certain professions— historians, sociologists to convey the reality directly, as it is, with facts, data and documents. These professionals have to approach to their work objectively to achieve the real picture of the life, whereas novelists add emotions, subjective attitudes and prejudices. The novelist needs fiction to convey his conception. Fiction fills all the lacunas and enables the author to express his outlook laconically. In an inclusive sense, fiction is any literary narrative, whether in prose or verse, which is invented instead of being an account of events that in fact happened.[Abrams,3, p.94]. If the author denies fictive elements and applies only facts, then a work of non-fiction appears. Fiction oils the wheels of creative power. Fiction provides tools which add flexibility, color and width to the creative process.

The creative power of Sinclair Lewis and Pirimkul Kadirov is characterized by well-balanced proportion of facts and fiction which made their realism photographic. The main reasons of such proportion in their realistic novels can be as follows:

1. A period characterized by scientific and technological transition, the 20th century witnessed the rise of new ideas about the attitude of the individual to society. The new approach to man and society suggested by psychology and sociology influenced the literary reflection of the reality. The experience of world wars confirmed the uncertainty of human condition and relativity of truth. Realists drawing their themes from everyday life, were concerned with trends in modern life related to politics, industry, economics and the rise of new social classes of the age. The proliferation of the intellectual layers of the society influenced the literary trends. Their idea of the truth, the reality is associated with precision, clarity and details. Unlike realists of earlier centuries realists of the last century created characters mostly based on the prototypes. Idealistic, heroic characters by S. Lewis and P. Kodirov are also based on real people, on the men of letters of their time. Their characters became most realistic intellectual characters of their national literature and started a new genre paradigm.
2. The second reason is connected with the writers' biography. S. Lewis, like classic American realists— M. Twain, T. Dreiser, E. Hemingway undergone a thorny path of being a reporter which shaped their realistic, factual and exposing style of narration. Being a reporter Lewis was always in the midst of the real action, and thoroughly investigated American society. He also had a reporter's courage to expose bitter facts without compromise. P. Kodirov's "factual" realism is connected with the fact that firstly, he was a historian and secondly, gaining PhD degree on literature, he had skills of a researcher.

So the interplay of facts and fiction in the discussed novels can be seen firstly, as a result of global tendency in the depiction of reality in the novel of the last century, and secondly, as an influence of the authors' professional experience on their creative power. David Lodge in his article "Consciousness and the Novel" remarks: "Literature is record of human consciousness, the richest and most comprehensive we have... The novel is arguably man's most successful effort to describe the experience of individual human beings". [Lodge, 4, p.10].

III. THE REPRESENTATION OF THE AUTHORS' AESTHETIC IDEALS

Both novels embody the authors' ideals about scientists and intelligentsia of their age. Every new pace of development influences moral and ideological orientations and stimulate artistic creativity. Each piece of art depicts the aesthetic ideal of its epoch. The protagonists of the novels "Arrowsmith" and "The Three Roots" have to face similar dilemma of their profession: how to come to concord with their existence. In their novels Sinclair Lewis and Pirimkul Kodirov concerned themselves with the recurring conflict between the individual and the society. The hero of "Arrowsmith" Martin reflects the author's aesthetic ideals about a truly intellectual man. Martin, a boy with great interest in science and medicine, undergoes a challenging path of maturity. Martin's ideals do not necessarily clash with the demands of the society though he struggles for them. Martin is tormented by a conflict within himself between the commercialism and physicians and his devotion to scientific research. He is ambivalent towards duties of a medical man. In a society where human relations are affected by marketplace values, like status and properties, Martin seeks for his ideals. Mark Schorer has observed that Martin, unlike earlier Lewis characters, is a hero. [Griffin, 5, p. 45] The novel describes his hero's education and his gradual transformation into a true scientist.

Unlike other students of Winnemac who see medicine as a tool of earning money, Martin studies it with the aim to help humanity. Martin has a great inclination for scientific research which allures him to McGurk, the “*immaculate*” laboratory, towering as the ultimate “*sanctuary*” of science [6; p31], a “*heavenly laboratory in which good scientists may spend eternity in happy and thoroughly impractical research*”. Wherever he works, he is the most persistent and zealous member. Martin is a reform-minded intelligent whose attempts to help humanity are hindered by various social obstacles: in Wheatsylvaniaa tribal code prevents him to realize himself as a physician, while in Nautilus Martin suffers from Pickerbaugh’s boosterism. The greatest obstacle he experiences happens in St. Hubert – the fictitious Caribbean island stricken with bubonic plague, humanity causes to cease Martin’s attempts. He faces an ethical dilemma: as a physician, he is to vaccinate as many inhabitants as possible, but as a researcher he is to control both groups to prove the effectiveness of his phage. He had to breach the research ethics to rescue the infected population. All the fiascoes in medical practice direct him toward unselfish scientific research in the laboratory.

Mahkam, a hero of Kodirov’s novel, is one of the most active students of the faculty. Kodirov chooses University life to show his protagonist’s maturation since it is the most crucial period in the life of an intelligent. He surpasses all other students by virtue of his qualities: leadership, creativity and a strong desire to improve his knowledge. His creative mind always inspires him to do something new and innovative to better the social environment he belongs to. He suggests his views to improve the quality of the agitation campaign. As a result, more students become involved in the campaign and attend it with a greater interest. It is Mahkam who notices the inefficiency of some student’s bureaus and suggests the administration to reduce them. The suggestion not approved immediately turns to be productive and is practiced beyond their campus. Mahkam’s strongest organizational skills find expression while students are in cotton fields to contribute to cotton picking. His project enhances the team work and the faculty shows the best result in the campaign.

Though both of the intellectual protagonists devote their power to the improvement of their social environment, the outcome seriously differs. All Martins social experiments end in fiasco, whereas Mahkam achieves gratitude and intends to become a scholar.

The authors’ ideals in both novels are also shown by mentor and disciple relations. In “Arrowsmith” Max Gottlieb, a pure scientist, shapes Martin’s ideas about research ethics. Gottlieb’s personal magnetism influences Martin greatly in choice of a scientific career. He tells Martin his views on scientist’s vocation and Gottlieb’s words shape Martin’s further decisions:

“To be a scientist—it is not just a different job, so that a man should choose between being a scientist and being an explorer or a bond-salesman or a physician or a king or a farmer. It is a tangle of very obscure emotions, like mysticism, or wanting to write poetry; it makes its victim all different from the good normal man. The normal man, he does not care much what he does except that he should eat and sleep and make love. But the scientist is intensely religious—he is so religious that he will not accept quarter-truths, because they are an insult to his faith.”

With the words, uttered by a pure scientist, Lewis conveys his ideals about the research philosophy and true scientists who sacrifice everything to achieve the truth. According to Gottlieb’s ethos, a researcher should follow a-science-for-the sake-of-science path. Humanity is seen as subject to reach the truth. Though highly influenced by Gottlieb, Martin wants the truth to serve the humanity which proves Martin’s ethos to be more altruistic. Great devotion to the scientific research unites both characters.

P. Kodirov successfully expressed his ideals of a scholar's ethics presenting Mahkam's mentors—Akbarov, a lecturer, and Toshev, a historian. Particularly, Akbarov's moral instructions about the roots that connect the youth with the society become a leitmotif of the novel:

Knowledge is the first root which you develop through student years. The main reason you come here is knowledge. But... there is one more vital root that every intellectual person needs. As you know, the people who devote their talent to the prosperity of the society call themselves citizens. Being a student you should inevitably develop a sense of citizenship. If the first root grows in educational atmosphere, the second requires social commitment. Like tree roots that converge, these roots also join together in your life. The deeper the roots, the wider your bushes stretch, the stronger the roots, the more mighty you stand on the earth.[Our translation].

Akbarov, a charismatic lecturer of the faculty, faces consequent psychological blows from the administration. Pseudo scholars of the staff intrigue to repress him. He not only pulls himself together but also keeps mentoring students showing them an example by his strong personality.

S. Lewis contrasts Gottlieb and Sondelius, an altruist immunologist, with other scientists who are commercialists of medicine such as Pickerbaugh and Angus Duer. At the University of Winnemac, Martin realizes that most of his fellow students and many of the professors want money, fame and prestige. Martin believes that scientists and doctors should somehow rise above the rest of other people, be more honest and dedicated, because the choices they make may become decisive for patients' lives. To highlight the difference between pure scientists and commercialists S. Lewis takes advantage of the contrast of characters. Dr. Risco, a professor of otolaryngology, gives the following speech, which seems to expose the psychology of the commercialist scientists:

Knowledge is the greatest thing in the medical world but it's no good whatever unless you can sell it, and to do this you must first impress your personality on the people who have the dollars. Whether a patient is a new or an old friend, you must always use salesmanship on him. Explain to him, also to his stricken and anxious family, the hard work and thought you are giving to his case, and so make him feel that the good you have done him, or intend to do him, is even greater than the fee you plan to charge. Then, when he gets your bill, he will not misunderstand or kick. [6; Lewis S., 1949; 91].

P. Kadirov also contrasts unselfish scholars to those who take advantage of knowledge for the mean purposes. The Uzbek literature of the late 1950's is characterized by the fierce criticism of cult of personality and its devastating social consequences. After Stalin's death in 1953, his rigid authoritarianism was openly criticized and a series of activities were done to eradicate side effects. In "The Three Roots" the author reveals the plight of scientists, particularly, soviet historians during Stalin years. The main characters of the novel Akbarov and Toshev are discredited and falsely accused by their jealous colleagues. However, both scientists are characterized as strong-willed men and keep loyal to their ethos.

If *Arrowsmith* has been inspirational for several generations of pre-medical and medical students, *The Three Roots* has been providing moral guidelines not only for students of humanitarian subjects but also contemporary intellectuals. The novels picture the most invisible features of career and life decisions. Both novels affected, particularly, young audience giving them not straightforward guidelines but illuminating possible career dilemmas by means of fiction.

IV. LINGUISTIC TOOLS THAT PROVIDED REALISTIC DESCRIPTION OF CHARACTERS

Since the main characters of both novels are highly intellectual people, their speech, monologues and dialogues consist of great number of professionalisms and jargonisms. Lewis accurately describes research procedure, how Arrowsmith isolates trypanosomes from a rat and stains them with methylene blue; how he applies partial oxygen-carbon dioxide tension to reproduce phage. Stuart P. Sherman, a literary critic, reviewed *Arrowsmith* on its publication in 1925 for New York Herald Tribune Books and noted: *I suppose there is more science and scientific thought in Arrowsmith than in any other novel that has hitherto appeared in the world. ... The sum of [Lewis'] satire consists in the suggestion that the advancement of science, though much prated about in America, is a long way from being the first interest in the quarters of its professed friends.* As seen, Lewis incorporated medical terms abundantly to achieve realistic picture of his characters. I. Galperin notes that the skillful use of a professional word will show not only the vocation of a character, but also his education, breeding, environment and sometimes even his psychology. S. Lewis makes use of the stylistic tool for multiple purposes:

Then Martin saw the Berkeley-Saunders centrifuge. The principle of the centrifuge is that of the cream-separator It collects as sediment the solids scattered through a liquid, such as bacteria in a solution. Most centrifuges are hand- or waterpower contrivances the size of a large cocktail-shaker, but this noble implement was four feet across, electrically driven, the central bowl enclosed in armour-plate fastened with levers like a submarine hatch, the whole mounted on a cement pillar.[6,p30].*

Medical terms in the text are used to supply relevant environment as a background to the narrative. Terms connected to the literary text do not make the language incomprehensible for non-specialist audience.

Kodirov's characters utter terms and notions related to the sociological sphere of human activity:

Social formation in Asian countries is uneven: we are going from socialism toward communism, in Iran meanwhile the monarchy prevails, in India principalities and castes rule, in Japan imperialism, in China Public democracy...Gavhar's father is a specialist on current Oriental history.[7,112]

Thus, professionalisms and terms enable the authors to depict natural speech of the characters. Despite the fact that the language of the novels is more scientific both of them have been a great success with the public.

Like the characters in *Arrowsmith* the characters in *The Three Roots* were criticized for having longer and greater number of monologues. In our view, it is connected with the fact that the intellectual characters in both novels are meditative people deeply interested in social development. Consequently, the authors had to express the characters' scholarly personality by means of longer monologues. For instance, in "Arrowsmith" there is Gottlieb's monologue which covers one and a half page. By Gottlieb's monologue about a scientists' personality S. Lewis actually messages the novel's core conception on research ethics and the scientists' mission. P. Kodirov's characters also produce longer monologues. Toshev, a historian, whose dissertation is on the relations of the national bourgeoisie and capitalistic formation of the society, is accused of being a flatter of capitalism by some of his colleagues and ostracized. His monologue on his work also stretches along one and a half page. Though the monologue has been considered irrelevant by some critics, we find the monologue important for the author to view his outlook on social formations. It should be mentioned that both novelists' works, defined by frequency of dialogues and monologues, could be connected with the writers' style. Both S.

Lewis and P. Kodirov are more sociologists interested in the relations of a man and society. Not accidentally they choose a realistic novel as more appropriate genre to express their conception of life.

To individualize their characters both authors make use of non-traditional stylistic tools. S. Lewis, describing the character's speech enables a reader to listen to the phonetics of the speaker. He conveys the speech of both male and female characters with original vividness: he makes T. Holabird's *baritone* sound *mellow*[p307]; Terry Wicket's *croak irritates* not only Martin but also the reader[p309]; Mrs. Duerspoken *with finishing school mock-melodiousness...* [p 295]; Miss Robbins *cries in her glories contralto...*[p308]. Lewis incorporates marked pronunciation to indicate the background of the character, especially if the character is an immigrant: "Ah! Dis is good..."[p 299, Gottlieb]; "...it is a word that liddle schoolboys use..."[p. 299, Gottlieb].

P. Kodirov gives particular attention to the characters' speech. He tries to give live voice of his characters to the reader....—*Pojaluy(May be)—said Vitaliy Alexandovich in thick voice.*[205p.]; *Eshonboev was again talking with metallicly appalling voice of his...*[25p]; *Zamira heard metallicly harsh and cold tone in Muhammadjon's voice for the first time and was shivering as if scared by something.*[307 p.]....*So do I—replied Mahkam in a cold tone.*[172p].

To make his characters' speech more realistic Kodirov shows the presence of Russian words in their speech which was actually typical of the time: *Because how Russians say, serdtsu ne prikajesh (one cannot order the heart what to do)* [p.157.]; *...If things go like this there will be a lot of proval (fiasco).*[p.173.]; *...I am very sorry, NodirMannonovich, a friend of mine hadimenini (birthday), and I was invited.*[p.182.]

Thus the novelists actively incorporate slang, dialect and other types of marked language to achieve the authenticity of characters' speech. Both authors, though are not the first authors to use informal language in their national literature. Earlier novelists portrayed vernacular language in various forms, particularly, M. Twain in American literature started a new direction. In Uzbek literature, A. Kahhor, a prominent writer, immensely contributed to the development of Uzbek realistic prose.

One more common feature in novelists' style is that the both are close to poetry and show their inclination to verse in character creation. S. Lewis applies verse to illustrate Pickerbaugh's pompous and flamboyant personality. Dr. Almus Pickerbaugh, Director of Public Health in Nautilus, Iowa, is a caricature of the medical commercialist. Preposterous and exuberant, he is more concerned with his election to Congress than public health issues:

During Clean-Up Week, Pickerbaugh spread abroad a new lyric of his own composition:

*Germs come by stealth
And ruin health,
So listen, pard,
Just drop a card
To some man who'll clean up your yard
And that will hit the old germs hard.*[p.242].

Unlike Lewis, Kodirov uses verse form to describe romantic personality of Ochil, a poet-student. Kodirov artfully depicts Ochil's poetic state of mind. Ochil feels more deeply, is more in touch with his inner self, and experiences the world in the form of emotional energies floating around. He can see both the romantic and melancholy side of things beyond the obvious. But he is neither flat character nor stereotypically naïve poet.

He is more a bayron. By his poems scattered through the novel the author reveals dynamics of Ochil's personal growth. He is mostly meditative and gesticulates in verse:

*Pure is the weather, green is the garden, dew in the leaves,
 Incredibly beautiful is daybreak of the spring,
 To the poem desired by the girl as beautiful as the morning,
 Hasn't been found a relevant title for a long time [p.209].*

The plot in both novels is given in the third person and the narration emphasizes the author's role as an observer, not as a participant. If in *Arrowsmith* the main lines move through Arrowsmith's and Gottlieb's lines, in *The Three Roots* the lines of Mahkam and his friend Ochil dominate. The narration in both novels move, for the most part, in a straight line chronologically, with many changes of the scene. The plot of the novels does not coincide. *The Three Roots* covers the events of one year while *Arrowsmith* tells a story of adult years of a hero. However, the similar characters appear in both novels. The protagonists Martin and Mahkam undergo serious development and growth as characters. Both of them are radical, heroic, passionate intellectual characters driven by idealistic thoughts. They search for truth. Their reverence toward their mentors (Gottlieb and Martin) influences their thoughts, actions. Both protagonists have a close friend (T. Wicket and Ochil) criticizing them bitterly to bring them more down to the Earth.

Some characters, Clawson and Hinkley in *Arrowsmith*, and Zokir and Farida in "The Three Roots" degenerate as they grow more mature. The mentors in both works do not change. Romantic love is subordinate to the protagonists' quest for the truth. The following table illustrate the characters of two novels which coincide in main traits:

<i>Arrowsmith</i>	Similar traits	<i>The Three roots</i>
Martin	Idealist, non-conformist heroes,	Mahkam
M. Gottlieb, G. Sandeleus	Pure scientists/scholars	Toshev, Akbarov.
Holabird, Pickerbo	Intellectual fraud	Hakimov
Angus Duer	Social climbers	Eshonboev
Madeline Fox, Joyce Lanyon	Symbolize the demands of Society and Success	Farida, Lola Hoshimova
Leora	Represent personal integrity	Gavhar

S. Lewis' and P. Kodirov's art of realistic character creation deserves a special attention. It is worthwhile to mention the fact that S. Lewis was awarded the Nobel prize "for his vigorous and graphic art of description and his ability to create, with wit and humor, new types of characters". In his Nobel speech, Lewis admits: *I had realized in reading Balzac and Dickens that it was possible to describe French and English common people as one actually saw them. But it had never occurred to me that one might without indecency write of the people of Sauk Centre, Minnesota, as one felt about them.*

P. Kodirov is respected for strong and realistic characterization of contemporary Uzbek people. He noted that it was highly important to incorporate folk language into literature, especially, during the early stages of realism. In his novel, Kodirov applies a wide variety of folk sayings, proverbs and maxims which enables the writer to display the accumulated wisdom of the nation and to convey his ideas laconically.

Both writers break the novels into several parts (Lewis into chapters) which provide some guidelines for readers and keep them interested. However, neither S. Lewis, nor Kodirov give the titles to the parts which can provide more freedom to readers to judge objectively, not relying on the author's opinion.

S. Lewis and P. Kodirov artfully make use of epithets, metaphors, zeugma and other stylistic devices. The authors expose the weak points of education, University traditions that hinder the progress and the life of students in general. Typological similarity of the novelists' style is also evident in the aesthetic function of onomastic units. The crafting of literary names may be argued as a process requiring the deft manipulation of semantic elements, as 'language is the material of literature as stone or bronze is of sculpture, paints of pictures, or sounds of music [Welleck and Warren,8, p.22]. The creator gives the initial characteristics to the personage by naming them. Personal names are powerful semantic assets enabling an author to create new literary worlds. Despite their limited structure, personal names can convey a significant amount of information. Fictional names, in particular, hold more representational and semantic value than their non-fictional counterparts. The rare English surname *Arrowsmith*, a combination of the words "arrow" and "smith", reveals the following features of the protagonist:

a) "Arrow" is a weapon. As the weapon that combines distance, speed, stealth, and piercingness or penetration, the bow and arrow have been recruited since our oldest literature to play figurative parts. [Ferber M,8,p.34]. It points to the unyielding, radical nature of the protagonist. He always goes forward to follow his ideals and nothing – fame, wealth, beauty – can stop him. Martin Arrowsmith is an arrow of medical ethic, targeting the conscience of all involved in the sphere.

b) "Smith" denoting a person working with iron—implies Martin's democratic roots. His ancestors are neither aristocrats nor bourgeois; whatever Martin achieves he does it by means of education.

No matter how it might be risky, Cliff Clawson, another personage, is always ready to get his hands (claws) into various schemes. He behaves more by instinctive desires and hunts the profit not even thinking about ethic. Lewis' satire finds reflection in the surname of Gottlieb. Gottlieb, an immunologist from Germany, is actually an atheist. The word "Gott" and "Lieb" in German means "God" and "Love". In one episode of the novel Terry Wicket says that Gottlieb's name is spelled "G-o-t-t-l-i-e-b" but pronounced "Gottdamn".

As for Kodirov's novel, the protagonist's name Mahkam is an Uzbek name which literally means "firm", "not weak". Traditionally, parents give the name with the intention that their offspring be strong-willed, loyal to convictions. Through the novel Mahkam displays the above mentioned features in various situations: he is attached to social affairs, faithful to his ideals. Some critics admit that the historian's surname "Toshev" implies to the surname of Musa Toshmuhammad, an Uzbek academic, who prolifically worked with the surname, "Oybek". Like Toshev he experienced harassment for his democratic ideals. Thus, both Lewis and Kodirov apply personal names to identify their characters as well as to direct the reader. The assessment of the connotational qualities of names can reveal symbolic information.

Both authors refer to allusions in the novels discussed. *He read the classics of physical science: Copernicus and Galileo, Lavoisier, Newton, La Place, Descartes, Faraday. He became completely bogged in Newton's 'Fluxions'; he spoke of Newton to Tubbs...[p.323].; Gottlieb's gods are the cynics, the destroyers - crapehangers, the vulgar call 'em: Diderot and Voltaire and Elser; [133p].*

P. Kodirov refers frequently to the literary works, films and names of realistic people in "The Three Roots"...*What does the word loyalty mean for you? Is it what Tatyana Larina feels toward her old general? Then*

what do you think of *Ann Karenina*? [p.345]; *On a sleepless evening, strolling in the city, Ochil decided to go to the cinema. The indian film “ BaijuBawra” was on.*[p.287]. *Later he was attracted by Lermontov’s poetry.* [p.139]

Despite the fact that the language of the novels was more scientific, both of them were a great success with the public.

V. RESULTS

The novels “*Arrowsmith*” and “*The Three Roots*” show similarities in the following features:

- The authors incorporate facts and fiction into artful literary unity;
- The protagonists of the novels bear similarity in characterization. They embody the authors’ ideals about true scientists of modern age;
- The novelists’ art of character creation is similar in several ways. The characters are intellectual, with higher level of social-awareness, realistic;
- Both authors demonstrate great mastery in the appliance of stylistic tools. They make use of similar tools to achieve realistic description of the characters.

Results and discussion

Using a comparative method, a researcher attempts to provide a close study of works of literature, tries to explain both similarities and differences between works discussed. Without the explanation, the comparison turns out to be “comparison for comparison” work and serves neither to generate theory of the genre concerned nor to highlight the interliterary relations.

The basic similarities between *Arrowsmith* and *The Three Roots* naturally raise a question of the form of literary relations. According to Durisin’s binary model of literary relationships, the ways national literatures interact fall under two types: genetic contact and typological affinities. Durisin provided a detailed classification of genetic contacts dividing them into external and internal. If an external contact covers relations beyond literary and art spheres, “internal contacts are identified “by means of the confrontation of literary phenomena, that is by the analysis and comparison of such literary-historical units”[Durisin,11, 118]. The internal contact is considered to be direct if the author has read the source in the original language, and mediated if the source work comes through translation, interartistic adaptation or any other forms of transformation. Based on the theory, we can conclude that a mediated form of internal contact is concerned in this case since the novel *Arrowsmith* was translated into Russian in 1925 for the first time by A. P. Chekhov. Taking into account the fact that Chekhov was a medical specialist himself, the translation was done professionally. Four years later a new Russian translation of *Arrowsmith* by L. L. Domer was published. The most successful Russian translation of the novel was done by N. Volpin and issued repeatedly in 1936, 1956, 1965, 1973. Pirimkul Kodirov, who not only mastered Russian but also translated several literary works from Russian into Uzbek, assumably was familiar with the prominent novel. Moreover, the soviet people warmly accepted the screen adaptation of the novel.

The Three roots was translated into several languages, including Russian. Konstantin Simonov and Muchtar Avezov, soviet writers, highly appreciated the novel. The novel has not been translated into English yet. We are of opinion that the further development of comparative literature greatly depends on literary translations, particularly, it concerns minor literatures. From, a historical perspective, comparative literature and translation have always complemented one another. As a link between national literatures, literary translation of fiction

provides access to other cultures, different mindset and thus enriches the worldview of the reader. Literary translation as well as comparative literature plays an important role in the eradication of linguistic and psychological barriers between nations.

However, the path of interliterary process is more complicated and signifies multi-level relationships. According to A. Veselovsky's views on reception, the receiving national literature should be equal in order to be influenced by the source literature. [10]. The theory thus denotes that reception takes place if the literary process of the national literature is experiencing similar process of genre formation. Though the genre of novel appeared in Uzbek literature in the first half of the twentieth century (A. Kodiriy's "Days Gone By" is considered to be the first Uzbek novel, 1925), the rich foundation of national literature accelerated the process and within a short period a great variety of them were created. So we can also approach the typological affinities which embody the general laws of literature as they cannot be explained by contact. Durisin distinguishes three categories of affinities: socio-typological, literary-typological and psychological-typological affinities. Socio-typological affinities denote similarities that stem from similar social situations. For instance, not only in European but also in Asian literatures the growth of critical realism and realistic prose in general is observed which is commonly explained by the progression of capitalism and its imperialist forms. In the comparison of the novels written by S. Lewis and P. Kodirov, the authors' inclination to create factological realism can be explained as socio-typological affinity, since the interplay of facts and fiction is based more on social background. The similarity in character development as well as in language and aesthetic ideals can be viewed as psychological affinities which are connected with the similar authorial personalities.

VI. CONCLUSION

In short, the realistic novels *Arrowsmith* by American writer S. Lewis and *The three roots* by Uzbek writer P. Kodirov have similarities which can be explained both as a result of mediated forms of internal contact and as typological affinities. The comparative analysis of the novels gives an opportunity to generate a common theoretical comprehension of the realistic novel as a transnational literary phenomenon. The similarity in the appliance of facts and fiction in the novels is related to the social, scientific and psychological atmosphere of the first half of the twentieth century. The similarity in the authors' character creation, language and aesthetic ideals can be explained as psychological affinities. The research also sheds a light into interliterary relations between the two nations.

REFERENCES

1. Hornby, A S. *Oxford Advanced Learner's Dictionary of Current English*. Oxford; Oxford University Press. 1995.
2. Hutchisson, James M. »Sinclair Lewis, Paul De Kruif, and the Composition of *Arrowsmith*.« *Studies in the Novel*, 24. 1 (Spring 1992): 48-66.
3. Doctorow E.L. (2008) "Afterword". In: Lewis S. (1925/2008) *Arrowsmith*. New York: New American Library, 451-456.
4. Abrams M. H. Glossary of literary terms. Seventh edition. p. 347.
5. Lodge D. *Consciousness & the Novel* // Lodge D. *Consciousness & the Novel*. Connected Essays. L, 2001. P. 1-91.
6. Griffin, Robert J. "Twentieth Century Interpretations of *Arrowsmith*: A collection of Critical Essays. Englewood Cliffs New Jersey : Prentice-Hall, 1968.
7. Lewis S. *Arrowsmith*. New York, NY: Collier; 1925 [Google Scholar]
8. Kodirov. P. *The Three Roots*.—Tashkent: Uzbekistan literary press, 1958.-456 p.
9. Ferber M, *Dictionary of literary terms*. Cambridge University Press. 2007. P. 272.
10. Wellek R., Warren O. *The theory of literature*.—M.: Progress, 1978.—328 p
11. Veselovsky A.N. *Historical Poetics*, Moscow: Higher school, 1989, P. 405.

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12. Durisin, D. (1979). Theory of comparative literary studies. Moscow: Progress, 320.
13. Galperin I. R., Stylistics, Moscow: Higher school 1977.328p.
14. Dima, A. (1977). Principles of comparative literary studies. Moscow: Progress, 229.
15. César Domínguez, HaunSaussy, Darío Villanueva, Introducing Comparative Literature: New Trends and Applications, Routledge, 2014 [Google Scholar]
16. Dima, Alexandru. Principysravnitel'nogoliteraturovedeniya (Principles of Comparative Literature). Trans. M.W. Fridman. Moskva: Progress, 1977
<https://heritage.umich.edu/stories/the-michigan-scientist-who-was-arrowsmith/>
17. <https://www.theguardian.com/books/2015/dec/06/based-on-a-true-story--geoff-dyer-fine-line-between-fact-and-fiction-nonfiction>