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 The Story Of A Very Skilled Russian Smith

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A couple of weeks ago, I was informed by Professor Chikindas that a very skilled Russian smith named Mr. Ivan Kirpichev makes *Pulad-e Johardar* (watered steel), which resembles exactly the same pattern of steel as the old crucible steel patterns from Iran. I was really happy to hear the news as I was privileged to know a number of smiths who had been making wonderful crucible steel blades from other countries. Professor Chikindas kindly acted as a translator between Mr. Kirpichev and me and informed me that Mr. Kirpichev was planning to send me a sample of his work as an unmounted knife blade. I was really thankful for the generous offer of Mr. Kirpichev. Two weeks later, I received the blade and was really astonished and proud as the blade forged by Mr. Ivan Kirpichev had the same pattern as the old, top-quality Persian blades. I am really proud to say that this is simply a revolution, and, at the same time, I am proud to know that a Russian smith and scholar was finally able to revive the art of making crucible steel blades, which exactly resemble the beauty of the Persian blades. The fascination of crucible steel blades in Russia has a long tradition. According to Mr. Kirpichev, the Russian word *bulat* originated from the Persian word *pulad* and means "steel." He adds that the technology of manufacturing *bulat* steel was lost in and was re-discovered by a Russian metallurgist, Pavel Anosov, who, at the time, was the manager of the Zlatoust Metallurgical Factory. His discovery was reported in his manuscript, which received a special note of appreciation from the Demidov's Awards Committee (1841 A.D.) (Kirpichev, 2006:pers.com). Mr. Kirpichev adds that one of Anosov's first inventions was the method of scythe quenching, followed by cooling in a stream of air (1827 A.D.). The scythes produced at the Artinsk factory in Russia, using this technology, received a medal at an Exhibition in London (1851 A.D.).

In Mr. Kirpichev's opinion, swords made of *bulat*, created by craftsmen from Zlatoust, were not only examples of a fine art, showing marvelous patterns, but also were superior in combat performance when compared to the best samples of steel made in Solingen, Toledo, and London for edged weapons. He adds that in the London Exhibition of 1851 A.D., the swords made of *bulat* from Zlatoust superceded British-made swords in performance. The British *Morning Post* wrote at that time that "the fabulous success of the Russian industry [metallurgy] is determined by the high quality of their steel' (Kirpichev, 2000:pers.com). Mr. Kirpichev adds that, most importantly, the *bulat* sabers manufactured for the Russian Army, based on Anosov's technology, performed exceptionally well during the Caucasus War of 1817-1864 A.D. Pavel Anosov received well-deserved recognition for his achievements. He was awarded with the orders of St. Anne (2nd rank), St. Vladimir (2nd rank), and St. Stanislaw (1st rank). General Anosov, at a different time of his service, was the Head of the Zlatoust and Altay Factories, Tomsk Governor, and the Acting General Governor of West Siberia. The Kazan (in 1844 A.D.) and Kharkiv (in 1848 A.D.) universities elected Anosov as their Honorary Professor (Kirpichev, 2006:pers.com).



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Unfortunately, Mr. Kirpichev adds that the secret of making *bulat* steel (crucible steel) was lost again after the death of Anosov. Recently, it was rediscovered by a few Russian smiths, who had been working independently. They were able to reproduce *bulat* steel that was comparable with Anosov's *bulat* in both quality and pattern. The technology includes smelting in a crucible under very special conditions, forging the ingot, and, finally, quenching the finished article. One of these Russian smiths is Mr. Ivan Kirpichev. He is a self-made Russian smith who is absolutely "obsessed" with archeometallurgy, particularly with research on *bulat* steel. While studying at school, he was very much interested in history, especially in the history of Eastern civilizations, not left unnoticed by his history teacher. It was also in Ivan's nature from a very young age to try his hands at making various things. These experiments were not always safe: with the knowledge he acquired from chemistry class, for example, he tried to mix a few chemicals, resulting in an explosion at the balcony of his parents' apartment. From a young age, he was also fascinated with edged weapons. He made his first knife when he was only 12 years old. Most likely, because of his interest in "making things," he chose to become a mechanical engineer, finding work in a private company after graduation. The company had its own forge, and Ivan became inspired to construct a few blades in the Eastern style. He made two *jambiya* daggers, a saber, and a *khanjar*. For about a year, they were hanging on the wall in his apartment, and, then, he gave them all to his friends once he realized that he could make them without a problem; and making the high-carbon steel and pattern-welded steel was not a challenge for him anymore. He started looking for a more challenging quest – this is how he came to the study of how to make crucible steel. Contrary to crucible steel, making the pattern-welded steel appeared to be an easy thing for Mr. Kirpichev. However, making *bulat* (crucible steel) happened to be a rather difficult and mysterious challenge. Right from the beginning, Ivan realized that the crucible steel was not only about the dendritic liquation, but there was a mystery to making this type of steel – in other words, he realized that making *bulat* (crucible steel) is not just

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a process, a technological feat, but also an art (Kirpichev, 2006:pers.com). This is why Mr. Ivan Kirpichev fell in love with making *bulat*.

While talking about Persian blades, Mr. Kirpichev says that most of them are easily recognizable, as to state they were made by some standardized technology and from the same materials. The crucible steel blades from India, on the other hand, vary significantly, from very good to very poor quality. Also, in history books, it is well-documented – says Mr. Kirpichev – that Persians were traveling to India – possibly to teach Indian smiths or to share the technology of forging blades with crucible steel. Mr. Kirpichev is particularly fascinated with crucible steel blades made in the Persian province of Khorasan. According to Mr. Kirpichev, when comparing the crucible steel blades made in Khorasan with samples of other regions, the Khorasan blades have the best ratio of excellent pattern in comparison to the blades made in other regions. One can easily imagine these blades finding their way to Caucasus, Turkey, and Turkmenistan (Kirpichev, 2006:pers.com).



When I received the sample of the blade made by Mr. Kirpichev, I was really surprised and very happy that a smith could make a blade that exactly resembled the old Persian blades. Just an examination of the patterns of the following knife blade made by Mr. Kirpichev shows what this gentleman is capable of doing. I would really like to congratulate Mr. Ivan Kirpichev for finding out the mystery of making high-quality crucible steel blades from the bottom of my heart. I would like to thank him for his determination, his knowledge, and for his dedication. I would also like to thank Professor Chikindas for establishing this contact and for his translation assistance.

Figure 1: Mr. Ivan Kirpichev at his forge

Figure 2: The unmounted knife blade made of crucible steel blade made by Mr. Ivan Kirpichev. Note that the pattern has the high-quality woodgrain or mottle damask seen on high-quality Persian blades. Even the background

color matches the color of the high-quality Persian blades.

Figure 3: For comparative purposes, look at the surface pattern of these antique Persian blades: a) *shamshir* 1: surface pattern of the blade of a *shamshir* from the Safavid period, b) *shamshir* 2: surface pattern of the blade of another *shamshir* attributed to the Safavid period, c) *kard*: surface pattern of the blade of a *kard* from the Qajar period, d) *khanjar*: surface pattern of the blade of a *khanjar* from the Qajar period, and e) *bulat*: surface pattern of the blade made by Mr. Ivan Kirpichev.



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More information is at www.legat-verlag.de/_e/programm_e.html.

Manouchehr is also the moderator of the American organization of Swordforum International, where he answers questions on Middle Eastern Swords. He is considered the specialist on Middle Eastern Arms and Armor and responsible for the forum Edged Weapon from the Middle East, Asia and Africa. For more visit: forums.swordforum.com/index.php?s=

This article was contributed by **MANOUCHEHR MOSHTAGH KHORASANI**, Guest Contributor for PersianMirror.



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