The research into Russian notation is closely connected with the history of musical writing in our country. In 988 Ancient Rus was baptized. It was part of the Eastern World of Christianity with Greece in its center, but the way Christianity came from Byzantium to Russia still remains an open question. According to hypothesis of Priselkov, the Christianization of Rus proceeded from Ohrida (Bulgaria, now Macedonia), and later, from...
11th century AD, from Constantinople¹. Together with Christianity Ancient Rus received a writing and a musical writing, too. Byzantine neumes were accepted and developed by the Slavs, so Old Russian notations were born: znamenny and kondakarny. Later Russia became the only country in the Slavonic world which preserved and cultivated neumatic writing up to the very beginning of the 18th century; and among old believers it has reached our days. New kinds of neumatic notations were invented: demestvenny, putny and Kazanskoye znamiya.

That is why the majority of Russian musicologists, who work in the field of notation, study Russian neumes, some deal with notations of Greece or Western Europe and with contemporary musical writing, and a few scholars touch upon the problems of antique notation². This article deals with Russian neumatic notation.

Those were scholarly works on neumatic notation, which opened the tradition of musicology in Russia. The first musicological work is *Imena Znamianiem* (The names of signs) by anonymous author. At the end of the XV c. it was placed in the codex of monk Eufrosin³. The first Russian work in the field of musical theory is one page, which contains musical signs with their names. This is the first time the word *znamia* (sign) was used in the meaning of musical sign, sign of neumatic notation. The page has the names of neumes followed by their pictures: polkoul(ismy), povodna, pojezdna, gromn(a), osok(a), kriuk, kriuk svet(lyj), s dvema ochk(y), polna(ja) chasha, besedk(a), rozhok, kobylka, triask(a), scheka, zakry(tja), zakrytja svet(laja), zmeits(a), derbitsa, paou(k), paouk velik(ij), khamilka, stat(ia), statia avey(laja), kluch, perevazka, slozh(itja), palka, palka svet(laja), dva v che(lnou), sorochja (nozhka), mechik, kryzh, strela sve(laja), zdernut(aja), golou(bchik), koulisma, chelus(tka), zeln(aja), fita, stopits(a), sve(laja), zapatiataja.

The last term is written in the centre of the line, designating the very end of the text. D.S.Shabalin supposes the work to contain mistakes. But I prefer the opinion of Z.M.Guseinova, who writes that in this manuscript we can see a preliminary version of “listing”. She also supposes, that it is a copy of the original text, because many terms are abbreviated. I have an objection to that as all Russian musical terms first appeared in an abbreviated form, and then – in their full form. For example, *dem* – *demestvenny*, *pout* - *putny*, *Log* - *Loginovo* etc. So, this may well be an autograph of the scholarly work.

An old Russian “listing” has a direct Byzantine prototype well known among scholars. I suppose, that the first Russian musicologist knew the Byzantine theory of music and the Greek language as well. But he did not copy the Greek source, he created the Russian one, writing names of signs used by old Russian singers.

The corpus of musical terminology in the first Russian musicological work demonstrates strata which shows the process of assimilation of Byzantine notation by Russian

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³ Now this codex is in the National library of Russia, department of manuscripts, fund 351 (the library of Kirillo-Belozersky monastery), № 9/1086. It is published: Z.M.Guseinova, *Rukovodstva po teorii znamennkgk penia XV veka: Istochniki i redaktsii* in *Drevherusskaya pevcheskaya kultura i knizhnost* (Leningrad, 1990), p. 28.
singers. There are some terms of Byzantine origin: kulizma (to kilisma), parakliti (o paraklitos), khamila (i chamili), but the neumes under these names are not Greek. Other terms are certainly Russian.

The main principle of the term formation is visual resemblance between neume and an object. For example, the neume kriuk looks like a hook, chashka like a cup, mechik is like a sword, strela resembles an arrow etc. All these objects were quite usual in people's life in the XI–XV centuries, and are still quite recognizable. They show that Russian singers used to name neumes according to their experience, and didn't trouble themselves with the Greek theory of music.

The analyses of this work shows that the first Russian musicologist knew the Greek language, the Greek theory of music, probably sang in a choir, and knew Russian musical instruments. There are two signs in thise list, which remind of musical instruments: rozhok (a woodwind instrument like a horn or clarion) and kobylka (a bridge of a Russian string instrument goudok)⁴.

The next step the theoretical work was a creation of tolkovania (explanations) under the title kako poetsia « (»how to sing«). There are two kinds of explanations: professional and sacral. In the first one the singing of each neume is explained from the point of view of the vocal technique. Kriuk marks the need to proclaim (vozglasiti), it is the accent in the melody, showing when the singer has to raise his voice, strela – potianut (to protract), statia – postoyati (to stand) is a close, goloubchik borzyj garknuti iz gortani (to shout from the larynx), probably means that the melody goes up from the lower register to the higer. The basic meaning of neumes is not a pitch, not a rhythm, but the intonation, the quality of singing. Each term (vozglasiti, stupiti, posyojati) explains what the singer has to do to achieve the necessary effect.

In the XIth c. Guido from Arezzo wrote, that a teacher should explain the meaning of each neume to the pupil. So, the knowledge of singing was preserved in oral tradition⁵. Four centuries later an unknown Russian musician fixed this knowledge on paper.

Another kind of “explanation” is a theological interpretation of old Russian neumes that appeared in the beginning of the XVI c. The name of each neume is accompanied with a didactical phrase, the first letter of the name being the same as the first letter of the commentary. The formulas of the commentaries resemble the quotations from Nil Sorsky (it was mentioned by N.Ramazanova⁶). He was the head of the movement of the Russian clergy in the end of the XV c. that proclaimed the purity of the monastery life and renunciation of material welfare. For example, »ot vsiakikh strastej dushetlennykh krepko sobludatisia i otbegati« by Nil Sorsky and »zmeitsa da zemnyja suetnyja slavy otbeg« in the musical theory; »delanije serdechnoe« and »stopitsa s ochkom sokrushenie serdechnoe v pokajanii o gresek k Bogu« and »statia sramoslovija i sueslovija otbeganije«, »myslennoje bludenie« and »kriuk krotkoje uma bliudenie ot zol«.

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⁵ Pospelova, p. 314.

The first copy of this theological interpretation was written by Goury Tushin, the pupil of Nil Sorsky. That is why we can surmise that this kind of musicological work was invented by Goury.

The first signed theoretical work is *Kliuch znamenny* by Monk Khristofor, written in the 1604\(^7\). In the end of the XVI c. putny neumes were invented. *Putny rospev* (or music style) was known in Russia from the end of the XVth c. In the early period it was written by znamenny neumes or wasn't written at all, existing in oral tradition. But from the end of the XVI c. many hymns and chant books appeared, written with putny neumes.

*Putny rospev* is very closely connected with znamenny one. Comparing putny and znamenny tunes of the same literary text, we can see common place of culmination, and what we can definite as a melodical idea. It can be a melodical wave or its mirror inversion, passing from one register to another and so on. Znamenny chant is the basis of putny.

Khristofor wrote several manuscripts, and there are two notated ones among them. These manuscripts have been preserved in the archives. The manuscript dated 1602 is now in the funds of the State Historical museum. It contains only putny hymns notated by putny neumes. Then, in 1604 Khristofor wrote another book, which he gave to the library of Kirillo-Belozersk monastery, now kept at the National library of Russia. This book consists of znamenny chants and contains *Kliuch znamenny*. Three parts of *Kliuch* are devoted to putny notation. It is a list of neumes, *Grany* which is the explanation of putny neumes with znamenny ones.

The third part is soglasnik. In this part Khristofor compares 3 melodical segments (or lines) with similar text. First line is znamenny, second line is putny and 3d line is znamenny, but in this line there are no difficult or mysterious neumes (this is rozvod). It is an open question, which line, 1st or 2nd is decifered in the 3d. Khristofor, who had created putny and znamenny manuscripts, generalized his experience in this theoretical work.

The title *Kluch znamenny* (the key of signs) is significant for the medieval Russian culture. There is an authentic term tajnozamknenny (secret and locked). It means that the reading of neume depends on the context (or whole formula). Neumes, notation is a very mysterious thing, so we must have a key to understand it. Khristofor was the first person who used term *Kluch* in that meaning, later this term became rather usual for Old Russian theory of music.

The next stage of the investigation of the notation in Russia is works, which contain the explanation of so called *kinovarnye pomety* (cinnabar red marks). Red marks appeared in Russian musical manuscripts in the XVII c. Before that time there was no significations of pitch. One or, more often, two points in the picture of the sign meant that this sound or sounds are to be sung in a high register. The special Old Russian term for it is svetlyj (light). But the pitch wasn't signified exactly.

Original works of red marks' inventors have not reached our days. The scholarly works contain an explanation of some marks at the minimum or explanation of the system, story about invention and names of inventors with citing of author's material

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7 Khristofor, Kliuch znamenny, 1604, publ. by M.Brazhnikov i G.Nikishov, Pamiatniki drevnerusskogo pevcheskogo iskusstva, 9 (Moskva: Muzyka, 1983).
The earlier source is some words in the manuscript of National library of Russia Sol. 621/660 (30-40th y. of the XVII c., f. 162 r.). In the form of question and answer the writer explains the red marks used in this very manuscript. As one can conclude, each mark is the first letter of some term. The author mentions eight marks. Four of them designate the way of singing: borzo, tikho, postoi, skoro, but we don’t know exactly what they mean. Later this type of marks received a name ukazatelnye. Two marks designate a register of singing: nizko (low) and vysoko (high). Two other marks remain unknown (M and rovno).

There were different systems of red marks in Russia. Now scholars know about 10 texts of the XVII c., devoted to them. These works are often placed together within the same manuscript. The manuscripts are the following: State library of Russia, f. 379, № 1, № 2, № 4, № 315; f. 299, № 212, National library of Russia, O XVII № 19; Sol. 690\757. Publications by Shabalin and Guseinova.

The most popular was the system of Alexander Mezenets. The red mark is written near the neume and usually marks the highest pitch in the intonation of sign. But one can mark all the sounds in this intonation. In this case we can sing the melody without neumes; the neume signifies rhythm only. So, the red marks is an independent type of notation, a sort of letter one. As other letter notations - ancient Greek or West European, it signifies the pitch first of all. That was Alexander Mezenets who improved the red marks and brought them into all the chant manuscripts.

Alexander Mezenets was a member of the State Committee for Correction of Chant Books, which was formed in 1668. Notation was the main object of its work. The results of the correction Mezenets placed in the scholarly treatise Izveschenie ezhe hotiashchim uchitisia peniju.

In this outstanding work he gave a new system of classification of neumes. The quantity of sounds which each neume signifies lies in the basis of this system. Neumes are edinoglasostepennye, which signifies one sound (stepen means a degree in Russian musical theory, glas in this case is one sound), dvoeglasnye - two sounds and so on. Neumes, which signify more than two sounds, are divided into three groups. The first is where the melody goes gore (upstairs), the second where the melody goes dolu (downstairs) and the third – vospiatoglasnye - the melody has a turning.

That was Mezenets who preserved the neumatic notation while other musicians wanted to write church hymns by staff, five-line notation. But neither Mezenets, nor his opponents, have medieval way of thinking with music. It was high time to accept the staff notation. The Mezenets’s system of neumes with red marks was used for thirty years. And in the very beginning of the XVIII c. the five-line notation was accepted.

In the XVII c. Russian church divided in two parts: the official church with patriarch Nykon in its head and that of old-believers. The subject of differences was the editing of

8 E.Vorobyov “Stroki” Ivana Shaidura”, in Aspirantsky sbornik, vyp. 2 (M., 2004), P. 31-56
9 Publication by I.F.Bezuglova ‘Muzykalnaya deiatelnist solovetskikh inokov; Po pevcheskim rukopisiam Solovetskogo sobrania’ in Istochnirovedcheskoe izuchenie pamiatnikov pismennoi kultury (Leningrad, 1990), p. 39-50 (47).
liturgical books, but the symbol of schism is a way of crossing with two or three fingers. The later (old-believers) decided to continue the medieval tradition of musical writing, so in the XVIII c. neumes were connected with old-believers, who used this type of notation with its theory. It must be noted, that old-believers copied and used the work of Mezenets, the last word in the musicology of the XVII century.

While old-believers preserved neumatic notations, the majority of Russian people forgot it and were using staff notation. In the very beginning of the XIX c. the interest to neumes revived and they were examined as a historical phenomenon.

The origin of Russian neumes became the central question in the XIX c. Bishop Theoktist (Mochulsky)\textsuperscript{11} and Metropolitan Eugeny (Bolkhovitinov)\textsuperscript{12} decided, that the prototype of Russian neumes was the letters of Greek or Arabic alphabets; the neumes were received from Greece.

The scholars of the next generations - Razumovsky, Metallov, - supported the idea of the Byzantine origin of Russian neumes. Metallov supposed that the neumes were the fixation of heironomic gesture. The important event was an expedition to the mount Athos in the 1906. It was organized by the Society of Lovers of Ancient Writing and Art with financial support of count Sheremetev. Smolensky, who was at the head of the expedition, took a lot of photos of Byzantine manuscripts which became a material for comparative research. Smolensky saw neumes look like Russian ones and concluded that Russian music was imported to Greece. Antonin Preobrazhensky, on the contrary, supposed that Byzantine neumes were the prototype of the Russian musical writing. Now Preobrazhensky’s ideas lie in the basis of comparative research in Russia and abroad.

In the 1859 Sakharov listed znamenny neumes and classified them into two groups: \textit{kriuki} and letters of Greek origin\textsuperscript{13}.

In the beginning of the XXth c. two special works about raskian notations were published: that by Smolensky\textsuperscript{14} and by Metallov\textsuperscript{15}. Smolensky, Metallov declared the stages of development of neumes. Smolensky saw the renovation of neumes in the 2nd half of the XIII c., Metallov saw it in the 2nd half of the XV c. Both were right. We can see the changes in the neumes in those periods but the detailed research hasn’t been done until today.

During the Soviet period there was great pause in the invesigation of church music. Only two scholars, Brazhnikov and Uspensky, kept this scientifical tradition. As to notation, it remained the object of musicology, and in the works on the history of music there are descriptions of old Russian neumes, but it is very difficult to speak about neumes without hymnography, liturgy and other attributes of church music.

In 1962 a special work about notation appeared, written by V.M.Beliayev\textsuperscript{16}. He reviewed scholars’ statements about each kind of Old Russian notation and gave his own opinions. The most interesting hypothesis is that about relations between \textit{putnaja},

\begin{itemize}
  \item Feoktist (Mochulsky), Rukovodstvo k notnomu prostomu tserkovnomu peniu... (St.Petersburg, 1813).
  \item Istoriicheskoe rassuzhdenie voobsche o drevnem khristianskom bogosluzhebnom penii... (Voronezh, 1799)
  \item I.Sakharov, ‘Issledovaniia o ruskom tserkovnom pesnopenii’ in Zhurnal ministerstva narodnogo prosveschenia, 1859, № 7, 8.
  \item S.Smolensky, O drevnerusskih pevcheskih notatsiakh, Pamiatniki drevnei pismennosti I iskusstva, 145 (St.Petersburg: OLDP, 1901)
  \item V.M.Metallov, Russkaya semiografia (Moskva, 1912).
  \item V.M.Beliayev, Drevnerusskaya muzykalnaya pismennost (Moskva: Sovietsky kompozitor, 1962).
\end{itemize}
notations and Kazanskoje znamia. Beliaev supposed that these were different terms of the same notation used for the main voice of early Russian multipart music – strochnoie. Brazhnikov and Shindin, on the other hand, believed them to be three different ones.

Following the specialists in the field of Gregorian chant, Russian scholars supposed that neumes did not have a precise meaning, they only reminded of a tune. One could not sing the unknown melody using the neumes\textsuperscript{17}.

Uspeński supported a very interesting hypothesis about kondakarny neumes. It is a very mysterious type. Only 5 manuscripts with this type of notation have preserved in the archives; there are also about 5 or 6 fragments in manuscripts with another type of notation. All of them have been written between the very end of the X\textsuperscript{1}th c. and the very beginning of the X\textsuperscript{5} c. Nobody knows how to read this notation. There is no Greek prototype of Kondakarny neumes. It must exist, because all Russian writing is closely connected with the Greek one, but it does not exist.

There is a hypothesis that the highest line of kodakarny notation is a picture of the gesture of domestic, or heironomic gesture\textsuperscript{18}.

The most important person in Russian musical medievistics of the 2nd half of the XX c. was M.V. Brazhnikov. He was a musicologist and a composer, and he used intonational formulas of znamenny chant in his music, especially in the concert for the piano with orchestra. He had about 10 pupils, and they had pupils too, so Brazhnikov's school has survived till nowadays.

Brazhnikov offered the method of analysis of the znamenny notation of the oldest period\textsuperscript{19}. He divided all the neumes into two groups: those which pass through the ages (the pivot) and neumes which live during some period and then are out of use. If a manuscript is notated with neumes of the pivot only, it has an archaic prototype.

Brazhnikov examined old Russian theoretical works from the point of view of palaeography, the terminology used\textsuperscript{20}. It was him who divided them into listing, explanation, kokizniki, fitniki, and defined the time of appearance of each type.

Brazhnikov divided signs of znamenny notation into families. Signs are united into a family according to the way of performance. So, kriuk is to be proclaimed. The family of kriuk consists of main picture kriuk prostoi and those with supplementary elements.

Other families consist of different pictures. There are signs which are to be vygnuti (bent). It means that the melody goes downstairs. They are palka, stopitsa s ochkom and podchashia.

The division into families is very useful for the investigation of history of a musical text. If we compare two copies of the same hymn, we certainly see the differences, because old Russian writers didn't copy the hymn mechanically, they made corrections or mistakes. If we can see neumes of the same family under the same syllables in two copies, these are really two copies of the hymn. If we see neumes of different families - they are not copies, they are versions, or wordings.
Another Brazhnikov's idea was to examine the term *stroka* (line). In the Old Russian «explanations» this term means the center of musical scale (other sources give other explanations: the part of musical form, the line, or any voice of choire). Some of signs defined according to *stroka: kiuk, strela, zaplatataja*. For example: *strela prostaia potiani ne vyshe stroki i ne nizhe* (*strela prostaia* to protract neither lower, nor higher than *stroka*). Brazhnikov placed these neumes onto virtual scale, reconstructing the pitch of each neume. We can decode melodies of the time when the term stroka was used. It is the period from the very beginning to the end of the XVI c. Already monk Khristofor did not use the term «stroka» in his Kluch znamenny.

After 1960 there was not yet a work which surveyed all the kinds and periods of Russian musical writing. Each author concentrates on one problem. The central problem in the research of 1970 – 2000 was deciphering Russian neumes.

Sergey Frolov and independently Dmitry Shabalin made a sort of statistical work\(^{21}\). They accounted how often each red mark was used with a certain neume. They wanted to reconstruct the precise pitch of each neume, but were not successful. Each neume was followed by different red marks. I think, this fact shows that the fixing of pitch was not the main task of neumatic notation.

Albina Kruchinina, has introduced a very useful method of deciphering\(^{22}\). She collected musical formulas from the scholary works of the end of the XVII c. written with red marks and explained by «prostoye znamya – rozvod» simple neumes. Graphic formulas of the end of the XVI c. can be read according to their reading in the end of the XVII c. In 1984 the Academy Capella performed Russian passions deciphered by Kruchinina and it was an outstanding event in the musical life of Saint-Petersburg.

Svetlana Kravchenko made the same work with another type of musical formulas - *fity*, the melismatic ones\(^{23}\).

Zivar Guseinova deals with notation of XII c.\(^{24}\) She divided neumes into elements. There are 6 main elements. Each neume is one element or a combination of several elements. Then Guseinova compared them with their direct Greek prototypes: the paleobyzantine coislin notation and concluded that the elements are the same, but the combinations are different. The problem of adaptation of the Byzantine neumes in Russia has been solved. Then, believing that *znamennaja* notation of the XII c. is monosemantic, she made an attempt to decode the musical meaning of neumes through many logical operations. Guseinova put neumes to the staff (without key) and found a place on musical scale for each neume.

In the 1987 a collection of articles was published devoted to problems of deciphering of different notations\(^{25}\): *znamennaja* (articles by Kondratovich, Guseinova, Shabalin, 

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\(^{23}\) S.P.Kravchenko, Fbty znamennogo rospeva na materiale pevcheskoj knigi -Prazdniki-: Avtoref. dis. (Leningrad, 1981)


Zvereva, Kravchenko), putnaja (Bogomolova), demestvennaja (Pozhidaeva), five-line kievskaja (Kholopov). A series of articles on the topic appeared in other books: article of Shindin about putnaja notation, that of Yefimova about strannye pomety (modulating red marks), of Mosyagina about red marks.

In the very beginning of the XXI c. Zabolotnaya paid attention to partly notated manuscripts, where neumes don't mark each syllable of text, but several, sometimes a few. A singer knew melody by heart, and the neumes pointed out the most difficult intonations. Investigation into this kind of notation expands the range of old Russian musical sources. The last work in this field is a dissertation of EE.Pletneva, who is developing Zabolotnaya's ideas.

An investigation of the notation is Russia is continuing. Now scholars know the types of notation and their origin, we can hear many hymns created in the XVI – XVII c., both one-voiced and multipart. But the Russian notation has a lot of secrets yet, and scholars have to unravel the mysteries with modern research methods: the compilation of neumes repertoire, classification, investigation into medieval theory of music. It is very important to know the main task of the neumatic notation. In this field the investigation of notation is closely connected with the history of music and with the research into the way of musical thinking.

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Сокращения: Сов. -советский
Л. - Ленинград
СПб - Санкт-Петербург
С. -страницы
Ил. - иллюстрации
Нот. - ноты
Факс. - факсимиле
Б.и. - без издательства
Автореф. -автореферат
Дис. - диссертация
Соиск. - соискание
Учен. - ученый, ученая
Степ. - степень
Канд. - кандидат
Гос. - государственный
POVZETEK