



MENTAL ARIFMETIKADA ABAKUS ETIMOLOGIYASI

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Annotatsiya: *Ushbu maqolada abakus va unung kelib chiqishi haqida fikrlar yuritilgan.*

Kalit so'zlar: *abakus, bonsuk, xitoy arifmetikasi*

ABYCUS ETYMOLOGYIN MENTAL ARITHMETIC

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Abstract: *This article describes the abacus and its origins.*

Keywords: *abacus, bonsuk, Chinese arithmetic*

ЭТИМОЛОГИЯ АБАКУСА В МЕНТАЛЬНОЙ АРИФМЕТИКЕ

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Аннотация: *В этой статье рассматриваются счеты абакуса и их происхождение.*

Ключевые слова: *абакус, бонсуки, китайская арифметика*

Abakus so'zining ishlatilishi 1387 yilga borib taqaladi va O'rta inglizcha matnlarda qumga asoslangan abakus uchun lotin so'zlarini olish uchun ishlatilgan. Lotin so'zi yunoncha ἄβαξ (abax, qum va changni sohib geometrik shakllarni chizish va hisoblash uchun ishlatiladigan plastinka), ayniqsa uning us βακος (abakos) jinsidan kelib chiqqan. Aftidan, u uzatilgan. Yunoncha ἄβαξ so'zi

shimoli-g'arbiy semitikadan, ehtimol Finikiy tilidan olingan bo'lib, ibroniycha "ab" ab (q) (abb)so'ziga o'xshash so'zdan kelib chiqqan va "chang" degan ma'noni anglatadi. Abakusning ko'plikshakli qarama-qarshi bo'lib, ikkita shakl qo'llaniladi: abakus va abaci. Shumer Abakus birinchi marta miloddan avvalgi 2700 - 2300 yillar orasida paydo bo'lgan. Bu har bir o'n oltilik son uchun ustunlar



bo'lgan jadval. Ba'zi olimlar Bobilning mixxat shakli Abakus ifodasidan kelib chiqqan bo'lishi mumkin deb taxmin qilishadi. Qadimgi Bobil tadqiqotchisi Karruchio tomonidan tasvirlangan, qadimgi bobilliklar

"Abakusni qo'shish va olish uchun ishlatgan, ammo bu sodda asbob yordamida murakkabroq hisobkitoblarni amalga oshirish qiyin bo'lgan".

Qadimgi Misrdagi Abakus haqida Yunonistonlik tarixchi Gerodot eslatib o'tgan, u misrliklar toshlarni yunonlarning chapdan o'ngga qarama-qarshi turishiga qarshi, o'ngdan chapga siljiydilar.

Arxeologlar turli o'lchamdagi qadimiy disklarni topdilar va ular hisoblash uchun ishlatilgan deb ishonishadi. Biroq, bunday qurilmani tasvirlaydigan mural topilmadi. Miloddan avvalgi 6-asrda, Axamenlar davrida Forsda Abakus ishlatila boshlangan.

Parfiya va Sosoniylar olamida olimlar

Hindiston, Xitoy va Rim imperiyasi kabi qo'shni davlatlar bilan bilim va ixtirolar bilan almashdilar. Abakusning qadimgi Yunonistonda qadimgi arxeologik dalillari miloddan avvalgi V asrga to'g'ri keladi. Yunon Abakus - yog'och yoki marmardan yasalgan stol, yog'och yoki metallardan yasalgan mayda sanchqilar bilan jihozlangan va hisob-kitoblarda foydalanilgan. Yunon Abakus Ahamemenidlarda, Etrusk tsivilizatsiyalarida va qadimgi Rimda ham ishlatilgan va Frantsiya inqilobigacha Evropada foydalanishda davom etgan. Abakus (planshet) 1846 yilda, Yunonistonning Salamis orolida, 1846 yilda kashf etilgan bo'lib, u bugungi kungacha eng qadimgi kalkulyator hisoblanadi. Oq marmardan yasalgan bo'lib, uzunligi 149 sm, kengligi 75 sm va qalinligi 4,5 sm bo'lib, yuzasida beshta belgilar guruhiga ega. Markazda beshta parallel chiziqlar chiziladi, bitta vertikal chiziq markazdan o'tadi va vertikal chiziq va pastki gorizontaal chiziqning kesishmasida yarim doira chiziladi. Ushbu chiziqlar ostida gorizontaal yoriqlar bilan bo'linadigan katta bo'shliq mavjud. Yoriq ostidan o'n bitta gorizontaal chiziqlar tortiladi va

markazdan vertikal chiziq o'tadi. Biroq, yarim doira yuqori gorizontaal va vertikal chiziqlar kesishmasida. Xochlar uchinchi, oltinchi va to'qqizinchi gorizontaal va vertikal chiziqlar kesishmasida chiziladi. Qadimgi Rimda hisoblashning umumiy usuli Yunonistonda bo'lgani kabi, bu erda hisoblash boncuklari silliq stolga ko'chiriladi. Dastlab u toshlardan qilingan (hisoblash deb ataladi), ammo

keyinchalik u O'rta asrlarda Evropada ishlatilgan tanga, jettonga aylandi. Rim raqam tizimiga ko'ra, 5 va 10 raqamlari chiziqlar bilan ko'rsatilgan. Hisoblashning bunday tartiblash tizimlari kech Rim imperiyasidan o'rta asrlarda Evropada foydalanishda davom etgan va 19-asrgacha saqlanib qolgan.

Abakusni yaxshilashni yanada qulay qilgan Papa Silvester II XI asrda Yevropada keng qo'llanila boshlagan.

Xitoy abakusiga oid eng qadimiy hujjat miloddan avvalgi II asrdan beri ma'lumdir. Xitoydagi abakus abakus (suanpan) deb ataladi va 20 sm uzunlikda va kengligida farq qiladi. Odatda, etti yoki undan ortiq bolta mavjud. Har bir eksa ikkita kesishishga ega, ikkitasi yuqori tomonda va beshtasi



pastki tomonda, o'nlik va o'n oltilik hisoblashlarni amalga oshirishga imkon beradigan nurni sendvich bilan to'ldirish. Boncuklar ko'pincha qattiq daraxt va yumaloqdir. Boncukni eksa bo'ylab yuqoriga yoki pastga siljitish orqali hisoblang. Yuqori va pastki ramkalarga joylashtirilgan boncuk

emas, balki nur tomoniga joylashtirilgan boncuk hisobga olinadi. Barmoqlaringiz orasidan nurni yuqoridan va pastdan ushlab, qo'lingizni gorizontaal ravishda siljitish orqali barcha boncuklar yuqori

va pastki freymlardan ajratilib, qiymatni tiklaydi. Abakus nafaqat raqamlarni hisoblash, balki qo'shish, ayirish, ko'paytirish, bo'linish, kvadrat ildiz, kubik ildiz va boshqalarni tezkor hisoblash usulidir. Bunday uslublarni o'rgatadigan maktablar hali ham mavjud. Xitoyning abakusi Rim Abakusiga juda o'xshash va Rim imperiyasi va Xitoy Buyuk Ipak yo'li orqali savdo qilishgan, shuning uchun ularga bir yoki boshqasi ta'sir qilgan bo'lishi mumkin. Biroq, aniq dalillar topilmadi va barmoqlarning soni beshga tengligiga asoslanib, ba'zilar shunga o'xshash

abakus ikkalasida ham tug'ilgan deb ishonishadi. Rim Abakus to'rtta boncuk va bitta boncukdan foydalanadi va zamonaviy yapon abakusiga yaqin. Oddiy xitoy abakusida o'n oltilikda ishlatilishi mumkin bo'lgan besh va ikkita marvarid mavjud. Bundan tashqari, hisob-kitoblar sharqona uslubda, boncuklar shunchaki Rim yivlariga joylashtirilgan usulga qaraganda tezroq ko'rinadi.

Abakusning yana bir mumkin bo'lgan kelib chiqishi xitoy arifmetik daraxti bo'lib, u o'nlik sonlarni ifodalaydi, ammo 0 uchun raqamlar uchun to'ldiruvchi sifatida tushunchaga ega emas edi.

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58.