MARCO BAIS

Kapoyt/Blue: Tracing the Armenian History of a Colour

The Armenian word for blue is *kapoyt*/*kaput*[1] and *kaputak*. The *NBHL* gives the following Greek and Latin equivalents for *kapoyt*: «κύανος, κυάνεος, ὑακίνθινος, ῥαντός. *Caeruleus*, *subalbus*», and explains the word as «sky-blue (lit. sky-coloured), navy-blue (lit. sea-coloured), and ashy»[2], while the lemma *kaputak* is translated as «ὑακίνθινος, *hyacinthinus*, κύανος, *caeruleus*» and its Armenian explanation is «blue, and light blue, sky-blue (lit. sky-coloured), navy-blue (lit. sea-coloured), and having the blue colour of the hyacinth lily»[3], but it has also the meaning «πελιδνός, *lividus*, *rubicundus*», rendered into Armenian as «reddish, blackberry-coloured, violet»[4]. Moreover, the word *kapoyt* is attested in the meaning of «ὑάκινθος, *hyacinthus*», explained as «blue matter, blue dyed wool, flower and precious stone, like the Greek hyacinth»[5]. Likewise, the meanings of *kapoyt* given in Ciakciak's Armenian-Italian dictionary range from light blue to ash-grey[6], and those of *kaputak* include sky-blue, light blue, hyacinth, purplish-blue, violet, and livid, leaden, blackish («livido, nericcio»)[7].

The *NBHL* records the following compound forms of *kapoyt* and *kaputak*: *kapoyterang*, *kaputagoyn*, *kaputakagoyn*, *kaputakagorc*, *kaputakajew*, *kaputakayin*, *kaputakatip*, *kaputakeay*, *kaputakeɫēn*, *kaputatesak*, *kaputatip* all meaning basically «blue-coloured». Besides, one finds the verbs *kaputakanal* and *kaputakil*, both meaning «be or become blue, livid...»[8]. Furthermore, the *Dictionary of Middle Armenian* attests the compound *kaputač'vi*, blue-eyed, along with the later forms of some already mentioned words: *kaputgun*, *kaputil*/*kaputkil*, and *kaputnal*, corresponding in turn to *kaputagoyn*, *kaputakil* and *kaputakanal*[9].

The reference to a colour other than the variety of blue hues and toning into grey seems to be intrinsic to the etymology of the word itself. The Armenian *kapoyt* and *kaputak* are borrowings from Iranian *kapauta-*, pigeon, and from its derivate *kapautaka-*, an adjective meaning «blue». The connection

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[1] *Kaput* is the form attested in Middle Armenian texts, cf. *MHB* 1, p. 384 *s.v. kaput*. The transliteration of Armenian follows the transliteration system adopted by the "Revue des études arméniennes", with the only exception of ĵ, which presents a circumflex instead of an inverted circumflex.
[2] *NBHL* 1, p. 1055 *s.v. kapoyt*: «erknagoyn, covagoyn ew moxragoyn».
[3] *NBHL* 1, p. 1056 *s.v. kaputak*: «kapoyt, ew bac' kapoyt, erknagoyn, covagoyn, ew i goyn kapoyt yaknt'agoyn šušani».
[4] *Ibidem*: «šaṙagoyn, morenagoyn, manušakagoyn».
[5] *NBHL* 1, p. 1055 *s.v. kapoyt*: «niwt' kaputak; asr nerkeal kaputakaw; calik ew akn patuakan; əst yn. yakint'».
[6] CIAKCIAK 1837, p. 752: «azzurro, turchino, ceruleo, cilestro, celeste - bigio, cinericcio».
[7] *Ibidem*.
[8] *NBHL* 1, pp. 1055-1056.
[9] *MHB* 1, p. 384.

between the colour and the animal is also found in the Middle Persian *kabōd*, which means «grey-blue, pigeon», and in the Sanskrit cognate *kapóta-*, meaning at the same time «pigeon» and «the grey colour of a pigeon». Lubotsky reconstructs a Proto-Indo-Iranian form **kapauta-*, pigeon[10], though other scholars consider the chronological relation between the two semantic values (colour and animal) unclear[11].

However, such a contiguity of blue and grey seems to emerge also from Armenian literary sources. For instance, in a passage describing the magnificent horse of Č'ōmar, who plundered the monastery of Varag around the middle of the 17th century, Aṙak'el Dawrižec'i (17th century) lists a long series of compound adjectives: «giant-sized, tall-statured, strong-legged, wide-chested, long-necked, blue-coloured, good-looking, fierce, able to choose the time and circumstances as a rational being is, and to recognize his master»[12]. Rather than thinking of Č'ōmar's horse as really having a blue coat, one might imagine a grey horse or a greyish animal such as a blue roan, that's to say a horse with a black base coat intermingled with white hairs, taking on a greyish or bluish appearance.

The meaning ῥαντός «*sprinkled*: hence *speckled* or *spoted*»[13] may have been picked up directly from the Armenian version of the Bible. The three scriptural occurrences of *kapoyt*, in fact, seem to have this meaning. In *Gen.* 30:35 we read: «And he separated in that day the spotted and speckled he-goats, and all the spotted and speckled she-goats...»[14], where the two occurrences of «*kapoyts ew zpisaks*» correspond respectively to «τοῦς ῥαντοὺς καὶ τοῦς διαλεύκους» and «τὰς ῥαντὰς καὶ τὰς διαλεύκους» in the *Septuagint*. And in *Gen.* 30:40 the Armenian «*zxoy kapoyt*» renders the Greek «κριὸν διάλευκον», where διάλευκος is to be understood as «speckled», as in the in the previous verse[15]. On the other hand, *kaputak* and its derivates *kaputakeay* and *kaputakeal* (past participle of the verb *kaputakel*) render the Greek ὑακίνθινος and ὑάκινθος almost invariably, corresponding to the Hebrew *tekhelet*, blue[16], or, in some instances, to *tachash*, badger or seal (only when referred to a skin)[17]. In the Bible, *kaputak* means πελιδνός, livid, only in *Prov.* 23:29, a sense which can be easily brought back to the semantic area of «blue». These brief considerations give the measure of the complex philological and interpretative problems underlying any analysis of colours in the Scriptures. The Armenian Bible was

[10] LUBOTSKY 2001, p. 312.
[11] PAGLIARO 1955, pp. 158-159.
[12] Arak'. Dawr., ch. 40: «hskayajew, barjrahasak, hastabazuk, laynalanǰ, erkaynaviz, kaputagoyn, gełec'kates, sigačem, ibrew zbanawor əntroł žamanakin, ew dipuacoyn, ew čanač'oł teaṙn iwroy».
[13] LIDDELL - SCOTT 1940, p. 1565 *s.v.* ῥαντός, cf. SOPHOCLES 1914, p. 967 *s.v.* ῥαντός.
[14] *Gen.* 30:35 «Ew zatoyc' yawur yaynmik zk'ałs kapoyts ew zpisaks, ew zamenayn aycs kapoyts ew zpisaks...». The Armenian Bible is quoted after the Zōhrapean edition. The names of Biblical books are abbreviated according to the standard of *ODCC*.
[15] Cf. SOPHOCLES 1914, p. 365 *s.v.* διάλευκος: «marked with white spots»; *DGE*, pp. 997-998 *s.v.* διάλευκος: «medio blanco, mezclado con blanco, blanquecino».
[16] Cf. HERCENBERG 1998.
[17] *Exod.* 25:5; 26:14; 35:7, 23; 39:21; *Num.* 4:6, 8, 10, 11, 12, 14, 25; *Ezek.* 16:10.

translated from Syriac and Greek, which were in their turn translations from the Hebrew original, and converting colour names from one language to another is a process swarming with fanciful interpretations, infidelities, and semantic slips[18].

Anyway, the prevailing meaning of *kapoyt*, *kaputak* and their derivates in the Armenian texts examined is «blue» and «light blue», and they are usually applied to natural elements such as sea, lake, sky and so on, as, for instance, in the description of the «vast bluish sea» symbolizing the baptismal water spreading out and filling many places in St Gregory's vision[19]. They are used sometimes in metaphors evoking the sea, such as the «*kapoyt dašt*», the «azure plain» crossed by the sailors wishing to reach port safely in the inspired prologue of Agat'angełos' work (5th century)[20], a passage echoing *Ps.* 106:29-30, or the analogous image of the «azure blue hilly and flat arena» depicting the wavy surface of the lake of Bznunik' (= Van) in Arcruni's *History*[21] (9th-10th century). There is enough evidence to temper Russell's claim that «in Armenia, the sea is always *cirani* "purple"»[22]. *Kapoyt* and *kaputak* are sometimes associated with the word *erknagoyn*, having the colour of the sky (Arm. *erkin*), as in the last passage of Agat'angełos quoted above. The identification of *kapoyt* with the sky is strong enough to make it a metaphor for heaven itself, as in a love poem of Yovhannēs T'lkuranc'i (14th-15th century): «The blue is our witness that I love you»[23].

As an adjective, blue may describe garments, like the «*kaput šapik*», blue shirt, of a medieval piece of bard poetry[24], or the «*kaputak jorj*», blue cloak, mentioned by Eremia Č'ēlēpi K'ēōmiwrčean (17th century)[25]. On the other hand, as a noun it can designate blue clothes or material, like in the 16th century poet Nahapet K'uč'ak's verse: «don't wear blue, sweetheart!»[26], while the reference is doubtless to a bird's plumage in the *Praise of Birds*, attributed to a certain Bishop Kirakos (13th-14th century): «a small hooked beak, a little bird stood, it wore blue and boasted...»[27]. In a poem of Kostandin Erznkac'i (13th-14th century) blue is the colour put on by some flowers in spring time: «others, ashamed, wore blue and started grieving»[28]. Here wearing blue seems to be a token of shame, sorrow and repentance, since the flowers were engaged in a failed conspiracy against the rose, which was the most beautiful

[18] Cf. PASTOUREAU 2000, pp. 18-20 and 207, nt. 168.
[19] Agat'. ch. 102 (= THOMSON 1976, pp. 280-281 § 739): «cov li ew kaputakagoyn».
[20] Agat'. ch. 1 (= THOMSON 1976, pp. 2-3 § 1).
[21] Arcuni 3, 29 p. 257: «kaputakajew erknagoyn leṙnayin ew daštakan asparēzs».
[22] RUSSELL 1996, p. 29.
[23] Yov. T'lk., p. 224: «kaputn ē mez vkay, or ku sirem zk'ez». Cf. RUSSELL 1987. pp. 101-103.
[24] *Gusanakan tałer*, p. 235.
[25] K'ēōmiwrčean p. 420, v. 244.
[26] K'uč'ak 214: «kōzal, mi hangir kaput», quoted in *MHB* I, p. 384 *s.v. kaput*.
[27] *Gov. tṙč'*., p. 250, vv. 169-170: «keṙ ktuc'ik hawuk mi kayr, hagnēr kaput u parcenayr...».
[28] Erznkac'i, p. 140: «kēsk' mi ayl i yamōt'un kaput hagan 'w i sug mətin».

among them. It is tempting to suggest a parallel with «de blauwe huyck», the blue cloak, which is an attribute of liars, deceivers and traitors in the Dutch tradition[29]. Anyway, the words «*i sug mətin*», here translated as «(they) started grieving», mean literally «(they) went into mourning», thus hinting at a possible interpretation of blue garments as an expression of grief related to death[30].

According to an anonymous continuator of Samuēl Anecʻi's (12th century) *Chronography*, in «1334 a blue mark was imposed to the Christians»[31]. Brosset, the French translator of the *Chronography*, states he had not come across this information elsewhere[32]. A similar fact is referred to in a colophon dating back to 1476. The scribe depicts the miserable situation of Armenia under the rule of Uzun Hasan, leader of the Ak Koyunlu, the White Sheep Turkomans, and says among other things: «(Uzun Hasan) imposed a blue mark to the Christians»[33]. It is well-known that in the course of the centuries Christians and Jews living under Muslim rule happened to be forced to wear a badge on their cloths. The imposition of this badge was commonly ascribed to the Caliph Omar (634-44), although it is not mentioned in early treatises. This rule was enforced by Harun al-Rashid less than two centuries after[34]. The reason why blue was linked with Christians is not clear, anyway it is interesting what Morabia writes about blue in Islamic culture: «Les Arabes ont considéré cette couleur comme magique, néfaste, inquiétante. Les yeux bleus sont une source de malheur; et les mécréants en sont affublés dans les *Ḳiṣaṣ al-anbiyāʾ*... Le pouvoir magique du bleu est à la fois dispensateur et préservateur de malheurs. L'"ennemi bleu" est l'ennemi acharné et mortel. Dans les parlers syriens, lorsqu'on dit d'une personne que "ses os sont bleus", cela veut dire qu'elle est de caractère sournois, vindicatif. Le bleu est la couleur des gens hagards, livides, apeurés. Dans le seul passage ḳur'ānique où la racine *ẓ.r.ḳ.* est citée (XX, 102), c'est pour qualifier les coupables, le Jour du Jugement Dernier»[35]. The emphasized absence of blue from Pastoureau's discussion on discriminating marks is perhaps due to his Eurocentric - or more precisely West-Eurocentric - perspective in reconstructing this colour's history[36]. Thus, Pastoureau's claim that «le bleu n'est jammais ni infamant ni discriminatoire»[37] should be relativized.

The Armenian terms for «blue» are occasionally employed together with other colours, in

[29] LEBEER 1940, pp. 161-229.
[30] Cf. LUZZATTO - POMPAS 1988, pp. 145-148. On blue (indigo) as a funerary hue in Coptic tradition, see SKALOVA 1999.
[31] Sam. Anecʻi, p. 168: «ŔYLD. Kaput nšan drinkʻ kʻristonēicʻ».
[32] BROSSET 1876, p. 480, nt. 4.
[33] *Hišatakaranner*, n. 394: «kaput nšan ed kʻristoneacʻ». Cf. KOUYMJIAN 1997, p. 8.
[34] TRITTON 1993, p. 1241.
[35] MORABIA 1986, p. 711.
[36] PASTOUREAU 2000, p. 93: «Cinq couleurs seulement prennent place sur ces marques discriminatoires: le blanc, le noir, le rouge, le vert et le jaune. Le bleu, quant à lui, n'est pour ainsi dire jammais sollicité... Cette absence du bleu dans le code des marques discriminatoires - comme du reste dans le code des couleurs liturgiques - est en tout cas un document éloquent sur le peu d'intérêt porté à cette couleur par les codes sociaux et les systèmes de valeurs antérieurs au XIIIe siècle».
[37] PASTOUREAU 2000, p. 96.

particular *cirani*, purple, and *karmir*, red, as in many scriptural verses and in a passage of P'awstos Buzand detailing the sumptuous gifts bestowed on the Armenian Arsacids and on the commander in chief Manuēl Mamikonean by the King of Persia Šapuh shortly before his death in 379. Among the other items of jewellery and clothing P'awstos mentions «a crimson pavilion, and the insignia of an eagle on top of it, and magnificent hangings and a sky blue canopy»[38]. Moreover, it is much likely that the joined use here of *kaputak* and *erknagoyn*, lit. blue sky-blue, is not fortuitous, rather it appears to be a clear allusion to the traditional blue robe studded with stars of the Persian Kings, symbolizing the «cosmic quality of the kingship»[39].

In some instances the Armenian words for «blue» refer to a physical injury or to a symptom of a disease affecting a human. There are medieval medical treatises describing the blue skin on a body, caused by the rupturing of underlying blood vessels with the consequent swelling of clotted blood. Thus, the physician Alēk'sianos says: «A man who falls down, or is heavily beaten and turns <black and> blue...»[40], while Amirdovlat' Amasiac'i, another physician of the 15th century, describes the features of an abnormal enlargement of a part of the body: «the swelling becomes hard and warm, and completely <black and> blue»[41]. However, the description of such symptoms occurs also in the works of Armenian historians and even in those of fabulists. This is the case of the description of a body covered in bruises, which «was <black and> blue from the blows of terrible tortures» in the *History of the Albanians* (final redaction: 10th century)[42]. In a passage relating the death of St Nersēs, Patriarch of Greater Armenia, P'awstos Buzand (5th century) says that the holy man had «a spot the size of a small loaf above his heart, which had turned blue», some time after drinking the poison offered to him by the Armenian King Pap[43]. This circumstance, as well as the blood spurting out from St Nersēs' mouth, led some scholars to attribute his death to the rupture of a pulmonary artery, rather than to poisoning, thus suggesting a natural death for the Saint[44]. On the other hand, in a fable of Vardan Aygec'i (12th-13th century) we read: «<he> beats <her> ribs and other parts <of her body> so much, that there is no place sound left»[45].

A body, or part of a body, may turn blue not only due to an injury or a disease, but also for other

[38] P'B V, 38: «šikakarmir xoran, ew i veray xoranin arcui nšan, ew srahaks mecamec ew kaputak erknagoyn hovanoc's».
[39] NIELSEN 1994, p. 17.
[40] Yerevan, Matenadaran, ms 8185, 61a: «Mard or vayr ənkni, kam xist cecen ew kaputi...», quoted in *MHB* 1, p. 384 *s.v. kaputil*). The manuscript was copied between the 16th and the 17th century, but Alēk'sianos' dates remain uncertain, cf. *HSH* 1, p. 161 *s.v. Alek'sianos bžišk.*
[41] *Ōgut bžšk.* 481 «uřēc'n xist tak' lini ew bolorn sew ew kaput», quoted in *MHB* 1, p. 384 *s.v. kaput.*
[42] MK 1, 22: «kaputakac'eal ēr haruacovk' ahagin tanǰanac'n».
[43] P'B V, 24: «i veray srtin... kaputakeal k'an zč'ap' nkanaki mioy».
[44] GARSOÏAN 1987, p. 318, nt. 7.
[45] Vardan, p. 162: «ew aynč'ap' cecē i kołsn ew ayl tełik'n, or oǰ teł č'i mnay».

reasons. For instance, according to Grigoris (13th century), physician of the Cilician school, «the whole body assumes the colour of the egg-plant and turns blue» immediately after a poisonous bite[46], while Amirdovlat' proposes a remedy «useful for the nail turning blue due to the cold»[47]. A way to heal a black and blue eye is explained by Amirdovlat' in the same work, *Useless for the Ignorants*, a veritable encyclopaedia of medieval Armenian pharmacology: «And if the youth's eye turns blue, instil in it some drops of black-nightshade (*Solanum nigrum*)»[48]. Obviously, herbal medicine played a great role in ancient pharmacological knowledge, thus encyclopaedic works such as *Useless for the Ignorants* are thronged with descriptions of officinal herbs and their medical properties. One finds, for instance, the «*kaput susan*», lit. blue lily, a plant belonging to the genus Iris[49], and a seed which is «similar to the seed of parsley, and it is hard, bitter and blue coloured»[50].

The whooping cough bears the curious Armenian name of *kapoyt haz*, blue cough, which is exactly the name given to it in some German regions[51]. This designation is due to a cyanosis resulting from a reduced intake of breath causing apnoea as a consequence of the severe hacking cough typical of this disease.

Colours are often employed in relation to gemstones, either when they are referred to occasionally or when their origin and characteristics are described in scientific treatises. Agat'angełos, for instance, recalls Moses' divine vision of *Exod.* 24, and says that he «observed clearly the footstool, blue, like a precious stone, like a plinth, pure clear azure, in order to recall the work of clay and sea...»[52]. As already noticed elsewhere in Armenian tradition, the blue colour here evokes that of the sea and it is compared to pure, clear azure (*erknagoyn*), the colour of the sky (*erkin*). Notwithstanding the differences in wording, the underlying scriptural passage makes it clear that blue is here the colour of a precious stone, which may be either sapphire or lapis lazuli[53]. In the Zōhrapean edition of the Armenian Bible, in fact, we read: «And they saw the place where the God of Israel stood; and under his feet was as it were a work of sapphire slabs, and as it were the appearance of the firmament of heaven in its purity»[54].

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[46] Grigoris, p. 50: «amēn marminn patənǰani goyn aṙnē ew kaput goyn».
[47] *Angitac' anpēt* 298: «Ōgtē əłnkan kaputnalun, or i c'rtē lini», quoted in *MHB* 1, p. 384 *s.v. kaputnal.*
[48] *Angitac' anpēt* 67: «Ew t'ē tłan kaputač'vi lini, k'ič' mn šnxałoł ǰur i yač'k'n kat'ec'ur», quoted in *MHB* 1, p. 384 *s.v. kaputač'vi.*
[49] *Angitac' anpēt* 52, quoted in *MHB* 1, p. 384 *s.v. kaput.*
[50] *Angitac' anpēt* 26: «nman ē k'arōsi hndin, ew xist leł ē, ew kaputgun», quoted in *MHB* 1, p. 384 *s.v. kaputgun.*
[51] NOËL - CARPENTIER 1827, p. 283: «Dans quelques contrées de l'Allemagne on l'appelle (= la coqueluche) *toux bleue*, à cause de la coloration de la face pendant l'accès».
[52] Agat'. ch. 29 (= THOMSON 2001, p. 84 § 308): «ystakagoyns nkateal ew zpatuandan otic'n, kaputakajew akanakerp ałiwsanman, zut erknagoyn ǰinǰ, aṙ i višec'uc'anel zgorc kawoyn ew zcovun».
[53] PASTOUREAU 2000, p. 21.
[54] *Exod.* 24:10: «Ew tesin ztełin ur kayr Astuac Israyēli; ew ənd otiwk' nora ibrew zgorcac ałiwsoy šap'iłay; ew ibrew ztesil hastatut'ean erknic' srbut'eamb».

The sapphire (*saberun* = *šapʻiłʔ*), lapis lazuli (*lazuard* and *xažurʔ*) and jacinth (*yakund*) are associated with blue in the 7th century scientist Anania Širakacʻi's work *On Precious Stones*, although about *yakund* Širakacʻi wrote: «it is of many colours, blue, and purple, and purplish-blue, having various names and colours»[55]. We find the lapis lazuli once more in the final chapters of the already mentioned *History* of Ařakʻel Dawrižecʻi, where the historian writes on the «Names and qualities of precious stones». This section of Ařakʻel's work is based on the information provided by Sargis, an Armenian priest living in Aleppo, dealer and expert in precious stones, proficient in Arabic, Ottoman Turkish, French, Greek and Hebrew. The outcome is - as Brosset puts it - a «vrai hors-d'œuvre, dans toute la force du mot, est rédigé dans un abominable patois arménien de Syrie et Dieu sait d'où, car il est composé de trois pièces rapportées, et émaillé de plus de 200 mots arabes, turks et autres»[56]. Among the other stones, Ařakʻel deals with lapis lazuli, from which ultramarine, a bright blue pigment used by Armenian artists, was derived. Ařakʻel provides information on the characteristics of lapis lazuli, on the places where it was mined and on its trade in the mid 17th century in two distinct paragraphs of his work. In the first of them, there seems to be a confusion between lapis lazuli and another stone, probably turquoise (*gočazm*)[57]. «*Gočazm*, i.e. *lazuart* (lapis lazuli) - writes Ařakʻel - has a sky blue colour, and the best one is that not veined nor white flecked, and the colour of which does not change in the fire, that which has golden patches, and if you throw the lapis lazuli in aqua fortis (nitric acid), it turns immediately white, like snow. The Franks are willing to buy it[58]. It is <cut out> in great pieces, and a piece is rated at a thousand dram. In the year 1100 (= 1650) a piece of six hundred dram was sold in Aleppo for fifteen rials, and in the past it was sold for forty rials. It comes from among the Uzbeks»[59]. The second paragraph, on the other hand, deals surely with lapis lazuli, but it does not mention the colour of the stone: «The mine of lapis lazuli is in Palašxan (= Badakshan), in Kʻaš there is also <lapis lazuli>, but it is fake, all the <lapis lazuli> used in the houses is from Kʻaš. At Šamišayd there is a black stone, they grind it, take it and sell it, but it is not fire-resistant. The <lapis lazuli> of Palašxan lies in the fire for ten days, it doesn't spoil, for it is a jewel. So, be aware that the true <lapis lazuli> has a soft and white shell like an egg. Hundred *msxal*-s[60] are worth twenty-five florins, raw <lapis lazuli> is also *vaslay vaslay*

[55] *Yałags akancʻ* ch. 22: «bazmagoyn ē kaputakagoyn ew ciranegoyn ew covagoyn; unelov pēspēs anuns ew goyns».
[56] BROSSET 1874, p. 542, nt. 3.
[57] On a possible etymology of this word, see PAGLIARO 1955, pp. 156-157.
[58] This sentence is quite obscure. I follow the French translation: BROSSET 1874, p. 544, n. X.
[59] Ařakʻ. Dawr., ch. 53: «Gočazmn, or ē lazuart erknicʻ gunovn ē kapoyt, ew lawn ayn ē, or tamarot ew spitak čʻi lini, ew i krakn zgoynn čʻpʻoxē, ew oski nōłtaner unenay, ew tʻē i tʻēzapi ĵurn jges zlazuartn na noyn žamn spitaki ew lini orpēs zjiwn; ew i fřankn małpul ē; ew mec mec ktor lini; ew hazar dram ktor tesi; ew vecʻ hariwr dramn i ŔČ; tʻuin caxuecʻaw i Halap, tasn ew hing řial; ew yařaĵmē kʻařasun řial ēr caxuer; yŌzbekēn kugay».
[60] *Msxal* = *mtʻxal*, unit of mass equal to 1.5-4.8 grams, cf. *MHB* 2, pp. 156 and 132.

(?); if hundred *msxal*-s are washed, there remain twenty-five *masxal*-s; those who are skilled at washing it, make a good profit, the unwashed <lapis lazuli> is like that of K'aš, the fire distinguishes the fake <lapis lazuli> from that of Palašxan. It is useful for the eyes, it maintains its quality like antimony, it is useful for *činar* disease and it is effective in the treatment of lumbago»[61].

The word *kapoyt* and derivates are employed in numerous place names[62]. Ancient Armenian sources mention for instance a «Blue Mountain»[63], where there was a large fortress, called «Blue castle». There King Smbat Bagratuni was captured by the ruler of Azerbaijan Yusup' around 913[64], and it seems to be the same fortress where the blessed cross of Saint Nunē (Nino) was kept before being moved to Vanand and renamed «Cross of Vanand», according to Vardan Arewelc'i (13th century)[65]. There is evidence in later writers suggesting that the mountain and the castle were in Erasxajor (the valley of the Araxes), in the province of Aršarunik'. The name of the fortress is probably derived from that of the mountain[66]. The colour blue applied to a mountain is not surprising in itself. If we look to a mountain from far away it does look something in between blue and ash-grey, as many landscapes in Italian Renaissance paintings can testify. A monastery called *Kaputk'ar*, of the blue stone, is said to have been built at the time of King Abas (928-952/3) in the same region, not far from the castle[67]. Nevertheless, it seems difficult to derive the name of the monastery from that of the mountain and the castle, it might rather come from the colour of the stones it is made of. This is the case, for instance, of the *Kaptavank'*, Blue Monastery, in the Tavuš region (9th-10th or 12th century), primarily built of roughly trimmed bluish limestone[68]. Likewise, according to Vardan Arewelc'i (13th century) in the monastery of Teł̄er (13th century), in the province of Aštarak, there was a church dedicated to the *Surb Nšan* (Holy Sign, i.e. Cross) bearing the epithet *lrĵakaputak*, light blue, most likely for the same reason, since the monastery was made of dark grey basalt[69].

Moreover, *Kapoyt* is the name of some villages and fortified places, like the one in the province of

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61 Ařak'. Dawr., ch. 54: «Laĵvardi k'ann i Palašxann ē, i K'aš ēl ku lini, amay amali ē, inč' or i tnern ku banin K'aši ē; i Šamišayd sewagoyn k'ar mi kay, słken u beren caxen, krakēn i durs č'elnay. Palašxin Ž ōr i krakn kenay, č'i awerir, zēray ĵōhar ē; hanc' imac'ir, or ałēkn k'anc' hawkit' kełew uni spitak ew kakuł; Č msxaln IE, flōri aržē; xamn ēl vaslay vaslay ku lini; Č msxal luanan IE msxal kelnay; ov gitē, luanay, šat šah uni, anluayn k'anc' K'aši ē, amalin u palašxin krakn gitē; ač'ac' ałēk ē k'anc' carir k'ašeln yistak pahē; činar c'awi ałēk ē; miĵac'awi i t'ark'ip jgē».

62 HÜBSCHMANN 1904, pp. 438-439; *HŠTB* 2, pp. 951-956.

63 Ełišē 6, p. 125.

64 Arcruni 4, 3, p. 285; Yov. Drasx., ch. 48; Mxit'. Anec'i (*yaweluac).*

65 *Hawak'umn* 64 p. 111.

66 *HŠTB* 2, p. 954 *s.v. Kapoyt (ler).*

67 Kirakos Ganj., ch. 1; Samuēl Anec'i, p. 99 under the year 931; *HŠTB* 2, p. 955 *s.v. Kaputak'ar (vank').*

68 *HŠTB* 2, p. 951 *s.v. Kaptavank'*. For the earlier dating of the monastery, cf. CUNEO 1988, p. 329, n. 161.

69 *Ašxarh.*, pp. 27-28, ll. 40-41: «ew Teł̄eru vank'n ur kay lrĵakaputak surb Nšann» («and the Monastery of Teł̄er, where there is the light blue Saint Nšan»).

Siwnik' referred to by Ełišē in connection with the wars between Armenians and Persians in the 5th century[70].

Not surprisingly, *kapoyt* and derivates enter in the formation of a number of proper names of lakes and rivers, the most interesting of which is perhaps the «the small sea (= lake) called the Blue (*Kaputan*)»[71], located in Media by the Armenian Geography of the 7th century and identified with present-day Lake Urmia in north-western Iran, close to Turkey. Strabo calls it Matianē, explaining this name as «blue»[72]. Actually, the name Matianē seems to be related with that of the Mannaeans, Biblical Minni, who once dwelled south-east to the lake. The etymology tentatively proposed by Lasserre from «l'arménien *m'tin* (*sic*), sombre, qui serait alors synonime de l'arménien *kapoyt*, bleu, origine du nom de Kaputan»[73], though captivating, seems to be less probable. Blue is the meaning of the other name of the lake known to Strabo, i.e. Spauta[74], a probable corruption for *Kapauta. The presence of the Old Persian diphthong *au* in Spauta/*Kapauta suggests that this word is not derived from the Armenian name of the lake, as Hewsen[75] and Traina[76] erroneously believe, but from its Persian denomination.

On a figurative level, blue seems to be connected with the idea of envy and jealousy. At my knowledge, the first occurrence of this metaphorical use of blue colour is found in a most celebrated page of Ełišē (5th century), where the author pays tribute to the bravery and virtues of Armenian women after their husbands' supreme sacrifice on the battlefield. Speaking of their spiritual strength, Ełišē says that «by holy love they cleansed the blue colour of jealousy»[77]. Some centuries later, Yovhannēs Drasxanakertc'i (9th-10th century) employs exactly the same words to describe the spiritual firmness displayed by the Christians martyred by Yusup' at the time of King Gagik (908-937). According to Yovhannēs, Christ blessed the martyrs with divine strength so that they «could cleanse the blue colour of jealousy of <their> adversary»[78]. The use of the same expression in two contexts eulogizing the moral superiority of Christian believers oppressed by the infidel foe may suggest the existence in ancient Armenian of the metaphorical formula «to cleanse the blue colour of jealousy», which recalls the analogous idioms in French ("bleu d'envie") and Italian ("livido d'invidia").

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70 Ełišē 3, p. 69.
71 *AŠX* S, p. 352, l. 14: «zcovakn, or koč'i Kaputan». Trans. by HEWSEN 1992, p. 72A.
72 Str., 11.14.8 (C 529): «ἡ Ματιανή, κυανῆ ἑρμηνευθεῖσα».
73 See Str., 11.14.8, p. 125, nt. 1.
74 Str., 11.13.2 (C 523): «Λίμνην δ' ἔχει τὴν Σπαῦταν...». Cf. HÜBSCHMANN 1904. p. 439 and HERZFELD 1939, pp. 231-232.
75 HEWSEN 1992:, pp. 65-66, nt. 197A.
76 NICOLAI - TRAINA 2000, p. 405.
77 Ełišē, p. 202: «surb sirov luac'in zkaputak nerkuacs naxanjun».
78 Yov. Drasx., ch. 51: «luasc'en zkaputak nerkuacs naxanju hakaŕakordin».

In the Armenian tradition, blue has also to do with bitter feelings and sorrow, at least according to a passage of Grigor Tatʻewacʻi (14th-15th century): «the heart grows bitter and filled with sorrow, and makes the face hazy, and it turns yellow and blue»[79]. A negative nuance in the meaning of the word blue may be recognized in the *Lament of Edessa* by Nersēs Šnorhali (12th century), where the adjective *kaputak* is applied to the word *mrur*, lees: «And <God> will give to drink the bitter cup/ to him, who cruelly made me drink,/ the last bluish lees/ he will make him drink from an equal cup»[80]. In this case *kaputak* maintains its literal sense, referring to the dark colour of the sediment of wine, but it goes without saying that the metaphorical value of the word lees switches it to a symbolic level.

Other Armenian literary testimonies are concerned with colours as means of artistic expression. Of particular interest are the reflections in late 14th century of Grigor Tatʻewacʻi, who was not only the greatest thinker of his time, but also a renowned miniaturist. Tatʻewacʻi's *Book of Questions* (1389), a treatise covering many fields of knowledge, touches upon the author's aesthetic views, his concept of art and problems on Christian symbolism in art[81]. Tatʻewacʻi considers colour to be one of the objects' fundamental properties and a mean for expressing their shape. According to Tatʻewacʻi, «the natural kind of colours are four: the black of the earth, the white of the water, the red of the air, the yellow of the fire. And the other different colours are a result of their mixture. Blue, grey, and so on»[82]. Elsewhere Tatʻewacʻi wrote about the symbolic meaning of colours: «prudence is the royal purple, good judgement is deep red; red is courage and martyrdom, blue is heavenly justice»[83].

Such a mystical understanding of colours is well attested in the interpretations of the canon tables by a number of Armenian savants. Canon tables (Arm. *xoran*), usually placed at the start of the Gospels, are a synopsis of the so-called Eusebian sections, i.e. a division of the four Gospels text in use before the splitting of the Scriptures into chapters and verses. They were often illuminated with figures of birds and plants and decorated with various colours. According to a folk etymology proposed by Nersēs Šnorhali (12th century) and based on the comparison of *xoran* - from Parthian «dining hall» - and the unrelated word *xorhurd*, mystery, canon tables «are called *xoran*-s because they are all mysterious and

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79 *Girkʻ kʻarozutʻean*, 389: «daṙnanay ew kskci sirtn ew buxarn tay yeresn, ew dełni ew kaputi», quoted in *MHB* 1, p. 384 *s.v. kaputil*.

80 *Ołb*, p. 127, vv. 950-953: «Ew tay əmpel daṙnačašak/aynm, or arboycʻ inj dżndak,/Zverǰin mrurn kaputak/ arbucʻanē nmin bažak». Trans. by VAN LINT 1999, p. 100.

81 HAKOBYAN 1973, pp. 105-113; MIRZOYAN 1987.

82 *Girkʻ harcʻmancʻ*, p. 212: «Bnakan orak gunocʻ čʻors en. Erkri sewutʻiwnn. J̌royn spitakn. Ōdoyn karmirn. Hroyn dełinn. Ew i socʻa xaṙnuacocʻn linin ayl zanazan goynkʻ. Kapoyt, goš ew ayln». Cf. HAKOBYAN 1973, pp. 110-111.

83 Yerevan, Matenadaran, ms 1116, fol. 71a: «xohemutʻiwn, tʻagaworakan ciranin; ołǰaxohutʻiwn, behez; karmir, ariutʻiwn ew martirosutʻiwn, kapoytn ē erknawor ardarutʻiwn», quoted by HAKOBYAN 1973, p. 111. *Behez*, litt. byssus, means here *behezagoyn* "having the colour of byssus", for the translation "deep red" cf. *MHB* 1, p. 120 *s.v. behezagoyn*.

mystery is not apparent to everybody, but to few people, and in its entirety only to God»[84]. That is the reason why they require a careful interpretation of their allegorical meaning. Thus, the interpreters commented on every single aspect of their decoration, including colours. For instance, Nersēs Šnorhali says that in the *xoran*-s there are «four kind of colour: red and green, black and blue, and apart from these four colours there is purple»[85]. Blue is found in the fourth, seventh, eighth and ninth *xoran*. «The fourth *xoran* represents Paradise, since the four elements combining to originate it (Paradise) appear allegorically in the four columns <of the *xoran*>. And the colour is blue and black. In fact, the brightness of Paradise disappeared from Adam and his sons...»[86]. Although representing Paradise, blue and black are here associated with a lost Paradise and recall the gloomy condition of humanity after Adam's Fall and the consequent loss of the brightness of God's glory. This is made even clearer by Nersēs' interpretation of the tenth *xoran*, which symbolizes the fullness of the Church, a kind of regaining the paradisiacal status through Christ's sacrifice: «the tenth *xoran* is more ornamented and graceful and bright, it is red with pink hues, while black and blue come to an end, since the ancient darkness of sin and ignorance, of grief and sorrow faded away and everything became new, being dyed with the blood of Christ...»[87]. An analogous belief is foreshadowed by the ninth *xoran*, which «signifies the temple, therefore it is more ornamented with colours, so black and blue diminished and red grew brighter, because the coming of the Emmanuel was approaching...»[88]. In spite of that, blue is found also in the seventh and eighth *xoran*-s, which are interpreted as allegorizing the Tabernacle of Moses, where the Ark of the Covenant containing the Ten Commandments was sheltered during the Exodus. Thus, «the blue columns, having a spiral shape and five orders of decoration, which represent the Laws being divided into two sets of five, are the pillars of the people, so that they will not slip into the mistake of violating the commandments»[89]. There is a strong connection between blue and the building of the Tabernacle in the Bible, where this colour is mentioned several times in the chapters of Exodus dealing

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[84] *Meknut'iwn*, p. 275: «Ew xorank' asin, k'anzi xorhrdakank' en amenek'ean ew xorhurdn oč' ē amenec'unc' yaytni, ayl sakawuc', ew bovandakn Astucoy miayn». Another folk etymology derives *xoran* from *xor* "profound", see RUSSELL 1996, p. 29. An Italian translation of this text is now being prepared by Prof. A. Sirinian, who kindly brought Nersēs' work to my attention.

[85] *Ibidem*: «č'ork' erang gunoc': karmir ew kanač', seaw ew kapoyt, ew mi ařanjinn cirani, zat i č'oric's».

[86] *Meknut'iwn*, p. 278: «Ew xorann č'orord zdraxtn tpaworē, k'anzi i č'oric' seanc' kay zgali tarerk's, ařakelov, or i č'oric' ē xařnuac. Ew ē goynn kapoyt ew seaw. K'anzi anyaytac'aw Adamay ew ordwoc' nora paycařut'iwn draxtin...».

[87] *Meknut'iwn*, p. 291: «ařawel zardarun ew šnorhašuk' ew paycař ē tasnerord xorans, vardagoyn nerkuacov karmrut'eamb, spařeal sewun ew kaputakin, zi hinn ēanc' xawarn mełac' ew angitut'ean, sgoy ew txrut'ean, ew amenayn inč' nor ełew areambn K'ristosi nerkeal».

[88] *Meknut'iwn*, p. 286: «ztačarn nšanakē, əst orum ařawel zardarun ē erangawk', k'anzi seawn ew kaputakn nuazeac' ew karmirn paycařac'aw, zi merj ekn galustn Ēmmanuēli...».

[89] *Meknut'iwn*, p. 282: «siwnk'n kapoytk', xařxařotk', hing masambk' zardarealk', zAwrēns nkaragrelov, or yerkus hngeaks bažani, nec'uk ełeal žołovrdeann, zi mi diwraglork' linic'in i sxalans patuirazanc'ut'ean».

with God's instructions to Moses for the construction of his sanctuary[90]. Besides, the spiral columns described by Nersēs recall the so-called Solomonic column, a peculiar shaft style traditionally derived from the biblical description of Boaz and Jachin, i.e. the two columns standing in the porch of Solomon's Temple[91]. According to the Bible, the two columns have to do with covenant and commandments. In fact, King Solomon «stood by the pillar and made a covenant before the Lord, to walk after the Lord, and to keep His commandments and His testimonies and His statutes with all his soul, to carry out the words of this covenant that were written in this book. And all the people entered into the covenant»[92]. What's more, Solomon's Temple, the first temple of Jerusalem, replaced and incorporated the very Tabernacle of Moses and its construction followed the outlines of the Tabernacle.

What Nersēs called simply *kapoyt/kaputak*, blue, in his commentary on the canon tables, was actually a colour that Armenian miniaturists obtained from different pigments both mineral - such as ultramarine, produced from a semi-precious stone called lapis lazuli, azurite, obtained from a copper mineral, and smalt, a powdered glass coloured with cobalt - and organic, such as indigo, produced from a variety of plants, in particular those in the genus Indigofera. Several pieces of information about pigments can be gleaned from literary sources, although the most reliable data come from the direct analysis of ancient paintings.

In a tract on the defence of images attributed to Vrt'anēs K'ert'oł (7th century), one of the arguments in favour of the images is the fact that the pigments used by the artists are neither wicked nor unworthy of the sacred subjects of the paintings. Quite the contrary, they can serve either as food or medicament. Vrt'anēs gives a brief list of ingredients: milk, eggs, orpiment (*zaṙik*), lapis lazuli (*lažuard*), verdigris (*žangaṙ*), gypsum (*buṙ*) and lime (*kir*)[93]. Discussion of pigments in use in Armenia has taken into great consideration this passage together with some post-medieval texts containing recipes for making colours.

An early 16th century manuscript copied from a 15th century codex, for instance, gives advice to the painters on how to mix together the pigments in order to obtain various colours: light purple consists of a mixture of lapis lazuli and red, while dark purple derives from indigo and red, light green is the result of a mixture of lapis lazuli and yellow, whereas dark green is achieved from indigo and yellow. Besides, according to the author of the manuscript the use of indigo together with lapis lazuli in

[90] *Exod.* 25-28.
[91] *1 Kgs* 7:13-22, 41-42. On the cosmological and theological implications of the structure of Solomon's Temple and of the Solomonic columns in particular, see TUZI 2002.
[92] *2 Kgs* 23:3. Cf. *2 Kgs* 11:14-17.
[93] Vrt'anēs, p. 499. Cf. DER NERSESSIAN 1973, p. 387.

painting garments makes the hue lighter. Furthermore, the tract supplies instructions for preparing lapis lazuli pigment. First of all the mineral has to be added to water of gum arabic, washed with salted water and dried. Then, it is blended with virgin honey and washed with water[94]. This seems to be the older and less effective method of extracting the pigment, which consists simply of washing the mineral with water, sometimes adding other substances such as honey, gum or vinegar. However, «unless the mineral is of very high quality, simple grinding and washing, as carried out for the preparation of other mineral pigments (for example, azurite), produces only pale greyish-blue powder lacking in purity and depth of colour»[95]. From the beginning of the 13th century onwards a new method of extraction came into use, which is described in the sources from the 14th century onwards. «The principle of the method was that ground mineral was incorporated into a mixture of melted wax, resins and oils (a multiplicity of ingredients appearing to be regarded as beneficial) and the molten mass, usually wrapped in a cloth, kneaded under a dilute solution of lye (a solution of potassium carbonate prepared by extracting wood ashes water). Blue particles of lazurite are washed out by this process and are collected by settling at the bottom of the vessel, while most of the colourless crystalline material and other impurities remain behind in the doughy mass»[96].

A short Armenian document on the production of colours is an undated one folio manuscript published in 1895[97]. There we read that a green hue was mixed from orpiment (*zařik*) and indigo (*lełak*), while a mixture of green (*kanač'*), lapis lazuli (*lazvard*) and lead white (*spitač*) gives a particular greenish hue called by the Armenian author *č'ini*, a word explained by Macler as «la teinte blanc-vert des faïences de *Chine*» and translated as «[couleur de] faïence»[98]. According to the author, a ruby (*lal*) purplish-rose hue was obtained from indigo: «peel the madder <root> and grind it accurately. Boil it in red wine vigorously, add indigo, strain it and add gum arabic»[99]. Another document, probably going back to the 17th or 18th century, focuses on the decoration and illumination of manuscripts by means of gold and other pigments[100]. Among the different colours that can be used with gold the author mentions blue (*kaput*), which is obtained from a mixture of lapis lazuli (*lačvard*) and lead white. Moreover, according to the author shadows on a blue (*kaput*) undercoat should be painted with a lapis lazuli (*lačuvard*) pigment,

94 Cod. Paris. arm. 186, fol. 216 v., edited in the Armenian review *Anahit* (1911), pp. 130-132 (*non vidi*), and translated into French by MACLER 1924, pp. 13-16.
95 PLESTERS 1966, p. 63.
96 *Ibidem.*
97 *Goyneru baładrut'iwnn* 1895, p. 87. Fr. trans. by MACLER 1924, pp. 17-18.
98 MACLER 1924, p. 18.
99 *Goyneru baładrut'iwnn* 1895, p. 87: «Ztawrun kełewē ew ałay law ew karmir ginov ep'ē k'aĵ, lełak xařnē k'amē kŕēz ark ew grē».
100 *Goyneru baładrut'ean* 1895, pp. 316-319. Fr. trans. by MACLER 1924, pp. 18-22.

while those on a green undercoat are better rendered using indigo. Indigo is mentioned several times in this short text. For instance, adding ginger (*zənǰufr*) to indigo yields purple and red, whereas light blue (*lurǰ*) is obtained from a fermentation of Arabian indigo (*tačik leław*) with logwood (*ordayn pʻayt*), and the bluish-green hue of verdigris (*žankaṙ*) is mixed from orpiment (*zaṙēk*) and indigo. The document ends with a couple of recipes for washing lapis lazuli (*lačivard*): «First of all, put it in a mortar and grind it to a fine powder. Then, plunge white mouth glue into water. Warm it up, skim it, and let it rest. Then, sprinkle it with vinegar, so that it can rest and dry. Then, strain virgin honey through a piece of fabric and pour it down. Crumble it well in a china pot. Put it on a marble slab with the honey and crumble it again. Then put it in a china pot, pour water on it and beat it by hand. Let it rest, clarify and release water. Then pour over it copper sulphate mixed with water. Beat it again and when you will wash it, it will be cleansed and clarified. The operation is over. — Take some pomegranate water and wash lapis lazuli with lye water leached from oak ashes. Pour it into a vessel, add the pomegranate water, pour over it the lye water clarified from the ash, and let it rest. Then crumble it with gum arabic, wash it with warm water, then grind it, put it in a small china pot and wash it accurately»[101].

A research carried out between the end of the 70s and the 80s of last century has evidenced the relation of these literary sources on pigments to the actual practice of medieval Armenian painters from the 10th to the 16th century, providing as complete a description as possible of the artists' palette[102]. The researchers chose to start their investigation on pigments used in the Middle Ages from Armenian illuminated manuscripts, not just because of their artistic interest, but because they are dated and located by colophons in a much larger percentage than, for instance, the Byzantine material, thus offering a greater chance of establishing chronological and geographical distribution patterns. The pigments of Armenian manuscripts were analysed and identified through the conventional techniques of small particle analysis, including polarized light microscopy, x-ray diffraction, infra-red spectroscopy, and various chemical tests. This kind of analysis involved taking small particles samples of pigments from the manuscript in a non-destructive way. In the majority of cases samples were taken not from the miniatures themselves, but from the smudges of pigment offset from the illuminated pages onto

[101] *Goyneru baładrutʻean* 1895, p. 319: «Aṙ aǰn ac i hawann ew cecē law mantrē, apa zspitak sosinjn, i tʻurǰac ē, takʻcʻu ew zpʻrpʻurn, hetēn, aṙ apay dir, i vayr or nsti, apa zkʻacʻaxn kʻamecʻu, i mēǰn or nsti cʻamkʻi, apa zcor mełrn, kʻamē ktawov ew ac i vayr, ew law trorē apiki aman han i veray marmaṙ salin, ayn mełrovn, ew ayl, ałay law, ew han, apiki pnak, ew ǰur ac, ew jeṙōkʻd zark, ew tʻoł or nsti ew xotaki, ew zǰurn kʻamē apa zpaxru lełin ǰrov, i veray ac ew aynov or ayl zark ew erb, or aynovn ayl luanas istaki, ew parzanay, včarecʻō. — Aṙ znṙan ǰurn or tʻlinay (?), ew zlačuvardn kałni ǰrovn luay apay licʻ aman hēt znṙan ǰurn, jer tur, ew i moxri, parzē ǰrēn i veray ac ew tʻoł or istaki, apa samłov trorē takʻ ǰrov, apay ałay yaṙaǰ i pʻokʻr, apiki aman han, ew luay kʻaǰ».

[102] MATHEWS 1981; ORNA - MATHEWS 1981; CABELLI - MATHEWS 1982; CABELLI - MATHEWS 1984; CABELLI - ORNA - MATHEWS 1984; ORNA - MATHEWS 1988; MATHEWS - SANJIAN 1991, pp. 48-51.

the facing ones, in other cases they were removed from borders or from already damaged areas of the miniatures[103]. The small size of the samples, virtually invisible to the naked eye, constituted a limitation to the effectiveness of the analysis, since «while inorganic crystalline compounds are quite amenable to identification in microscopically small particles, the more complex organic compounds are more difficult to pinpoint without sizeable quantities of pigment»[104]. This means, for instance, that the identification of indigo with the organic blue pigment recognized on many miniatures is rather assumed than unambiguously demonstrated by chemical identification.

Analysing seven manuscripts and fragments of manuscripts from the 10th and 11th century, it has been possible to divide them into two groups on the basis of the pigments that were identified in them[105].

A group of four manuscripts[106], called the Bagratid tradition, has a more extensive palette, to which ultramarine is essential. All the blues are ultramarine, though ranging in quality from the poor grade of the Baltimore Gospel to the very good ultramarine of the Jerusalem Gospel fragment. Beside the low quality of the pigment, blue is used very sparingly in the Baltimore Gospel, which is considered to be the second oldest (966) illuminated codex among dated Armenian manuscripts. The greens of the Baltimore Gospel and of the Jerusalem Gospel (ms. 2556) are mixed from orpiment and an organic blue, while the green of the Jerusalem Gospel (ms. 2555) remains unidentified, although microscopy excludes its being a mixture of yellow with some blue, whether ultramarine, azurite or an organic blue. As for the green of the Jerusalem Gospel fragment, it could not be analysed due to the almost perfect preservation of the document that made it impossible to take pigment samples. Finally, the purple of the Jerusalem Gospel (ms. 2556) is a mixture of orpiment and the organic blue used in the green of the same manuscript, which perhaps is indigo. The researchers note that the mineral pigments of the Bagratid tradition «were all known from Antiquity, and this may be the palette that Vrt'anēs K'ert'oł was familiar with around the start of the seventh century... Although verdigris has not turned up in the tenth and eleventh century manuscripts (nor in the later manuscripts we have examined so far), orpiment and ultramarine are essential to the palette»[107] of the Bagratid tradition, which lived on in the most important phase in Armenian painting, that of the Armenian Kingdom in Cilicia (12th-14th

[103] The techniques involved in the experimental procedure and the methods of sample-taking are detailed in ORNA - MATHEWS 1981, pp. 59-62.
[104] CABELLI - MATHEWS 1982, p. 38.
[105] The results of this analysis are presented in CABELLI - MATHEWS 1982.
[106] Baltimore, Walters Art Gallery, ms. W.537 (Gospel, date: 966); Jerusalem, Patriarchate of St. James, ms. 2555 (Gospel, end 10th century); Jerusalem, Patriarchate of St. James, ms. 1949, fol. 390 (back fly-leaf) (Gospel Fragment, ca. 1000); Jerusalem, Patriarchate of St. James, ms. 2556 (Gospel, between 1045 and 1064).
[107] CABELLI - MATHEWS 1982, p. 41.

century).

The other group of manuscripts[108] associated with Melitene in the mid-11th century shows a decrease in the variety of pigments being used and a larger use of organic pigments, which are poorly prepared with very uneven hiding power. The blues are obtained from an organic blue pigment, while the greens consist of a mixture of this organic blue with orpiment. The result is a dull dark blue, which is almost black, and a green with weak intensity or a dull olive green, when it is stronger. The inorganic pigments were mined in Armenia itself, or prepared from simple chemical compounds, while the organic ones seem to be obtained from the local flora, though they cannot be identified through chemical analysis for the above-mentioned reasons. The researchers attribute this impoverished palette to the breakdown in the trade routes of Greater Armenia as a consequence of the turmoil following the incursions of the Turks and the aggressive policies of Byzantium in mid-11th century: «The loss of ultramarine, for which the Melitene artists were finding poor substitutes in organic purple and organic blue, must have been one of the many shortages caused by the disruption of commerce; the ultimate source of ultramarine lay in the lapis lazuli mines of Badakshan in Afghanistan which was now in Seljuk control»[109].

The Cilician manuscripts considered in the frame of the research were executed between the second half of the 13th century and the mid 14th century. The three older manuscripts come from the important scriptorium of Hṙomkla, which was seat of the Armenian Catholicos till the end of the 13th century[110], while the fourth was executed at Sis, the capital of the Armenian Kingdom in Cilicia[111]. Chemical analysis reveals the use not only of the same range of pigments but even of the same pigment combinations in mixtures. The blues are ultramarine, the greens a mixture of orpiment and organic blue, or organic yellow and ultramarine, while the purples are obtained from vermilion, ultramarine, and organic red or from vermilion, organic blue and organic red. The palette emerging for miniatures in the Cilician period is «what one might call the typical Armenian palette comprising vermilion, a red lake, ultramarine, orpiment, lead white, charcoal black and gold, but with the notable absence of green pigments»[112]. This palette had a normative effect on the subsequent Armenian painting and was

[108] Washington, Freer Gallery of Art, ms. 33.5, 47.2-4 (Gospel Fragment, mid-11th century); New York, Pierpont Morgan Library, ms. 789 (Gospel Fragment, mid-11th century?); Jerusalem, Patriarchate of St. James, ms. 1924 (Gospel, between 1064 and 1066).
[109] CABELLI - MATHEWS 1982, pp. 40-41.
[110] Washington, Freer Gallery of Art, ms. 44.17 (Gospels; illustrated by Yohannēs, dated 1253); Washington, Freer Gallery of Art, ms. 32.18 (Gospels; attributed to T'oros Roslin, dated c. 1260); Baltimore, Walters Art Gallery, ms. W.539 (Gospels; illustrated by T'oros Roslin and his workshop in 1262). The results of this analysis are published in CABELLI - MATHEWS 1982 and CABELLI - ORNA - MATHEWS 1984.
[111] New York, Pierpont Morgan Library, ms. M.622 (menologium, illustrated by Sargis Pijak, dated 1348).
[112] MATHEWS 1981, 3.2 (page unnumbered).

borrowed outside Cilicia.

Azurite was added to the canonical Cilician palette in Northern and Eastern Armenia during the Mongol occupation (13th-14th century). The case of the Glajor Gospel, a manuscript executed in the monastery of Glajor, in the Siwnik' region, around 1300 is emblematic[113]. It is one of the most lavishly illuminated Armenian codices, where the hands of five distinct painters working in two separate workshops have been recognized on stylistic bases. Pigment analysis shows discrepancies in the use of blue pigments between the two workshops and between the two painters of the first workshop. Thus, all the three artists of the second atelier used a very poor quality ultramarine, while the blue of the first painter of the first atelier was an ultramarine of the highest grade, and that of the second painter of the same atelier was azurite. This painter mixed his green from azurite and orpiment, whereas the other artists used ultramarine and orpiment, and one of the painters of the second workshop added gamboge to these two ingredients. Purple hues are used exclusively in the miniatures of the second workshop and are obtained by mixing red lake with ultramarine.

The standard painting techniques elaborated in the Cilician period were substantially accepted by the later artists of the region of Lake Van, despite the social and political upheaval in eastern Asia Minor during the 14th and 15th centuries. The analysis of three manuscripts from the region evidences that «though the Van manuscripts show less interest in the subtleties of mixed colors and prefer large areas of unmodulated hue, the overall coloristic effects are very similar to the earlier tradition»[114]. In fact, all three of these documents employed ultramarine for their blues, and a mixture of orpiment and organic blue for their greens. Moreover, the Gospels of The Walters Gallery (ms. W.540) and the *Ganjaran* of the Armenian Patriarchate of St. James got their purples from vermilion, organic blue and organic red. In the canon tables Xač'atur Xizanc'i, the painter of the Gospels of Baltimore (ms. W.543), used a blue pigment different from the ultramarine found in other parts of his work. Surprisingly, it is not azurite, which is well known to the artists working in the eastern provinces during the 14th century.

Rather it is smalt, which seems to be quite unfamiliar to the Armenian tradition, thus confirming Xač'atur's innovative use of pigments paralleled by his stylistic originality. What's more, «smalt is rare, and its find in Khatchatur is one of the three earliest known instances of its use, tending to confirm the

113 Los Angeles, University of California-Los Angeles, ms. 1. On this extraordinary document see MATHEWS - SANJIAN 1991.

114 CABELLI - MATHEWS 1982, p. 38. Cf. also CABELLI - ORNA - MATHEWS 1984, pp. 251-253. The three manuscripts are: Baltimore, Walters Art Gallery, ms. W.543 (Gospels, illustrated by Xač'atur Xizanc'i in 1455); Baltimore, Walters Art Gallery, ms. W.540 (Gospels, 1475); Jerusalem, Patriarchate of St. James, ms. 135 (*Ganjaran*, Treasury of Hymns, illustrated by Martiros Xizanc'i, 1575).

belief that it originated in Asia rather than Europe»[115]. Recent studies, in fact, reveal that smalt may have been produced in the Near East several centuries before the alleged European discovery attributed to a Bohemian glassmaker of the mid 16th century[116].

Apart from Xač'atur's innovation, the traditional, almost universal Armenian blue is ultramarine, as it is attested by literary sources and proved beyond any doubt by chemical analysis. As we have already noticed, the diffusion of ultramarine in Armenia is probably due to the relative proximity of the lapis lazuli mines of Badakshan in present-day Afghanistan. It was the collapse of the trade routes linking Armenia with the East, that forced the artists to turn to ultramarine of poorer quality or to other blue pigments, such as the organic blues widely employed in mixtures for achieving greens and purples, but less used to obtain blue hues. However, an extensive use of ultramarine among the Byzantine artists is reported to be emerging from the application of the small particle analysis to Byzantine manuscripts[117]. These data agree with the fact that ultramarine is the major blue pigment used in the wall-paintings of the Church of Hagia Sophia at Trebizond[118].

On the other hand, ultramarine has traditionally been associated with prohibitive cost and artistic prestige in Western Europe, where azurite was a far more common blue during all the Middle Ages[119]. Azurite seems to have been imported from Armenia in Antiquity, hence the name *lapis armenius* by which it was known. In the *Naturalis Historia*, in fact, Pliny says: «Armenia sends us the substance named after it Armenian. This also is a mineral that is dyed like malachite, and the best is that which most closely approximates to that substance, the colour partaking also of dark blue. Its price used to be rated at 300 sesterces per pound. A sand has been found all over the Spanish provinces that admits of similar preparation, and accordingly the price has dropped to as low as six denarii. It differs from dark blue by a light white glow which renders this blue colour thinner in comparison. It is only used in medicine to give nourishment to the hair, and especially the eyelashes»[120]. In spite of this testimony, the use of azurite has been found to be limited only to 14th century manuscripts.

As for the organic blue, in many instances it might be indigo, yet, as already stated, its identification remains tentative because of the small quantities of pigment available to the researchers.

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115 CABELLI - MATHEWS 1982, pp. 39.
116 CABELLI - ORNA - MATHEWS 1984, pp. 252.
117 ORNA - MATHEWS 1989.
118 PLESTERS 1968, pp. 225-234.
119 Cf. GETTENS - FITZHUGH 1966, pp. 54-56.
120 Plin., *Nat.* 35.47: «Armenia mittit quod eius nomine appellatur. Lapis est, hic quoque chrysocollae modo infectus, optimumque est quod maxime uicinum et communicato colore cum caeruleo. Solebant librae eius trecenis nummis taxari. Inventa per Hispanias harena est similem curam recipiens; itaque ad denarios senos uilitas rediit. distat a caeruleo candore modico, qui teneriorem hunc efficit colorem. Vsus in medicina ad pilos tantum alendos habet maximeque in palpebris» (English translation by H. Rackham, Loeb Classical Library). Cf. also the notes to this paragraph, p. 164.

Although Armenian artists preferred ultramarine, indigo was familiar to Near Eastern peoples, who imported it from Asia and Africa, long before the West knew of it. Greeks and Romans were acquainted with this dye coming from India (hence its Greek and Latin names: ἰνδικόν, *indicum*), and distinguished it from the woad in use among Celts and Germans. Woad is a plant living throughout Europe, in the leaves of which it is also located the chemical producing the blue dye (indigotine), though in small quantities. Thus, in Europe woad as a source for blue dye was eventually superseded by the indigo imported from the New World in the 17th and 18th century[121]. Anyway, Italian traders tried to introduce indigo into Western Europe already in the High Middle Ages: «on en trouve ainsi la trace à Venise dès le XIIe siècle, à Londres, Marseille, Gênes et Bruges au XIIIe»[122].

It is precisely in a 13th century Armenian document now kept in the State Archives of Genoa[123] that we find evidence of indigo being traded by the Genoese. The document at issue is a sort of commercial convention presented as a *privilegium* granted by the King of Cilician Armenia Leo (Lewon) III to the Republic of Genoa in 1288 and it is considered «(la pièce) la plus importante sans contredit pour l'histoire du commerce de la Petite Arménie»[124]. This agreement, in fact, established regulations in matter of ship-tolls, customs duties and taxes levied on the goods traded by the Genoese, disposition of assets on death and so on. In doing so, it details the products and manufactures traded by the Genoese in Armenia, and supplies information on the relations between Genoese merchants and inner Anatolia, by means of Armenian caravans linking the harbour of Ayas to the Guglag, the Cilician Gates of Antiquity. Among the merchandises transported between Ayas and Guglag one finds indigo: «and for the indigo and the spices - except for pepper, ginger, and brazilwood - and for all the rest they will give 25 new dram per camel-load, 29 new dram per mule-load and 26 new dram per donkey-load»[125].

Marco Bais
marbais@hotmail.com

121 PASTOUREAU 2000, pp. 17-18 and 124-132.
122 PASTOUREAU 2000, p. 127.
123 Genoa, Secret Archives, 2737 D, doc. J.
124 DULAURIER 1869, p. 745.
125 Genoa, Secret Archives, 2737 D, doc. J, ll. 29-31: «ew i leɫakn u i yaxayxirn zard i pəɫpəɫēn u i zənǰplēn u i paɫɫamēn, i yayln i yamenn tan i yɫtayb̔n nor dram k'san u hing, tan i ǰorēb̔n nor dram tasn ew inn, ew i yiš b̔n nor dram tasn u vec'». The document is published in DULAURIER 1869, pp. 747-751, and LANGLOIS 1863, pp. 154-158.

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