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Ali Bahadır Yavuz - Burak Yolaçan - Matthias Bruno

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Dedicated to the dear memory of

Moshe Fischer

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YELLOW-AND-WHITE BRECCIA IN CHERCHEL, ALGERIA: LOCAL OR IMPORTED?

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Abstract

Fragmentary remains of a yellow-and-white marble or limestone revetment were discovered in the south pool of the West Baths at Cherchel, Algeria, ancient Caesarea Mauritaniae. This was visibly not the beautiful yellow marbles of North Africa, giallo antico (*marmor numidicum*) from Chemtou in northern Tunisia or the breccia of Kristel in northwestern Algeria, and isotopic analysis confirmed the optical evidence. The isotopic ratios, however, are similar to those of breccia romana from Lez, near Saint-Beat on the northern slopes of the Pyrenees. Lez breccia is otherwise rare around the Mediterranean, and the isotopic similarity may be coincidental. The yellow breccia in Cherchel may well be a local stone whose origin cannot yet be identified.

Keywords: isotopic testing, wall revetment, giallo antico, Lez breccia.

The West Baths at Cherchel and remains of its stone revetment

The most impressive Roman bath building in Cherchel, Algeria, *ancient Caesarea Mauritaniae*, is the West Baths, a structure of the late second or early 3rd century (Fig.1)[1]. Not only is the building large, but it also has a rigorously symmetrical plan, which gives it a special dignity and an almost imperial aura; it resembles the famous baths of the emperors Nero and Trajan in Rome in having a large hot room projecting at the center of a symmetrical row of smaller heated rooms. It also has something of an Asiatic flavor, since the row of hot rooms is backed with a parallel row of cold rooms, much as in the Harbor Baths at Ephesos[2]. This grand layout is, in a sense, no surprise, since it is fully in keeping with the high status of *Caesarea* itself, the capital city of the Roman province of *Mauretania*. *Caesarea* was richly endowed with imported Aegean marbles, particularly in Augustan times, when it was the capital of the independent kingdom of Mauretania, a prized ally of the first Roman emperors[3].

At present the baths are used as a storage area for archaeological materials, and it is not immediately apparent which of the detached elements were excavated in the structure. Some fragments of marble pavements and wall revetments, however, do remain firmly in their original places. In square pools flanking the central cold room (Fig. 1, room A), fragments of a yellow and white incrustation remain trapped in the mortar covering the stairs and walls (Figs. 2-3a-c). To our surprise, this breccia was evidently not the famous yellow-and-white *marmor numidicum* (giallo antico) quarried at Chemtou, Tunisia, in ancient Numidia, the province immediately to the east of *Mauretania*. In most cases the yellow of the Cherchel pieces was weaker than the robust yellow typical of *giallo antico*, and the boundaries between the clasts and the matrix were less well defined (Fig. 3b). In some places the white dominated the yellow (Fig. 3c). At times the matrix can be pale pink and the clasts are pinkish white or even pink. Furthermore, the texture of the revetment was porous

[1] Stirling 2016, 265.
[2] Yegul 1982, fig. 9.
[3] Herrmann *et al*. 2017.

("vuggy") and subject to cracking, unlike the hard, smooth surface and cohesive structure of giallo antico. The overall appearance of the better pieces of the revetment were somewhat comparable to the breccia gialla in Borghini's handbook of colored ancient marble[4].

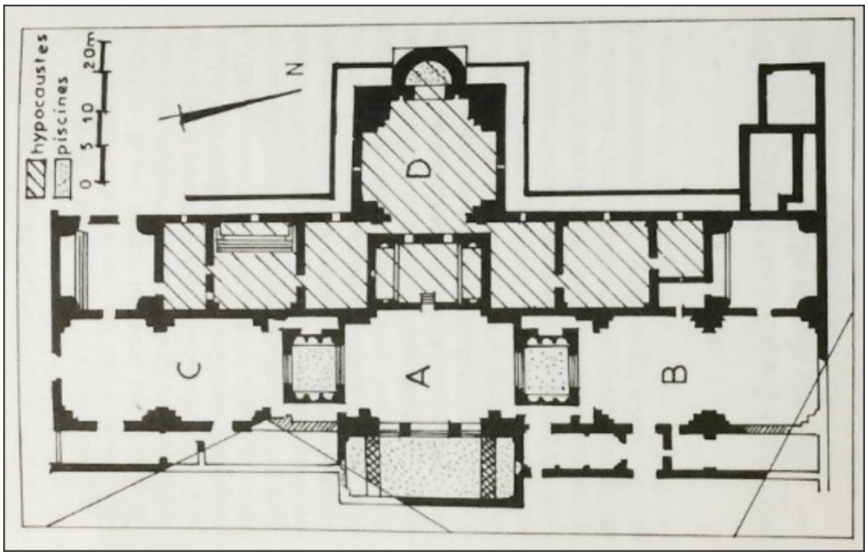

Figure 1: Cherchel, West Baths. A: frigidarium; D: calidarium, (Leveau 1984, Fig. 17).

Figure 2: Cherchel, West Baths, frigidarium pool with marble revetment on steps and walls (Photo: A. Van Den Hoek).

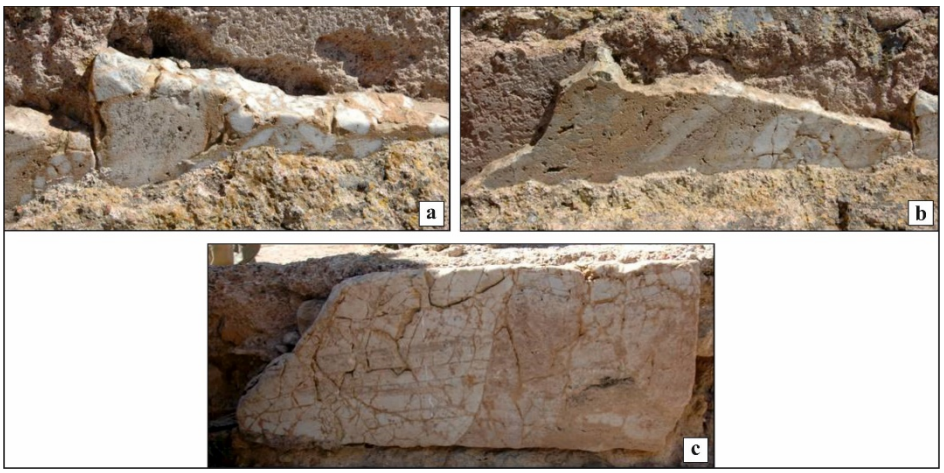

Figure 3a-c: Cherchel, West Baths, frigidarium pool, marble revetment on steps and walls (Photo: A. Van Den Hoek).

[4] Borghini 1989.

Isotopic analysis of the stone revetment

A tiny chip from a piece of the Cherchel revetment was analyzed at the University of South Florida. Stable isotopes of carbon and oxygen were determined by the customary methods, and maximum grain size was measured:
Cherchel, West Baths, breccia gialla from steps of S. Pool of frigidarium. USF 10980, $\delta^{13}C$ 1.1, $\delta^{18}O$ - 13.0 maximum grain size 2 mm.

Algeria itself has only one known quarry that produces a yellowish breccia; it is located at Kristel on the coast near Oran in the western part of the country and within the territory of the ancient province of Mauretania. One sector of the Kristel quarry produces a breccia with yellow clasts, but its red matrix makes it impossible to confuse with the yellow matrix of the Cherchel revetment. Moreover, the isotopic values of Kristel are quite different from those of the Cherchel plaque[5].

Isotopic comparisons can be extended further: Walter Prochaska has generously provided us with his unpublished diagram of the isotopic fields of several yellow marble quarries certainly or probably used in antiquity (Fig. 4). He includes only the quarries in which he has personally collected samples, and his harvest includes some whose isotopic characteristics are otherwise unknown. He has positioned our sample in the diagram, and it becomes clear that Chemtou does not match the Cherchel breccia isotopically any more than it does macroscopically. Among the other yellow breccias Prochaska has investigated, only a quarry from Ephesos could be a plausible source. Some of his photographs of the Ephesos breccia showed either a monochrome yellow or yellow clasts[6], but one photograph show white clasts in a yellow matrix, as at Cherchel (Fig. 5).

Figure 4: Yellow breccia from Ephesos (Photo: Walter Prochaska).

[5] Herrmann *et al*. 2017, 782-783, figs. 14, 17.
[6] Prochaska website.

Isotopically, however, there is a better possibility than the Ephesos quarry. Annie and Philippe Blanc published a study of a yellow-and-white breccia from the Pyrenees, which also resembles the revetment fragments in Cherchel (Figs. 6-8)[7]. This breche romaine or breccia romana comes from the quarry of La Pène-Saint-Martin at Lez near Saint-Béat. Lez breccia, furthermore, has an isotopic signature almost identical with that of the Cherchel fragment; the yellow matrix is particularly close (Fig. 9). The breccia of Lez can also have rather pallid areas, as at Cherchel (Figs. 3c, 8). The two breccias also have a pinkish tint in some of the clasts.

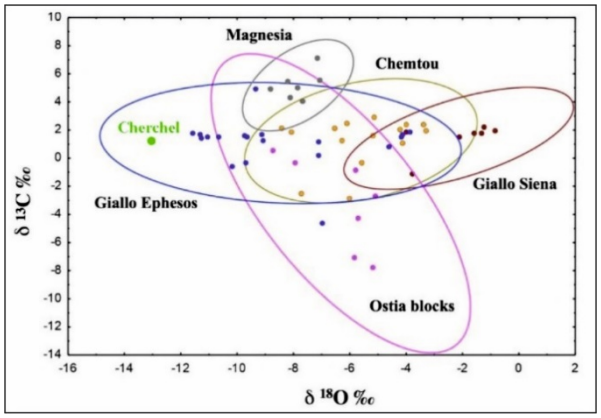

Figure 5: Isotopic values of some yellow marble quarries with sample from revetment of frigidarium pool, West Baths, Cherchel (Graph: Walter Prochaska).

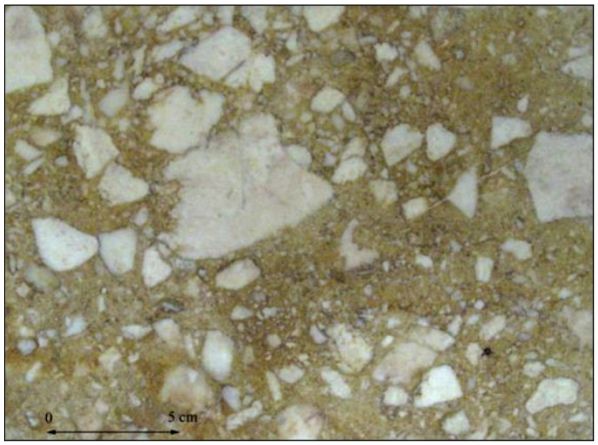

Figure 6: Lez breccia (Roman breccia) in the Museum of Marble, Bagnères-de-Bigorre (Photo: Blanc, Blanc 2009, Fig. 4).

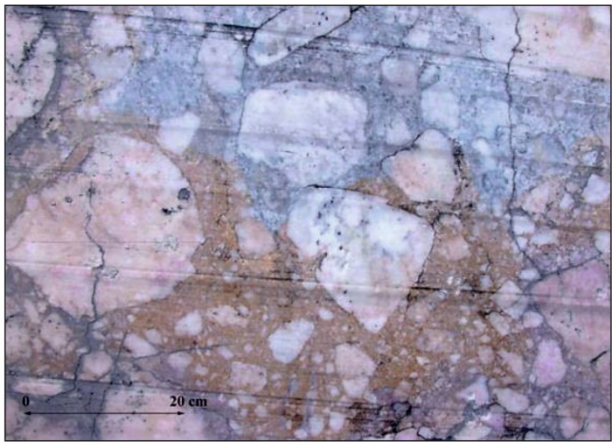

Figure 7: Lez breccia (Roman breccia) photographed in the quarry at Lez (Photo: Blanc, Blanc 2009, Fig. 3).

Figure 8: Lez breccia, "Roman breccia" (Photo: Blanc, Blanc 2009, Fig. 9).

[7] Blanc, Blanc 2009.

A few other fragmentary revetment slabs that could be Lez breccia are preserved in the pavement of archaeological scraps in the courtyard of the Cherchel Museum (Fig. 10). A rain brought out their white clasts and, in this case, a strong yellow-orange matrix. The fragments resemble the more orange sample from Lez (Fig. 7). An additional similarity between the breccias of Cherchel and Lez is the black areas in the matrix that appear in both.

Until recently Lez breccia had not been seen on the shores of the Mediterranean; it is widely diffused in Gallo-Roman sites but only in areas to the north of the Pyrenees. Antonelli *et al.* and Blanc and Blanc have pointed out that it is apparent absent in Provence.[8] But in their study of marble at Urbisalvia near the mid-Adriatic coast of Italy, Fabrizio Antonelli and Lorenzo Lazzarini have identified several examples of Lez breccia[9]. It should be noted that the isotopic values for the Lez quarry they report are substantially different from those reported by the Blancs (Fig. 9). Apparently the yellow-and-white breccia has considerable variations isotopically.

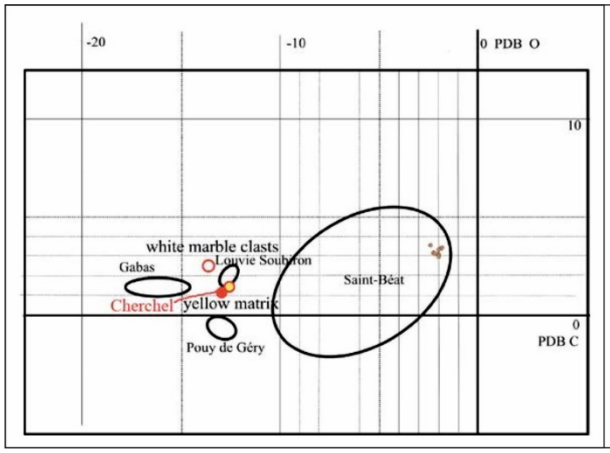

Figure 9: Stable isotopic ratios of carbon and oxygen of Lez breccia (yellow dots) compared with Pyrenean marbles. Diagram with the sample of revetment (red dot) from the West Baths, Cherchel (Graph: Blanc, Blanc 2009, Fig. 7).

Figure 10: Cherchel, Museum courtyard pavement: yellow-and-white breccia (Photo: A. Van Den Hoek).

Limestone wall revetments of local origin in Algeria

The similar isotopic signatures of the yellow and white breccias at Cherchel and Lez could be coincidental. Colored limestones of uncertain but apparently local origin were used in other important buildings in ancient Algeria. Antonelli, Lazzarini, Cancelliere and Dessandier have discussed "a yellow-pinkish fossiliferous limestone" that was used for revetments at Djemila in western Numidia, near the border with Mauretania[10]. The Djemila limestone is much less spectacular than the vividly colored red and yellow marbles of Chemtou and Kristel, and it seems likely that it would have come from a more-or-less local source. The researchers, however, were unable to locate the quarries in a survey of the Djemila region. The same or a similar limestone was used for column shafts also at Djemila[11]. Like the fossiliferous limestone of Djemila, the yellow-and-white stone at Cherchel could well have come from some as-yet-unknown local or regional quarry.

[8] Blanc, Blanc 2009, 490; Antonelli *et al*. 2002.
[9] Antonelli, Lazzarini 2013, 301-303, 311, figs. 6a, 10b, tab. 1.
[10] Antonelli *et al.* 2010, 580-581, fig. 4.b-c.
[11] Herrmann *et al*. 2017, 782, 785, fig. 16, appendix I, USF10902.

Considerations on the use of colored stone revetments in Cherchel

The use of the rather unimpressive yellow breccia in the West Baths is surprising in consideration of the riches of the region's quarries. As noted above, giallo antico (*marmor numidicum*) was easily accessible at Chemtou in northern Tunisia, and yellow-and-red breccia was produced at nearby Kristel on the western Algerian coast near Oran. The Kristel breccias, however, may have been exploited only on a small scale in antiquity[12]. When it was built, the West Baths was an ambitious and extravagant structure in the capital city of a province; it was large in size and had a symmetrical layout echoing major bath buildings around the Empire. The absence of the most attractive regional colored marbles and the use of a somewhat similar but inferior product in the building are striking. In spite of the grandeur of the building, an unspectacular yellow-and-white breccia was apparently used as an economy measure.

Perhaps considerations of political status could have been responsible for the absence of giallo antico in the West Baths. The importance and prestige of Caesarea might have fallen after the Early Imperial period. As noted above, Cherchel has a rich assemblage of colorful marble column shafts from the Aegean and from Chemtou, but they could have been imported almost entirely in the time of Augustus and Tiberius, when Mauretania was an independent kingdom and an important ally and an agent of Roman control of North Africa[13]. Only small traces of giallo antico revetments survive in Caesarea; a few unprovenanced revetment slabs of giallo antico brecciato appear embedded in assemblages of marble scraps in sculpture pedestals in the Cherchel museum. Proximity to Chemtou apparently did not lead to abundant or continuous access to its products. It may be that later emperors found the province unworthy of lavish embellishment after its subjugation and may not have wanted to allocate the prized *marmor numidicum* for revetments in *Caesarea*. The splendid assemblage of Roman marble sculptures in the West Baths, including handsome portrait busts of the second century, however, may argue against this line of explanation. The city certainly remained the most important site for Roman marble sculpture of the middle Imperial period in North Africa, as the catalogue of its collections testifies[14].

Another explanation for the apparent absence of North African yellow marble in the West Baths at Cherchel could be a chronological one. The revetment may not have been the original decoration of the bathing pools but may stem from a later period when production had been halted, interrupted, or reduced at Chemtou and Kristel. Lea Stirling has pointed out that the West Baths were renovated in late antiquity, perhaps in the Theodosian period, and that many of its statues were transferred there at that time[15]. The existing decoration could have been applied in this late phase, and the absence of giallo antico in the yellow and white marble revetment at the West Baths of *Caesarea Mauretaniae* may indicate that there was a serious shortage of this colorful marble in late antiquity. It should be noted that giallo antico ("Libyan" marble) was used in Hagia Sophia in Constantinople during the sixth century but in small quantities[16]. It apparently was scavenged material, as was some of the alabaster there[17].

Acknowledgments

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[12] Antonelli *et al*. 2010, 582, fig. 4b., 6, 7; Herrmann *et al*. 2017, 782, figs. 14-15, appendix I, USF10900a-b.
[13] Herrmann *et al*. 2017.
[14] Landwehr *et al.* 2012.
[15] Stirling 2016, 264-265.
[16] Herrmann, Van Den Hoek 2019, 345-346, figs. 1-2.
[17] Herrmann, Van Den Hoek 2019, 346, fig. 6.

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