

## **Did the gold of the Aksumites originate in Tigray? A report on ongoing research on local traditions of gold mining in Tigray**

by Wolbert G.C. SMIDT<sup>1</sup>, in collaboration with GEBREMICHAEL Nguse

### *Introduction*

The Aksumite kingdom is known, *inter alia*, for its silver and gold coinage, and for the export of gold. Until today, however, it is not known where the silver for the coins came from, as no silver mining is known from the Aksumite realm; and in addition, the origin of the Aksumite gold is the subject of an ongoing scholarly debate. In Ethiopian Studies until recently it was “common knowledge” (even if wrong) that Tigray does not possess gold deposits. Usually one believed the claim of the Aksumites, as recorded by Cosmas Indicopleustes (around 550 A.D., s. Wolska-Conus 1968), that the Aksumites had to import gold exclusively from remote regions outside their realm, which could only be reached by several months of travel. These territories are often identified with Wellega or Beni Shangul, where important deposits have long been known. Another possibility is the gold-rich region of Kefa.<sup>2</sup>

A preliminary ethnohistorical study undertaken by Wolbert Smidt in 2008 in collaboration with Habtom Gebremedhin from BOFED Mekelle included a short documentation of traditional peasants’ gold mining in rivers and other areas in Tigray, for example in Tembén.<sup>3</sup> In 2011 a small-scale ethnohistorical, numismatic and geological study<sup>4</sup> was started to document the traditional usage of such mining areas (including possible oral traditions) and to produce a metallurgic analysis of samples for Mekelle University in order to identify the origin of the metal supply for the Aksumite coinage. The following text focuses on local traditions of gold mining and gold washing with the aim of

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<sup>1</sup> Associate Professor (PhD), Department of History and Cultural Studies, Mekelle University. Gebremichael Nguse (BA) is a mathematician and research assistant.

<sup>2</sup> See on this, Yohannes Gebreselassie: Where is the ancient gold field / market of Sasou? (Unpublished paper), with interesting references to a former southern territory called Sasoge.

<sup>3</sup> Presented at the German Archaeological Institute, Cairo, in April 2010 and Vienna University in June 2010. – I owe special gratitude to the geologist Habtom Gebremedhin, now at Dilla University, for his friendly communication on areas in Tigray and surroundings with gold occurrence (see his map below) and first information on traditional gold panning.

<sup>4</sup> This research report was first presented at the workshop on craftsmanship and jewellery at Milano Hotel, Mekelle, organized by Muluwork Kidanemariam and the Tigray Chamber of Commerce (November 2012). – An agreement on this small-scale research was concluded between Mekelle University and Vienna University in 2011; the ethnohistorian Wolbert Smidt (Mekelle University) is responsible for organising the local documentation, and the numismatist Wolfgang Hahn (Vienna University) for organising the metallurgical analysis of the samples and work on the implications for numismatics. The following text is based on the research by Wolbert Smidt in collaboration with the field assistant Gebremichael Nguse; the results of the research by Wolfgang Hahn will be treated in separate publications at Mekelle University.

strengthening the idea, recently formulated by Laurel Phillipson (2006, and opposed by John Sutton, 2008), that the surroundings of ancient Aksum in Tigray were an important local supplier of the ancient gold of the Aksumites, contrary to the received claim of traditional scholarship that the gold was (mainly) imported. Phillipson suggested that the rise of the Aksumite conurbation is also to be seen in the context of an early exploitation of the gold of the surroundings of Aksum, the centre of the Aksumite Empire (in addition to wealth in cattle, efficiency in grain production and labour monopolies, which evidently also contributed to the rise of Aksum). The question of the origin of silver has to be left aside in this article, as the analysis has not yet produced definite results; it should, however, be mentioned here that the possibility is high that the silver at least partially stems from gold mining, as Tigrayan gold is found to be alloyed with silver – the Aksumites might already have known a technology for separating the gold from the silver.<sup>5</sup>

*The occurrence of gold in Tigray and neighboring regions*

Gold mining in Tigray is occasionally mentioned in several older travellers' accounts, especially from the Portuguese period. The 17th-century Portuguese writer Barradas reports gold findings in Tembén, delivered to the Emperor in Dembiya.<sup>6</sup> In the 16th century Alvares mentions gold in Aksum<sup>7</sup> – which is evidently in contradiction to the established scholarly opinion that gold was imported by the Aksumite state from far-away countries.

Gold mining in Tigray is especially marked by the tradition of washing the soil near riversides in the water of the river. Gold panning is a traditional activity of peasants near gold-bearing rivers in Tigray and neighboring Eritrea. The following map, produced in the course of an ethnohistorical-geographical research on the potential location of the ancient “incense land” of Punt,<sup>8</sup> shows the occurrence of gold-bearing rivers in Tigray, based on actual geological data (in light blue). Gold panning in these rivers belongs to the informal sector of the economy and is – and was – an important aspect of the peasants' livelihood in these regions. Peasants and especially their younger sons and daughters migrate to these rivers during the dry seasons and wash the

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<sup>5</sup> Wolfgang Hahn will present this research to Mekelle University when the analysis is finalized.

<sup>6</sup> Cp. Yohannes Gebreselassie: Where is the ancient gold field / market of Sasou? (Unpublished paper).

<sup>7</sup> Cp. Hiob Ludolf, *A New History of Ethiopia*, Sasor 1982, p. 30f.: gold is “found in the shallows of the rivers”; p. 6: “Metals they also have; but chiefly Gold, did they know how to find and dig it forth”.

<sup>8</sup> Wolbert Smidt – Habtom Gebremedhin: The lands and hinterlands of Punt – observations based on actual geographic and ethnographic data (unpublished paper). The map below is taken from that paper (Ill. 1).

sediment soil taken from the shores of the rivers. The sediments contain gold dust which is usually collected in small plastic bags, slightly mixed with remains of soil. This is an important income supplement which assures the livelihood of the peasants in many areas – who in this way deliver gold cheaply (i.e. slightly below the price of the international gold market) to jewellers who have to respond to the traditionally high demand for gold jewellery in Tigray.

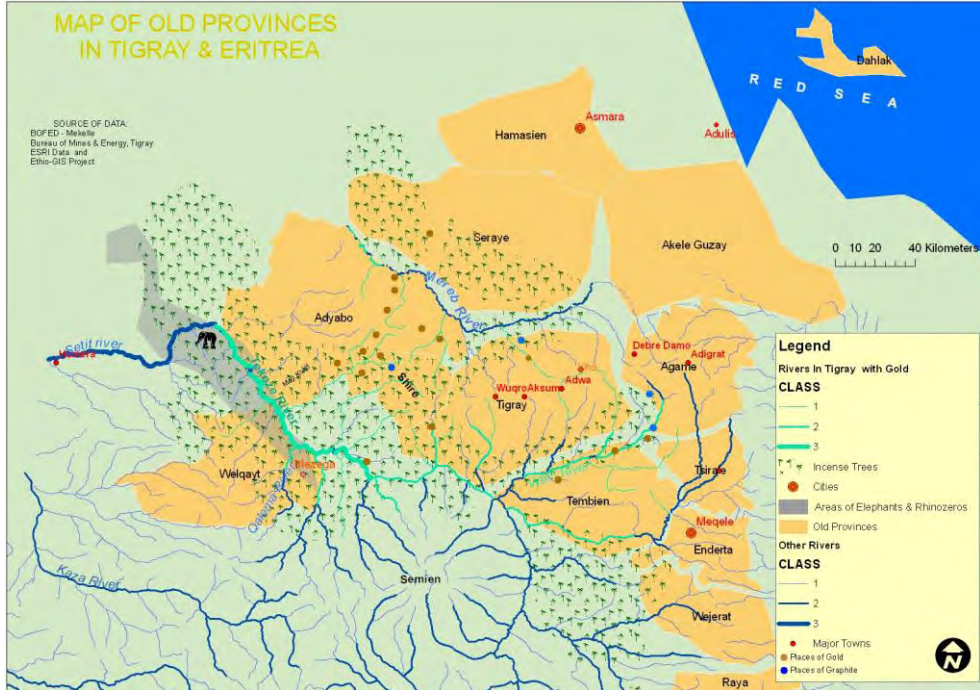


Fig. 1: Map courtesy of Habtom Gebremedhin, BOFED

*Examples of current traditional gold mining / panning*

The following passages present three areas which are known for their traditional gold mining and panning. It should be noted here that only areas are presented where gold mining is, according to local peasants, practised very traditionally and is not a new phenomenon. In some areas of Tigray, there is new and larger-scale gold mining going on, leading peasants (sometimes new settlers) to a change of their livelihood, and in some cases even linked to the outbreak of unknown diseases possibly due to poisonous properties of the soil. Reports on the use of harmful chemicals which are known from other countries' gold mining areas are rare, as there is no real "gold rush" going on, at least not yet. This fact, the authors suggest, may be linked with the fact that gold mining here is nothing new, thus not sensational at all, and in this sense has had the chance to get integrated into the yearly life cycle of the local

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inhabitants, which also implies an exclusion of sudden changes. While the interest of Tigrayan women for gold jewellery is traditionally high, the supply of gold seems not to have been too restricted in Tigray traditionally; thus the demand did not lead to prices as excessively high as outside. One shall add the aspect that there may also be a traditional fear of sudden richness – attracting jealousy, thus disturbing the balance of the rather egalitarian rural society, and also (a very practical aspect) the interest by the state or state agents. Such an interest may lead for example to increased taxation demands or – as was often the case in the past – even to raids. A local tradition may be added about the age-old existence of formal claims by the state on all gold found in the country, as the sources suggest, and further research may produce detailed oral traditions on this aspect; in fact, this research has already observed that such a perception leads to a certain degree of secrecy. All these factors would act against a quick increase in local gold mining, at least in a more traditional setting.

An oral tradition regarding *atsé* Menilek II might further illustrate this context: Once, it is told, he was asked by a foreigner why he would not invite geologists and engineers to start extensive gold mining in Ethiopia to extract the gold from the soil. Menilek is said to have answered, why should he do that? – whether the gold is in his palace or in the soil, it would not change anything, as it is his anyway. This is probably an invented story, although it may reflect some real traditions. But it illustrates the unhurried attitude which is often demonstrated regarding the potential for mining in Ethiopia, and the widespread indifference to the potential for a huge commercialisation of Ethiopia's riches. And maintaining the status quo may have meant that peasants could steadily engage themselves in low-level gold mining, thus assuring themselves a small but steady additional income (and assuring a steady gold supply to the Tigrayan, Ethiopian and external markets).



*Fig. 2: Gold panners in the Wer'i River during the dry season, photo April 2008, by Wolbert Smidt*

*The example of the Wer'i River*

Along the banks of the Wer'i River in Tembén, Tigray, one can observe the activity of gold panners especially during the dry season. As all of them are peasants, periods between harvesting and the next ploughing are the most attractive times for gold panning, which assures a small additional income. Soil is for example collected from the soil deposits nearby the Wer'i River; in some cases deep holes are dug when the soil is found to contain gold dust. These sediments have been built up over long periods by the river with eroded material from the surrounding gold-bearing mountains. As older reports show (see Barradas, mentioned above), gold mining must have a long tradition in Tembén. We can probably assume that these gold-bearing sediments were already known in the Aksumite period, as Aksum is not far away.

The Wer'i, it must be added for the sake of completeness, is an important tributary of the Tekkeze (thus of the Nile) and has played an important cultural-political role in Tigrayan tradition, as it historically separated the two provinces, Tigray proper and Tembén. The Wer'i is a deep gorge, with no settlements nearby, so that the gold panners must all migrate to the river from higher plateaux.

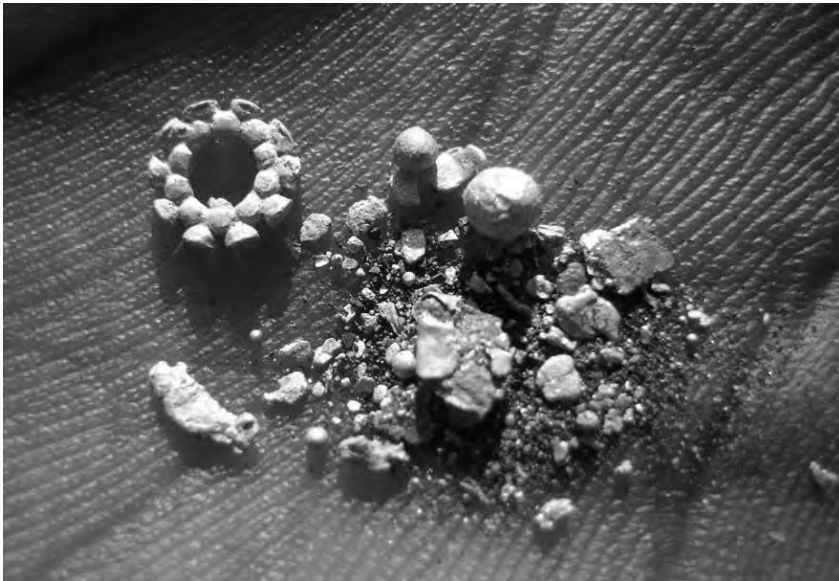
A philological speculation may round out the picture. The name "Wer'i" is very close to *werqi*, the Tgn. word for 'gold'. In the spoken language it can be observed that a *q* placed before a vowel (and especially between two vowels) sometimes almost changes to a pharyngealized glottal stop, or a pharyngeal fricative, thus being very close to <sup>ˈ</sup>*ayn*. Therefore it is plausible that the Wer'i, having certainly been, since ancient times, the best-known river for gold panning, was simply called after 'gold' originally, and the form of the name would have changed slightly with time.



*Fig. 3: Gold mining in Tembén, June 2011, photo by Gebremichael Nguse*

*The example of Yeḥa*

Until recently, Yeḥa was not known to scholars as a site where gold could be found and where traditional gold washing is practised. In fact, however, gold washing is highly successful especially on the slope behind the Great Temple, where considerable quantities of natural gold deposits – and remains of processed gold particles – can be found. The soil is washed, among other places, at May Moḵole above Yeḥa and is separated from the gold there. The gold is then usually sold to jewellers in ‘Adwa and Aksum.<sup>9</sup> In front of the Great Temple there is a large marketplace called Gwal ‘Idaga, where traditional gold miners collect soil and wash it to produce gold particles.



*Fig. 4: Gold particles found by a local in Yeḥa, in private possession, 2011, photo by Wolbert Smidt*

This finding of gold in the ancient political centre of Yeḥa is of major historical relevance and contributes decisively to ongoing scholarly debates. As mentioned above, Laurel Phillipson (2006) recently formulated the hypothesis of the presence of gold in the wider Aksum area, which was rejected by John Sutton (2008). The occurrence of gold in Yeḥa itself, i.e. in the direct vicinity of Aksum, strengthens her idea that gold may have been an important local product, not just an imported one.

One phenomenon still remains unexplained: the fact that the gold found on the slopes behind the Great Temple seems to be a mixture of natural gold (gold dust and small gold nuggets) and, to a smaller extent, of processed gold.

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<sup>9</sup> See on this Wolbert Smidt: *Field report “Ethnography” (II)*, March 2011 / October 2011, Mekelle, January 2012.

One evident possibility is that the artificially processed gold particles are to be linked with elite graves near the temple, e.g. gold originally belonging to decorated clothing or other precious material which has long since vanished. But in fact many of the processed pieces of gold often do not show any particular shape (see fig. 5 below). This could argue that the slope may have been the site of an ancient gold workshop. Gold dust collected from the surroundings would have been processed here; and some small broken and unfinished pieces of gold – in the form of tiny beads, plates and fibres – may have fallen down over the centuries and got lost in the soil.



*Fig. 5: Sample of gold particles partially in natural shape, partially as remains from an ancient gold workshop (?), Yeha, 2011, photo by Wolbert Smidt (ca. 5x enlarged)*

### *The example of Aksum*

Interestingly, foreign archaeologists active in Aksum during recent decades have not encountered information on any kind of gold mining in the environs of Aksum; also gold findings such as the recent ones in Yeha (see photos above) have been generally unknown from excavations until very recently<sup>10</sup> (Phillipson 2009, pp. 15, 37-8, and 122, however, mentions “a single particle of native gold” found in an archaeological site in the neighborhood of Aksum, as well as having observed a case of gold panning). Together with the claim by Cosmas Indicopleustes in late antiquity that Aksum did not produce gold, this seemed to suggest that Tigray is not a gold-producing area. This in turn seems to fit with an observation made during the small research project undertaken in 2011 by Gebremichael Nguse in the framework of the study described above: After an initial successful field work on gold mining in nearby Tembén, his

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<sup>10</sup> Friendly communication by David Phillipson.

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research seemed at first to come to an end in Aksum, as no oral information on gold mining was available in Aksum. The general claim of the informants was that there was no gold in the area.

Only when the researcher again passed some time in the countryside near Aksum did local peasants help him to get to gold mining areas.<sup>11</sup> Gold is delivered by peasants to jewellers in Aksum from the direct surroundings and areas as far as the Rama River north of Aksum in the border area with Eritrea (see fig. 6 below). In <sup>6</sup>Adwa town itself the Assem River is a site of traditional gold mining. Recently the municipality forbade the washing of soil from the river as the banks of the river were becoming destabilized and houses may have been endangered. The discipline with which traditional gold prospectors of <sup>6</sup>Adwa have respected the decision is remarkable. May this perhaps be due to an ancient tradition of the Christian highlanders to disregard fortune and regard it as mere chance, which one cannot run after, linked with a traditional respect for authority (as long as this authority is considered legitimate)?



*Fig. 6: Gold panning at the Rama River, June 2011, photo courtesy of Gebemichael Nguse*

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<sup>11</sup> There is traditional gold mining going on north of the Aksum Airport, precisely at <sup>6</sup>Addi Serawat and Mihlal Lebeda; southeast of Aksum, gold mining takes place at May Trngwi, Da<sup>6</sup>iro Hafash, Mateqli and Golgel Ch'oma (friendly communication by Gebremichael Nguse, June 2011).



These observations also lead us to other questions: Might it be that since ancient times the Aksumites have developed a habit of not disclosing information considered to be sensitive to outsiders (which includes even other Tigrayans from areas outside Aksum)? One gets the impression that Cosmas simply believed the stories told to him, while their main purpose may have been to divert his attention from the fact that there was indeed gold in Tigray – and even important gold mining going on. Our observations have shown in any case that also in the closer environs of Aksum itself there continues today to be traditional gold mining by local peasants. They traditionally sell the gold to the jewellers of Aksum, who in turn deliver their precious products to urban centres all over Ethiopia. Many jewellers in Ethiopia – including virtually all older jeweller families – have their origins in Aksum; this also includes many jewellers in Eritrea, such as in Asmara and Keren. Jewellers and their family histories have not been well-studied yet, but their history would seem to form an important aspect of Ethiopian heritage; such a study would be an important desideratum. The networks of gold jewellers are strongly interconnected even today; and they have their centre in Aksum, which was an important centre, as we see here, of ancient craftsmanship.



*Fig. 7: Traditional gold mining area north of the Aksum Airport (Google map, prepared by Habtom Gebremedhin, June 2011)*

### *Conclusion*

At this stage of the research it is not easy to draw firm conclusions. However, some preliminary but nevertheless quite clear remarks are possible. One is the observation, from the oral information collected so far, that gold panning is a traditional practice in Tigray and this traditional gold panning can be observed at many sites. This should not, however, be understood to mean that every

gold mining area has been in use since ancient times – reports of locals show that they constantly move around in areas whose sediments are known for gold dust and discover new gold-bearing sites. Thus, not all traditional gold mines are ancient, but they follow an ancient pattern.

Another observation is that in many areas in Tigray rivers and river sediments, and also rocks and mountain slopes, contain gold in remarkable quantities, which supports the idea that at least the initial rise of Aksum may have been linked with gold and gold export – which was important from the beginning, as the anonymous *Periplus of the Red Sea* shows. This remark, based exclusively on the observation of today’s rural population and some of their traditions, is confirmed by recent inquiries by geologists in the service of mining companies (such as recent geological investigations in Werqamba<sup>12</sup>), which may well lead to great changes in mining in Tigray.

Finally, this research report does not reveal anything new or surprising for geologists acquainted with Tigray, but it can indeed contain some new aspects for a historian and ethnohistorian. It wishes to contribute – with its rather cultural-historical perspective – to a change in the perception popular among historians that gold was not produced within the boundaries of the Aksumite kingdom. It seems, to the contrary, highly probable that at least the early gold



coinage, which made Aksum immediately a factor on the ancient international markets, was based on the local gold supply only.

Fig. 8: Gold coins of Afilas, courtesy of Wolfgang Hahn

This does not mean – and this will be the concluding remark – that all the gold of ancient Aksum came exclusively from Tigray: The rising role of Aksum in international trade and even politics certainly led, over time, to an increased demand for gold. Accordingly, gold may have later also been imported by the Aksumites from areas much further south, but as *an addition* to the local supply. In this sense the ancient account of Cosmas Indicopleustes certainly needs to be nuanced. We can, in any case strongly underline two observations not well known to “outsiders”: (1) Tigray has to be added to the list of regions in

<sup>12</sup> See on this: SOLOMON Gebresilassie Gebremariam (2009), *Nature and Characteristics of Metasedimentary Rock Hosted Gold and Base Metal Mineralization in the Workamba Area, Central Tigray, Northern Ethiopia*, München, Dissertation, Ludwig-Maximilian-Universität (internet publication: [http://edoc.ub.uni-muenchen.de/10882/1/Gebremariam\\_Solomon.pdf](http://edoc.ub.uni-muenchen.de/10882/1/Gebremariam_Solomon.pdf)); for information on other gold deposits in Tigray see also Bheemalingeswara KONKA – SOLOMON Gebresilassie – KASSA Amare (2012), “Shear Zone-Hosted Base Metal Mineralization near Abraha Weatsbaha-Adidesta and Hawzein, Tigray Region, Ethiopia”, *Momona, Ethiopian Journal of Science* vol. 4, no. 1, January 2012, pp. 3-28.

northeastern Africa with rich gold deposits, and (2) this fact is to be seen in a historical and cultural perspective, the existence of gold deposits having had a great influence on the development of the economic and cultural role of gold (from ancient coinage to jewellery), and thus on history and cultural history.

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