

distinction is, however, convenient, since it is evident that in some few instances *mrh(t)* has a more specific meaning, akin to that of *nnnn*, and is the origin of the Coptic  $\Delta\text{MPH}2\text{C}$  as pointed out by LORET<sup>1</sup>. This latter connection might suggest that it refers to a species of bitumen or asphalt, and this is to some extent confirmed by the term *mrh(t) h3st*<sup>2</sup>, which CHASSINAT<sup>3</sup> takes as an indication that *mrh(t)* was a mineral substance. On the other hand, the parallelism between *mrh* and *nnnn* in the Rhind papyri<sup>4</sup> and the occurrence of the expression *mrh(t) n ht*<sup>5</sup> would rather indicate wood tar or resin, which is also more appropriate in other instances. Thus *mrh* is used for covering or coating coffins<sup>6</sup>, which points to either a resinous varnish or the black anointing material discussed by LUCAS<sup>7</sup>, and is shown being daubed on the (?) bandages of a mummy<sup>8</sup>, where either would again be applicable.

Without more definite evidence, no consistent translation is possible, though it seems likely that *mrh* is to be identified as wood tar or the like and that the single reference to *mrh(t) h3st* indicates a mineral of similar appearance, possibly petroleum or liquid asphalt, CHASSINAT's 'pissasphalte'.

*msdmt* (Wb. II. 153.8–15), Coptic  $\text{CTHM}$ , Greek  $\sigma\tau\acute{\iota}\mu\mu\iota$ , Latin *stibium*, is undoubtedly derived from the verb *sdm* (Wb. IV. 370.3–8), as is shown by the earlier form *sdm* (Wb. IV. 370.9–10) which survives collaterally with it<sup>9</sup>, and the existence of an analogous term *sdm* (Wb. IV. 370.11), 'Schminkmittel', which occurs in a number of headings in Ebers. The original meaning of *msdmt* was probably eye-paint, and as such it may once have included the older green paint<sup>10</sup> as well as the black, but already in the Pyramid texts<sup>11</sup> and in other early examples<sup>12</sup> it refers specifically to the black eye-paint as distinct from the green, *w3d*.

The nature of this black eye-paint has been widely misunderstood, owing to the fact that  $\sigma\tau\acute{\iota}\mu\mu\iota$  and *stibium* refer principally to antimony compounds, stibnite etc., from which it was assumed that Egyptian *msdmt* represented the same substances. Thus BRUGSCH<sup>13</sup> consistently renders *msdmt* as 'Antimon', LÜRING<sup>14</sup> regards it as antimony sulphide, and WIEDEMANN, in an early work<sup>15</sup>, also refers to it as the latter. A glance at the translations collected by PATON<sup>16</sup> will show how this misconception has persisted.

But as early as 1889, WIEDEMANN<sup>17</sup>, in possession of analyses by FISCHER, realised that *msdmt* was not primarily, if at all, antimony sulphide, and points out that it represents 'eine ganze Reihe ähnlicher Substanzen, die schwarze Farbe besaßen und als Schminke dienen konnten', the chief among them being undoubtedly lead sulphide (galena). A similar conclusion is also reached by HOFMANN<sup>18</sup>, and by FLORENCE and LORET<sup>19</sup>, the latter specifically condemning the uncritical acceptance of antimony as a translation of *msdmt*, which is, on the contrary, chiefly galena, other substances used being 'des sophistications'. They also note that although Coptic has the word  $\text{CTHM}$ , the term for antimony is not that, but  $\text{BACOY}\text{P}$ .

<sup>1</sup> Rec. Trav. 16 p. 157.

<sup>2</sup> Eb. 22, 8.

<sup>3</sup> Rec. Champ. p. 463.

<sup>4</sup> P. Rhind I, 3, 9; cf. also B. v. Durchw. 28–9.

<sup>5</sup> Sin. B. 295.

<sup>6</sup> Hier. Ostr. 21, 1 vs. 2–3.

<sup>7</sup> Materials p. 352; p. 359.

<sup>8</sup> JEA. 13 pl. 17; p. 47.

<sup>9</sup> Cf. Ann. Serv. 16, 225, where *sdm* is described as *msdmt*.

<sup>10</sup> Cf. Lucas, Materials p. 99; Wiedemann, Aeg. Stud. p. 43.

<sup>11</sup> Pyr. 54d.

<sup>12</sup> Eg. Cairo 1330; 1392; Urk. I, 21; Medum 13.

<sup>13</sup> ZAS 29 p. 30; Hungersnoth p. 131; Wb. p. 713.

<sup>14</sup> Med. Kent. p. 86.

<sup>15</sup> Sammlung p. 41.

<sup>16</sup> Records III, 2 p. 70 n. 153.

<sup>17</sup> Aeg. Stud. p. 25f.; cf. also Medum p. 41–4. Ebers, Die Maasse p. 74f., had already suggested that *msdmt* included both antimony sulphide and galena, and was inclined, ib. p. 200f., to take galena as the primary meaning.

<sup>18</sup> Über Mesdem – I have been unable to consult this at first hand.

<sup>19</sup> In De Morgan, Dahchour 1894 p. 153f.

More recently, LUCAS<sup>1</sup> has re-examined the question, showing that the idea that antimony has frequently been found, and was commonly employed, in Egypt is erroneous. Only one case of metallic antimony and a very few instances of the employment of antimony compounds can be quoted, while only one, or at most two, examples of its use as an eye-paint are known. Discussing eye-paints in particular<sup>2</sup>, he points out that the common black variety is galena, which, together with malachite, has been found in graves in several conditions. Of 61 specimens of ancient kohl that have been analysed (including those known to WIEDEMANN and FLORENCE and LORET), no fewer than 40 have proved to be galena, only one being an antimony compound. He concludes, therefore, that 'the general idea . . . that ancient Egyptian kohl, except when it was the green malachite or chrysocolla, always either consisted of or contained antimony or an antimony compound is wrong, and hence it is most misleading to term it stibium (an early Latin name for sulphide of antimony transferred later to the metal) as is sometimes done'.

A substantially similar argument is also put forward by JONCKHEERE<sup>3</sup>, who maintains that *msdmt* was galena, not antimony, though it did not always have a precise chemical meaning, and could be applied generally to all black coloured substances used as eye-paint.

References to *msdmt* are very numerous, the majority exemplifying its use as an eye-paint, parallel to *w3d*<sup>4</sup>, often as labels to small bundles, the colour of which is sometimes shown<sup>5</sup>. In some instances, *w3d* is specified for one eye, *msdmt* for the other<sup>6</sup>, though *msdmt* is also for both<sup>7</sup>, and in one example *msdmt* is for under the eye, *hsbd* for over it<sup>8</sup>. In addition to these there are a few references to *msdmt* simply as eye-paint, where no particular distinction is implied<sup>9</sup>, and the meaning is akin to that of *sdm*, 'Schminkmittel'.

*msdmt* is also widely used as a medicament<sup>10</sup>, sometimes in conjunction with *w3d*<sup>11</sup>, sometimes with *htm*<sup>12</sup>, and sometimes with *gsfn*<sup>13</sup>, the two latter being varieties of *msdmt*, as is clear from the Dendera tribute tables<sup>14</sup>. In lists of minerals *msdmt* is normally found with the other ores and earthy substances<sup>15</sup>, but at least once occupies a peculiarly prominent position<sup>16</sup>.

Several different sources of *msdmt* are mentioned, including Syria<sup>17</sup>, Pwenet<sup>18</sup>, Coptos<sup>19</sup>, Elephantine<sup>20</sup>, and perhaps Sinai<sup>21</sup>, concerning which LUCAS<sup>22</sup> remarks that there was no need to import *msdmt*, since all the materials used as black eye-paint, except the very rare antimony compounds, occur in the country. *msdmt* from Coptos is probably galena from the Red Sea coast, and *msdmt* from Pwenet may also be galena, which is found in Arabia, and may have been imported via that region; most of the substances used as *msdmt* are also native to Asia.

<sup>1</sup> Materials p. 222.

<sup>2</sup> *ib.* p. 99f.

<sup>3</sup> La Mesdemet, in *Histoire de la Médecine* 1952 No. 7 p. 2f.

<sup>4</sup> Eg. Berl. 9; 1107; 1108; 13772; Cairo 1330; 1392; 28024; Beni Has. I, 35; II, 7; Mem. Miss. V, 8, 49; 457; 462; XV, 26; 60, 156; 61, 167; Huy 35; Deshasheh 29; D. el B. 109 etc.

<sup>5</sup> Eg. Beni Has. II, 7.

<sup>6</sup> Dend. Mar. III, 181; Philae (2732) Phot. 995; Edfou III, 143, 17, 18; V, 191, 12-14 etc.

<sup>7</sup> Urk. VIII, 85.

<sup>8</sup> ZÄS. 11 pl. I, 15f.

<sup>9</sup> Love Harris 7, 4; Love Beatty vs. C 3, 1; P. Tur. PR. 118.

<sup>10</sup> Eg. Eb. 33, 3; 61, 7; 96, 19; Hearst 10, 1 etc.

<sup>11</sup> Eb. 48, 19; 63, 4.

<sup>12</sup> Eb. 59, 4; 61, 5; 61, 11.

<sup>13</sup> Eb. 56, 4; 57, 16; 58, 4.

<sup>14</sup> Dend. Mar. I, 70; I, 71.

<sup>15</sup> Dend. Mar. IV, 36, 49-50; 39, 140-2; Sehel 17; Ostr. Tor. A. 4 etc.

<sup>16</sup> Lesest. 96, 10.

<sup>17</sup> LD. II, 133; Urk. IV, 715.

<sup>18</sup> Urk. IV, 335; cf. also Dend. Mar. I, 71.

<sup>19</sup> Rec. Trav. 16, 51.

<sup>20</sup> Sehel 17.

<sup>21</sup> JEA. 4 pl. 9.

<sup>22</sup> Materials p. 103.

That there were different species and qualities of *msdmt* is evident from such expressions as *msdmt m}t*<sup>1</sup>, which probably refers specifically to galena, *msdmt nfrt*<sup>2</sup>, and *msdmt m}t nfr nfr nfr*<sup>3</sup>, and from the compounds *t}y n msdmt*<sup>4</sup>, and *hpr msdmt*<sup>5</sup>. Of these the former is probably the male stibium of PLINY<sup>6</sup>, which is coarser, rougher and less dense, and was possibly sulphide of antimony, though the Egyptians may have made the distinction according to colour or some other criterion<sup>7</sup>, and the assumption of antimony sulphide is not inevitable. The nature of *hpr msdmt* is, however, obscure, though it presumably indicates some form of the substance, perhaps a solid lump<sup>8</sup> such as must have been used to fashion the statuettes of the Nile god mentioned in Harris<sup>9</sup>. The other varieties of *msdmt* known as *htm* and *gsfn* will be discussed in detail below.

Finally, a word must be said concerning the WÖRTERBUCH entry *dsds* (sic.) (Wb. V. 487.7), which is clearly to be deleted. FAIRMAN<sup>10</sup> has pointed out that the apparent examples of this word are nothing more than graphic variants of *msdmt*, as is shown by certain instances where the two directly alternate<sup>11</sup>. In almost every case the writing occurs parallel to *w}d*<sup>12</sup>, though it is also found in two versions of the text of filling the sound eye<sup>13</sup>. No examples are known before the Ptolemaic period, and the majority seem to occur at Edfu and Philae.

Summarising the evidence for *msdmt*, it is reasonable to conclude that it was the most general word for eye-paint, and, like Sumerian *ŠIM.BI.ZI.DA*<sup>14</sup>, originally applied to all varieties of whatever colour. In the earliest known examples, however, it is already a more specific term for black eye-paint as opposed to green (*w}d*), though the more general significance has not entirely been lost. Since the Egyptian black eye-paint was made of a number of somewhat similar substances, *msdmt* can refer to any one of these, but it must normally mean galena, which was by far the most common. Any connection with antimony compounds is purely incidental, though *msdmt* is undoubtedly the origin of στίμι and stibium, which do refer principally to these<sup>15</sup>.

*mnt* (Wb. II. 399.5) is apparently known from only one passage<sup>16</sup>, where the accompanying materials, including *hsbd*, *m}k}t*, *shrt*, *ht}w* and *msdmt*, might suggest that it was of mineral nature. The location from which it is said to come, *b}w}k} dšrt*, is unknown, but may perhaps lie in the eastern desert. No suggestion can be made as to the meaning of the word.

*htm* (Wb. III. 199.1–2) and the similar word (Wb. III. 199.4) representing the material of the *hnt* vessel, are hardly to be distinguished as they are in the WÖRTERBUCH, or by BALCZ<sup>17</sup>, who prefers to read the latter *hs}*, comparing *hs}* (Wb. III. 160.6f.), 'dough or paste', and regarding it as a form of clay. That the reading is *htm* is shown by one example where

<sup>1</sup> Eb. 59, 6; 59, 18; P. Berl. 11247; Louvre Wb. 22 (65); Cairo 44548 = Bénédite, Objets de Toilette p. 42; Schiaparelli, Relazione II p. 90 fig. 60. <sup>2</sup> Louvre N. 1363 Wb. (Var. 5a).

<sup>3</sup> BIFAO. 1, 231; Ann. Serv. 2, 143; also on two receptacles seen with a dealer in 1903, cf. Grapow, Grundriß III p. 54. Note in particular the writing of *m}t*.

<sup>4</sup> Eb. 58, 5; 61, 6.

<sup>5</sup> Eb. 56, 21.

<sup>6</sup> HN. 36, 33, 101.

<sup>7</sup> Cf. Campbell Thompson, Dictionary p. xxxvi.

<sup>8</sup> Cf. Lüring, Med. Kent. p. 86; Wiedemann, Aeg. Stud. p. 35.

<sup>9</sup> Harr. 41a, 8.

<sup>10</sup> BIFAO. 43 p. 120 n. 1.

<sup>11</sup> Edfou III, 143, 17–18; V, 191, 12–14.

<sup>12</sup> Edfou III, 144, 5; VII, 277, 10–12; Mammisi 92; Philae (2731); (2732); (2733); (Phot. 995); Dend. Mar. III, 181; Debod (Roeder) § 153.

<sup>13</sup> Edfou VIII, 136; Philae (1663) Phot. 523.

<sup>14</sup> Campbell Thompson, Dictionary p. 49.

<sup>15</sup> Cf. Wiedemann, Aeg. Stud. p. 25f.

<sup>16</sup> JEA. 4 pl. 9, 11.

<sup>17</sup> Mitt. Kairo 3 p. 75.