

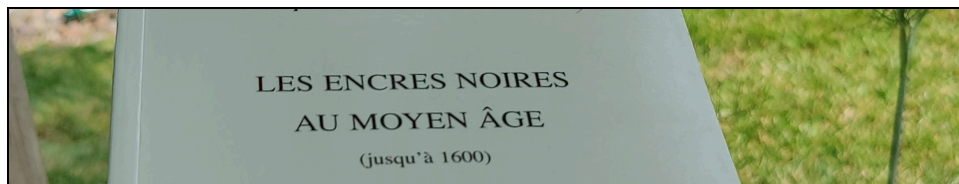
# Some incomplete notes on Les Encres noires au Moyen Âge

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**S**ome very incomplete and casual-in-tone notes on Monique, Zerdoun Bat-Yehouda. 2003. Les Encres Noires au Moyen Age. Paris: CNRS EDITIONS. Originally [a Twitter thread](#).

Pp 3-4: claims that previous studies have been limited to describing colour, shades and broad properties. Wants to add scientific principles that will help to date and localise specific inks. But also to find methods for restoration projects. Focuses on Hebrew manuscripts, which is useful for worldwide circulation due to diasporic dispersion

Lots of throat clearing until p 6. Notes that the laboratory analysis has been omitted from this book as the tone would have been so out of kilter with the rest. Instead, book is split into part 1, a history of black ink, part 2, a collection of recipes for manufacturing various categories of ink (eg carbon, metallogallic), and part 3, an index of the ancient authors studied

A curious quotation from Wang Xizhi here, in which the metaphor is of paper constituting the troops lined up for battle, the brush is a sword and shield, and ink is the love of a soldier

Elle a souvent été précédée d'une littérature ou d'une poésie vantant les mérites de l'écriture et de ses instruments ; la valorisation de l'écriture s'est accompagnée d'une forme de préciosité qui s'est attachée à l'encre comme aux autres outils de l'écriture :

« Le papier constitue les troupes rangées pour la bataille ;  
Le pinceau, l'épée et le bouclier ;  
L'encre représente l'amour du soldat  
L'encrier les murailles et les douves de la cité  
Tandis que l'adresse du scribe en est le commandant suprême. »

WANG HI-TCHE, IV<sup>e</sup> siècle<sup>4</sup>

La valeur pécuniaire de l'encre n'était pas négligeable, ainsi les bâtons d'encre figurent souvent dans la liste des cadeaux entre souverains : une princesse royale, amoureuse des arts et des lettres, dédaignant tout présent somptueux lors de son intronisation, insista pour qu'on lui offrit en hommage *chih*<sup>5</sup> et des *gâteaux d'encre*. Ceci se passait en Chine en l'an 102 de notre ère<sup>6</sup>.

En Corée, des *gâteaux d'encre* étaient offerts  
existait à la Cour un dépôt

An interesting point here also that inks were sometimes expensive, and therefore historically formed gifts

There's a 10th century poem by a Buddhist monk called "thank you for ink" 😊

Breaks down inks into carbon and metallogallics, but says this doesn't capture richness of reality, with mixed inks and incomplete inks being added - p 14

There's a repetition, on p 15, of the well-known fact that ancient writing inks weren't different from many painting pigments. Think Tsien also makes this point. Carbon inks have many good properties. Chemically unreactive, nontoxic. However, they often do not penetrate the substrate

that well. P 15

The metallogallic inks are vegetable extracts in the tannin class. Uses this term here instead of ferro-gallique - p 17

There's a lengthy description, on p 18, of why it's wrong to think that blue inks come from copper sulphate and green inks exclusively from iron sulphate

Mixed inks, in this text, refers to carbon inks combined with tannins - p 20

P 23 is on to etymologies of ink. There's the familiar reference to the Chinese character "mo" here, which this text claims has connotations of blackness. I need to learn more about this, but, as before, other sources claim that the earliest use was re tattooing for punishment. Claims that in India, oldest reference is masi or mashi, which refers to crushedness. There's a Hebrew etymology that I can't reproduce easily also given here and have no idea re its accuracy

En hébreu, le terme *dio* n'aurait pas une racine hébraïque, mais plutôt syriaque  $\text{ܕܝܐ}$  : *diota*.

In Arabic, it's here claimed, the oldest terms are midad and hibr. Apparently originally distinguished between carbon inks and other types but distinction now lost. Again - I haven't yet verified any of these etymological claims. Just relaying what's here. Ancient Greek and we have melan - (μέλαν, black), melan ho graphomen (black with which we write), and graphikon melan (black for writing).

Οὐκ ἄρα σπουδῇ αὐτὰ ἐν ὕδατι γράψει, μέλανι σπείρων διὰ καλάμου μετὰ λόγων, ἀδυνάτων μὲν αὐτοῖς λόγῳ βοηθεῖν, ἀδυνάτων δὲ ἱκανῶς τἀληθὲς διδάξαι.

Phèdre 276 C

The Latin encaustum, covered pp 24-5 is more complex. Comes from “to burn” - indicating carbon inks? - but other sources say that it was purple-red. Quite a long discussion follows, based on Pliny, as to whether this term ever referred to writing ink, or whether it was just for painting

Says that the encaustum refers to a specific product, compared to the use by painters, and involving the use of fire. P 27

Claims the purple red definition came later on p 28. Anyway, we eventually get to ink via incaustum and then lots of old French and German convolution etc etc - p 29

There's then a long section on the etymology of atramentum, which is, of course, of particular interest to this study of black ink pp 30-2

Importantly, I've had to take a break to eat some crumpets. P 33 starts a section on tinctoria as a root for Spanish and German forms of ink

P 34 notes the distinction between encre and arrement in a 14th c manuscript, saying that the latter is a component of the former - speculating that it's a sulphate

Phew. And p 37 draws the etymology section to a close, noting that attempts to draw a parallel between incaustum and corrosive burning, in particular, seem unlikely. P 41 confirms what others say: all the oldest inks known to us - from Egypt and China - are carbon based. My note: is this because it's all that was used, or all that survived? P 43 commences a literature review on ancient inkmaking, consulting these texts. Not a bad selection and tallies with my own reading.

2. Ce chapitre sur les encres noires utilisées en Extrême-Orient a été rédigé en s'appuyant principalement sur les ouvrages suivants :

O.P. AGRAWAL, *A study in the technique and materials of Indian illustrated manuscripts*, communication au Congrès de l'I.C.O.M., sept. 1969 (inédit).

H. FRANKE, *Kulturgeschichtliches über die Chinesische Tusche*, Munich, 1962.

M. JAMETEL, *L'encre de Chine, son histoire et sa fabrication d'après des documents chinois*, Paris, 1882.

TENG KWEI, *Chinese ink-sticks*, dans *China Journal of Science and Art*, vol. 24, 1 (1936), p. 9-15.

LIN TSIU-SEN, *The Chinese method of writing and painting with ink*, dans *Graphis*, n° 1-2, (1944-1945), pp. 314-319.

J. NEEDHAM, *Science and civilisation in China*, Cambridge, University Press, vol. III, 1959, vol. IV, 1965.

Les volumes parus ultérieurement ne contiennent pratiquement aucun renseignement sur l'encre.

TSUEN-HSUIN TSIEN, *Written on bamboo and silk ; the beginning of Chinese books and inscriptions*, The University of Chicago Press, 1962, réimpr. en 1963.

F.B. WIBORG, *Printing ink. A history*, New-York-Londres, 1926.

P 44 has the by-now obligatory note that origin stories of the lone hero who invented ink don't cut it anymore and it is seen as a collaborative invention to which many people contributed

Pp45-7 gives the history of lacquer, mostly via Tsien (who remains my favourite author on all this stuff)

47-8 details the emergence and documentation of "stone ink". The best thing about this?

Apparently nobody has any idea what it is, for certain. Ooh. P 51 has a really great timeline of ancient tracts on ink. Not posting the whole thing because this text is in copyright, but a flavour shown. Actually extremely useful.

|             |                                                                                                   |
|-------------|---------------------------------------------------------------------------------------------------|
|             | tillons » par Li Hiao-mei.                                                                        |
| vers 1100   | : Le <i>Mo-king</i> ou « Livre sur l'encre » par Tch'ao Kouan-tche.                               |
| 1330        | : Le <i>Mo-che</i> ou « l'Histoire des encres » par Lou Yeou.                                     |
| 1398        | : Le <i>Mo-fa tsi-yao</i> ou « Manuel du fabricant d'encre » par Chen Ki-souen.                   |
| [1368-1644] | : Le <i>Mo-hai</i> ou « Encyclopédie sur l'encre » par Fang Jouei-cheng pendant la dynastie Ming. |
| 1566        | : Le <i>Mo-hai</i> ou « Encyclopédie sur l'encre » par Fang Jouei-cheng pendant la dynastie Ming. |

P 52 has the oldest known Chinese recipe for ink. Of course, it's a carbon ink, with soot for pigment, and binder. P 53 details the *Mo-king*, which is a 12th century work that talks "in great detail" of producing soot from pines - and tells you which pines are best (the ones whose roots have been parasitized by the fou-ling fungus [great name but think it's normally "fu-ling"])

P 55 the *Mo-fa tsi yao* from 1398 shows how, by this point, oil had displaced pine resins for soot production

P 56 gives more detail on this - which sounds like a very complicated process involving evaporators, wicks, lamps

P 57 notes that early texts like the *Mo-p'ou fa-che* (1095) stress the importance of the binding agent for the quality of the ink. Bad binder = unusable ink. P 58 is a vegan horrorshow that details the various animals from which ink glues were derived

P 59 is about all the different additives - mostly vegetable - that went into early inks

Pp 60-1 are about how you get from the solid ink block to a usable liquid

P 64 is about Korean inkmaking. It's very brief and basically says "mostly like China but improved because they used better wood"

I am sorry to criticise this book, but it is quite uneven. 21 pages on China and then half a page on Korea, 1 page on Japan, 4 pages on India. P 67 has some interesting observations on Indian religious culture affecting the materials that could be used for inkmaking (see above remark re nonvegan)

P 71 - black ink in ancient Egypt has a longer history than in China, apparently. Unclear on the sourcing re this. Carbon inks, of course

Apparently many problems with understanding early Egyptian black inks as it's all reverse chemical composition analysis p 72

P 75 notes the erasability of carbon inks, using a wet cloth. Provided the ink wasn't dried. P 76 - we don't know much about inks in ancient Egypt. Hmm. I think we know more than this chapter made out. P77 kicks off the Greco-Roman world of black inks

Long Latin quotation from Vitruvius's *De architectura* on proportion of mixes used to create different colours p 78

Two methods for making black. Soot or calcination products. P 79

Two recipes from Dioscoride follow on pp 80-1

There's apparently a claimed medical benefit in healing cuts and burns from one of these ink recipes. P 81

P83 gives recipes by Polygnote and Micon - which is similar to Vitruvius's. Pp 84-5 are all about erasing early carbon inks with a sponge

Pp 86-7 also about forms of erasure in Greco-Roman ink contexts

P 88 - this erasibility seems to be an important distinction from the more permanent Chinese carbon inks

P 89 - some reasons: Chinese sought finer black inks and the finer the grain, the deeper it sank into substrate; a different binder; and the different nature of substrates (bamboo etc)

The ancients also knew, p 90 claims, of Cuttlefish ink - say in the writings of Persius (Satires, III) where he refers to “Nigra set infusa uanescit sepia lympha” (but the blackness of the ink vanishes into the water [I think - I’m not very good at Latin])

P 91 seems to have a quotation from Anaxilas (“d’Anaxilaos”) that makes reference to the strength of squid ink

P 91 is now moving to “metal salt” inks

P 92 details copper sulphate - it blue vitriol inks

Pp 93-4 details supposed magical processes for ink making

Pp 95-6 closes on questions of how a reddish-brown ink appears at this time and what it might have been made of

P 96 concludes it’s likely a vegetable ink

That chapter was a very long way of saying that some Greco-Roman inks could be erased

P 97 turns to liturgical inks in Judaic traditions

Strict criteria for the preparation of inks used to write holy texts

The only biblical verse mentioning ink is Jeremiah XXXVI, 18. P 99

Apparently ink differs according to the use to which it was set. Writing the Torah vs scripture on doors vs divorce letters (get) p 100

Pp102-3 covers the use of olive oil in the inks for “get”

Crucial property of this ink is durability p 105

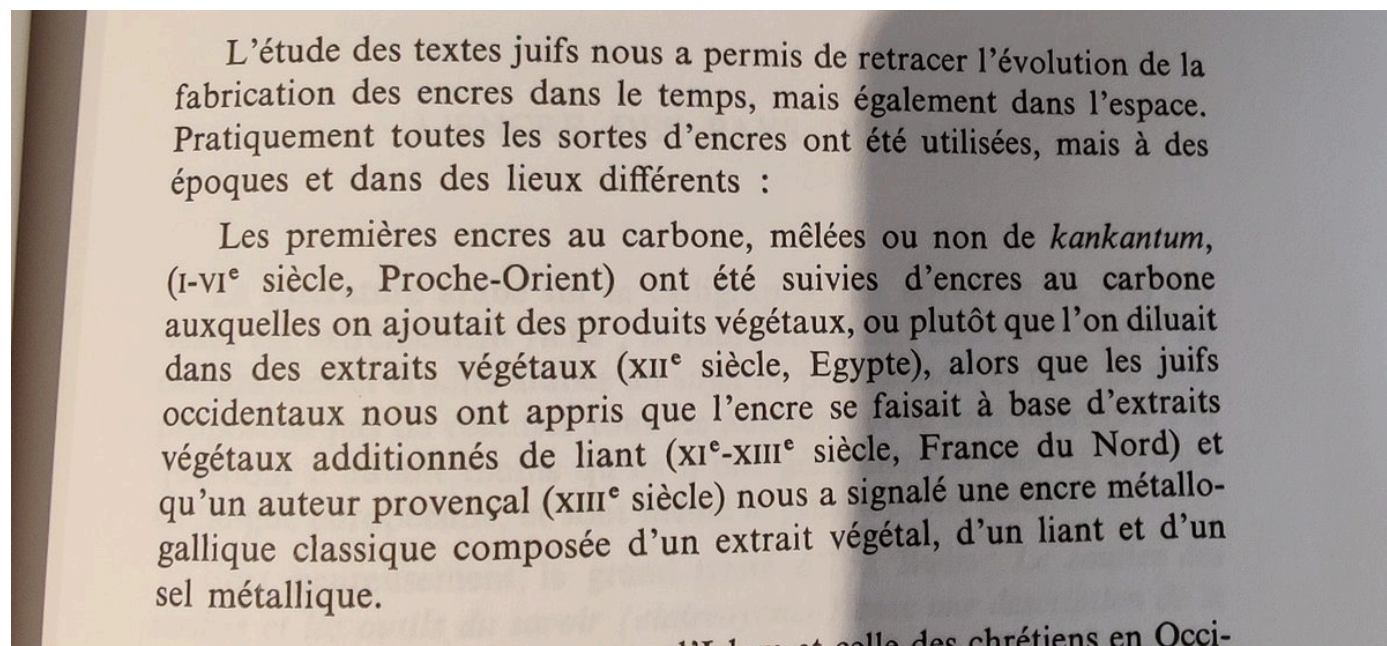
Continuation of debate on the nature of Mishnaic inks, including *kankantum* through to p 109

Still going on this at p116

P117 is about the use of plant inks in certain Western manuscripts due to red-brown colour

P119 is on the difficulties of recreating original solid Talmudic inks when only liquid inks were later available

P121 summary



P123 is on to inks in Islamic countries

Up to p128 is covering the great variety of ink recipes and the apparent nonspecialisation of their creation

Lots of recipes up to p133

P140 - another unremarkable conclusion. All inks previously detailed were known to Islamic cultures.

Sadly, quite a few of this book's conclusions are of this not-very-exciting nature

P 145 is on to Europe in the IV and XVII centuries. Mentions how disappointing it is that known treatises are so quiet on ink until relatively late

P 144-5 first text in this context to give an ink recipe is by Cetus Faventinus

P150 carbon ink recipes rare in Western texts

Pp156-8 is text and translation of Encausto

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## References

*This reference list has been generated, in many cases, through an automated process and may therefore contain errors or incomplete metadata. It is provided purely as assistance for finding the items mentioned within this post.*

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