

Reference materials for Art Technological Source Research v4

The following list is a compilation of reference materials useful in the field of art technological source research. The list does not claim to be complete or exhaustive and is updated irregularly. Mind that URLs lead a fugitive life, although these were found and checked at some point, no liability for the correctness of the links can be given.

Update: 05 December 2013.

Recently added titles are marked: **NEW**.

All titles are ordered chronologically per subject heading, starting with references to webpages because these are undated and followed by the most recent publications.

All URLs are checked, changed if needed, occasionally deleted or left when thought useful.

Contents

Online general library databases

Online databases for special books and manuscripts

Online book dealers databases

General reference works

Weights & measures

Place names

Terms & abbreviations

General reference works on conservation

General reference works on art technological source research

Working Group Art Technological Source Research

Other related publications

Reconstructions

Artists' materials & techniques

Drawing and writing inks

Dyestuffs and dying

Health and Safety

Pigments and pigment production

Printmaking and techniques

Source research and conservation

Source research and drawing

Source research and painting

Source research and glass

Source research and printmaking

Pre-mediaeval sources - reprints, transcriptions, translations, studies

Pliny the Elder

Mediaeval sources - reprints, transcriptions, translations, studies

Early-modern and modern sources

Online general library databases

<http://www.ubka.uni-karlsruhe.de/kvk.html> (in German)

http://www.ubka.uni-karlsruhe.de/kvk_en.html (in English)

§ In case you are in doubt about the existence of a book, or magazine, or of the exact title-description, the largest open cataloguing system is the Karlsruhe Virtual Catalogue. The emphasis is on German, Austrian and Swiss Libraries, but it also covers catalogues of many other major European libraries, plus the Australian National Library, the Canadian Union and the CISTI Catalogues, the Library of Congress and the Library of Medicine in the USA, plus book dealers' online catalogues. Has a special option for 'electronic texts'.

<http://www.theeuropeanlibrary.org/tel4/>

§ Next to the portal of the Virtual Catalogue of the University of Karlsruhe, also the European National Libraries have organised in a network:

Worldcat (<http://www.oclc.org/worldcat/>) offers open websearching possibilities with mainly North-American contacts.

Online databases for special books and manuscripts

NEW <http://www.dbnl.org/>

§ Database with full scans and transcriptions of some thousand Dutch culturally important literary works, including works containing information on art technology such as the *Inleyding tot de hooge schoole der schilderconst* (1678) by Samuel van Hoogstraten and the *Groot Schilderboek* (1707) by Gérard de Lairese. Searching the materials in the database is by period, by dialect, by author and title, and by any transcribed term. There is no ‘advanced search’.

<http://kranten.kb.nl/>

§ Database with full scans of (literally) 1455 Dutch newspapers published from 1618–1995 of which paper copies still exist. Interface in Dutch only. Single word search, searching with wildcards and Boolean operators. Advanced search allows selecting by period, selecting between the Netherlands and its former colonies, and in the kinds of newspaper messages such as general news, family news, advertisements and illustrations. Refining results is possible. Results are highlighted in a scan of (a part of) the page with navigation pane and zoom options. Downloadable as PDF of the scan or presented as raw OCR of the text. Searching for artists’ materials is effective provided you come with enough alternative spellings of terms. Be also prepared to wade through a massive amount of hits and at the same time find oddities such as that Bibles with illustrations of ‘black’ angels were popular in the southern United States by the end of the 19th century.

<http://www.archivegrid.org/web/index.jsp>

§ ArchiveGrid helps you on your way for searching through historical documents, personal papers, and family histories held in archives around the world.

<http://www.mmdc.nl/static/site/index.html>

§ This online database contains descriptions of all medieval western manuscripts up to ca. 1550 written in Latin script and preserved in public and semi-public collections in the Netherlands. These include the collections of libraries, museums, archives, collections of monastic orders and some private institutions open to researchers. Although containing a wealth of references, the database is not so easy navigable.

There is also a page with links to digital facsimiles:

<http://www.mmdc.nl/static/site/links/databases/facsimiles/index.html>

<http://www.cerl.org/web/en/resources/hpb/main>

The Heritage of the Printed Book Database (HPB) (previously called the Hand Press Book Database) is maintained by CERL to provide scholars with a source for the multilingual print culture in Europe. The database contains three million records of books from the beginning of printing to the middle of the 19th century, held in national libraries, cathedral libraries and others. You can locate a book through a single search across all of the contributing libraries.

NEW The famous Encyclopédie by Diderot & D'Alembert:

<http://portail.atilf.fr/encyclopedie/>

Three well-known, older German encyclopaedia can be consulted on-line:

- Krünitz's Oeconomische Encyclopädie (1776-1857):

<http://www.kruenitz1.uni-trier.de/home.htm>

- Meyer's Konversationslexikon (from 1888):

<http://www.retrobibliothek.de/retrobib/stoebern.html>

with further digitised encyclopaedia

- Zedler's Universallexikon (1732-1748):

<http://daten.digital-sammlungen.de/~db/bsb00000363/images/>

<http://www.textlog.de/>

§ A collection of digitised historical texts, encyclopaedia and dictionaries, with an emphasis on philosophy, art and aesthetics. The website is in German only and has 41.000 pages available.

<http://www.manuscripta-mediaevalia.de/hs/kataloge-online.htm>

§ The Bayerische Staatsbibliothek has digitised 150 printed manuscript catalogues of German and foreign collections, which catalogues can be browsed page by page. The website is in German only.

The first attempts at ICN to scan historical texts for use in source research date from 1995. Your top desk flat bed scanner was still waiting for its inventor and Leyden University had a prototype. The machine was the size of a large trunk, about two cubic metres, and scanning one page did cost five minutes. Developments went fast and many websites now offer text scans.

But how to change the picture into a searchable text? The average scanner comes with OCR software, which converts the picture into a word file. In its turn this has a search option (Control F). For modern type founts of open design and clearly printed the results will optimize at about 95%, percentages decreasing dramatically for handwritten material. Google Book Search offers a service for tracing books and supplies passages as well as full book scans: <http://books.google.com/>

The university library of Ghent is one of the suppliers of the book scans used by Google and the first 4,000 books went through the scanner. For a recent review see: [http://www.nrc.nl/wetenschap/article1888380.ece/Google Book Search is nog verre van perfect](http://www.nrc.nl/wetenschap/article1888380.ece/Google_Book_Search_is_nog_verre_van_perfect)

The main difficulty observed is the quality of the converted texts, because of the apparent impossibility to develop software to read abbreviations, ligatures and poorly printed texts. As a result their indexes are clogged with all kinds of nonsense terms. For an illustration see: [http://www.nrc.nl/achtergrond/article1888379.ece/Een voorbeeld van de tekstkwiteit van een oud boek bij Google Book Search](http://www.nrc.nl/achtergrond/article1888379.ece/Een_voorbeeld_van_de_tekstkwiteit_van_een_oud_boek_bij_Google_Book_Search)

It will be a while before databases for text research may safely use converted text scans. Until then various options are available:

- manual transcription of the desired passage in a database with keywords attached and the possibility for full text search
- OCR converted text, which is converted manually; the text can be handled as a word file
- projection of a scan of the desired passage as a picture within the database with keywords attached and no full text search
- projection of the full text with the possibility to attach keywords to desired passages and no full text search.

<http://www.arthistoricum.net/>

§ Not the first website/webjournal you would visit for source research, but scrutinizing the archives you might find some gems.

Online book dealers databases

<http://www.ubka.uni-karlsruhe.de/kvk.html> (in German)

http://www.ubka.uni-karlsruhe.de/kvk_en.html (in English)

§ Has online catalogues of book dealers.

<http://www.vialibri.net/>

The online database of online antiquarian databases with links to the larger online library databases. Click the tab '557 years' to search a chronological table of books available.

Usually, doing a search for the publisher in combination with a word from the title or the author's name is enough, although not in all cases publishers have websites. The larger sites for tracing and buying modern and antiquarian books, such as Amazon, Bibliofind and Abebooks are well known, but there are also national and specialised sites.

For French reference materials:

<http://www.deboccard.com/francais/Rub/cata.htm>

For German reference materials:

<http://www.habelt.de/>

For Italian books academic publications:

<http://www.unilibro.com/> (in English)

For Italian reference materials:

<http://www.libroco.it/cgi-bin/lista.cgi>

General reference works

<http://www.alchemylab.com/>

§ Although not generally known, Newton practiced the art of alchemy with a passion. This URL is most thorough on all aspects alchemical

Further reading about Newton *et alii* at:

http://www.alchemylab.com/isaac_newton.htm

Dictionary of Gnosis & Western esotericism / ed. Wouter J. Hanegraaff ; in coll. with Antoine Faivre ... [et al.]. - Leiden ; Boston : Brill, 2005. - 2 vol.

ISBN 90-04-14187-1 (set)

§ Most thorough, serious and up-to-date study of all aspects of esotericism. 'Alchemy' (p. 12-58) from Antiquity to the 20th century, biographies per alchemist, 'Amulets' has references to materials used, 'Magic' (non-Potterian) refers to the ideas of magic from Antiquity to the 20th century, 'Magical instruments' has references to materials used (so often magic recipes are found in sources on art materials).

Alphabetisches Verzeichnis der Berufs- und Standesbezeichnungen vom ausgehenden Mittelalter bis zur neuen Zeit / Albert Haemmerle. - Hildesheim : Olms, 1966.

§ A slim octavo, but not outdated and handy to find your way through names of professions. Bilingual Latin-German and German-Latin it tells you the terms in the fields of art technology, too. Take care, don't be satisfied with a quick find, but leaf on. 'Bildhauer' indeed gives 'Statuarius', but also 'Sculptor'. Go to 'Sculptor' and find 'Formschneider', which in its turn gives 'Proplastes', the cutter of woodblocks for printing.

Die Pflanzennamen der althochdeutschen Glossen / Erik Björkman. In: Zeitschrift für deutsche Wortforschung, vol. 2 (1901), p. 202–233; vol. 3 (1902), p. 263–307; vol. 6 (1904–5), p. 174–198

An etymologically interesting list of German plant names: The list is in three parts, all three alphabetical, but there is no general index, nor an index on all terms. Nevertheless, very thorough and worth a study for anyone interested in historical plant dyes. For the online version:

http://www.alarichall.org.uk/teaching/bjoerkman_1901-1905_pflanzennamen.pdf

Chemisch-technisches Lexikon : eine Sammlung von mehr als 17000 Vorschriften für alle Gewerbe und technischen Künste / Josef Bersch. - 2. Aufl. - Wien : Hartleben, [1894]

§ The 19th century was particularly strong in the publication of technical dictionaries and encyclopaedia, this is a general one with 17,000 entries. For the online version:

<http://diglib.hab.de/wdb.php?dir=drucke/ed000007>

Scroll down the left part of the window to see a table of all entries. Click on an entry to view the page.

NEW A database on minerals:

<http://webmineral.com/>

Weights & measures

Historical weights and measures

http://www.fact-index.com/h/hi/historical_weights_and_measures.html

http://en.wikipedia.org/wiki/Historical_weights_and_measures

And follow the links per country.

Historical weights and measures in the Northern and Southern Netherlands

<http://home.kpn.nl/vanadovv/Staring.html>

Conversion of units:

http://en.wikipedia.org/wiki/Conversion_of_units

Measurements & conversions / by Pamela Liflander. - Philadelphia, London : Running Press, 2002.

§ Exhaustive list of measurement systems, facts and figures, units and numbers, for use in research or at home, whether it is for calculating the surface of a circle or the compound interest of your mortgage and, of course, the Tip Calculator if you are dining out in New

York. Recent and thus not in its list of countries and their capitals is South Sudan with capital Juba. The compact volume measures 11.8 x 8.2 x 1.3 and fits in every pocket.

Taschenbuch der Zeitrechnung des deutschen Mittelalters und der Neuzeit / Hermann Grotefend. - 13. Aufl. - Hannover : Hahnsche Buchhandlung, 1991.

§ Time calculations. What were the dates for Easter in 1457? What is the 'Golden Number'? In what year(s) fell the French 'An VIII'? Why was the Russian October Revolution not in November? Find here the answers.

De oude Nederlandse maten en gewichten / J.M. Verhoeff. - Amsterdam : Meertens-Instituut, 1981.

§ 2nd edition 1982.

Historical weights and measurements in the Northern Netherlands.

Online version:

<http://www.meertens.knaw.nl/mgw/>

Manuale di metrologia, ossia misure, pesi e monete in uso attualmente e anticamente presso tutti i popoli / Angelo Martini. - Torino : Loescher, 1883.

Edizione digitale a cura di Guido Mura. - Milano : Biblioteca Nazionale Braidense, 2003.

§ Here is a wonderful source on historic and local measurements calculated in the metric system, with thanks to Jo and Mark C. The volume can be consulted online per entry or place name:

<http://www.braidense.it/dire/martini/indice.htm>

Place names

<http://www.columbia.edu/acis/ets/Graesse/contents.html>

§ Giving European place names in Latin the Orbis Latinus website is a digitally prepared version of the 1909 edition of Johann Graesse's dictionary. The web version of Orbis Latinus has the advantage of quick search by word-image. The paper editions of 1971 and 1972, see below, are more up to date and the 1972 has more names.

Orbis Latinus : Lexikon lateinischer geographischer Namen des Mittelalters und der Neuzeit ; Großausgabe / Johann Georg Theodor Graesse, Friedrich Benedict. Bearb. und hrsg. von Helmut Plechl. Unter Mitarb. von Sophie-Charlotte Plechl. - Braunschweig : Klinkhardt & Biermann, 1972. - 3 vol.

§ This is the full version in three volumes, very detailed.

Orbis Latinus : Lexikon lateinischer geographischer Namen ; Handausgabe ; lateinisch-deutsch, deutsch-lateinisch / Graesse; Benedict; Plechl. - 4., rev. und erw. Aufl. / hrsg. und bearb. von Helmut Plechl unt. Mitarb. von Günter Spitzbart. - Braunschweig : Klinkhardt & Biermann, 1971.

§ This is a summary octavo edition in one volume, handy to carry about.

Other on-line lists of Latin place names:

- the Bibliographic Standards Committee published their list of Latin place names found in the imprints of books printed before 1801 and their vernacular equivalents:

<http://net.lib.byu.edu/~catalog/people/rlm/latin/names.htm> (scroll to the bottom)

- the Cathedral Libraries Catalogue is said to be a 'working document', but it was last updated in 1998:

<http://www.bibsoc.org.uk/cathlibs/towns/>

- the CERL thesaurus is updated frequently and records also printers and publishers:

<http://thesaurus.cerl.org/cgi-bin/search.pl>

The CERL Thesaurus (Consortium of European Research Libraries) contains names of persons, corporate bodies, places and printers/publishers recorded in books or other material printed during the hand-press era (1450 - ca. 1830). Authority files contributed by CERL member libraries (the majority of the larger European libraries) and other libraries/projects concentrating on the history of the book are brought together and made searchable in one single system. This system can also be used to retrieve modern names for historical place names (with reference to earlier ATSR mailings on the subject). Mind that there is a 'browse' button and a 'search' button, which give different results. For example, browsing with 'argent' and 'truncated' to find both Aiud, Argenteuil and Strasbourg (with its various historic spellings). When you push the search button you get the place names straightforward, i.e. without the various spellings. Next you could click on 'selected records', for more varieties of the place names and so on. The system is userfriendly and the information available rich,

but enhances several aspects and possibilities, thus give yourself some time to browse the links on this site.

Terms & abbreviations

<http://net.lib.byu.edu/~catalog/people/rlm/glossary/glossary.htm>

§ A glossary of common Latin terms found in imprints of Early Printed Books.

<http://www.virtuelles-kupferstichkabinett.de/?subPage=glossary&>

§ A glossary of terms in six languages found underneath prints from the 16th century up to the early 20th century. Open the PDF by clicking on 'Erläuterung von Beschriftungen auf graphischen Blättern' or in the English version of the webpage 'Terms on print'.

Abbreviations and ligatures in manuscripts are a challenge to everyone involved in mediaeval texts. It is therefore not strange to find so little on the subject, but here is one. 'Take a foreign language, write it in an unfamiliar script, abbreviating every third word, and you have the compound puzzle that is the Mediaeval Latin manuscript. For over two generations, paleographers have taken as their vade-mecum in the decipherment of this abbreviated Latin the "Lexicon abbreviatarum" compiled by Adriano Cappelli in 1899.' The man working on a database which completely revises Cappelli's work is Olaf Pluta (University of Bochum, Germany). He designed (C++), built and filled the database with Latin abbreviations, for which he travels and researches widely to cover the complete field. It will be good for institutions, but for individuals may be a step too far. It takes special Mac software and you have to buy the CDs. Nevertheless, it is there:

<http://www.ucalgary.ca/%7Escryptor/papers/pluta/pluta.html>

The good news for Windows users is that it is now published on the Internet, too, per subscription:

<http://www.ruhr-uni-bochum.de/philosophy/projects/abbrev.htm>

General reference works on conservation

The journal 'ArtMatters - Netherlands, Technical Studies in Art' presents a collection of lavishly illustrated articles by scholars working in the interdisciplinary field of technical art history. Drawing on the combined expertise of conservators, scientists and art historians, ArtMatters brings together a wealth of information about artists' materials, techniques and studio practice, from different periods and disciplines. For further details see:

<http://www.artmattersjournal.org/>

Conservation Treatment Methodology / Barbara Appelbaum. - Amsterdam : Elsevier, 2007.

§ The book is a practical guide to decision-making for conservation treatments of all kinds of cultural material and describes systematic ways to address the difficult issues of use, meaning, and values. Chapters are also devoted to the role of long-term preservation in treatments, as well as a paradigm for producing concise documentation that serves the needs of both present and future stakeholders. The methodology set forth in the book assures that treatments are appropriate to their current context while safeguarding their future. The uniform decision-making process that it describes assures the conservator that all relevant issues have been considered before treatments begin.

Glossary of conservation / Mireia Xarrié. - Barcelona : Balaam, 2005-[...]. - 5 vol.

§ Online version not available anymore.

Glossary of art terms and their definitions, emphasis is on terms used in conservation. This is a dictionary on concepts pertaining to art conservation, materials & techniques, museology. The author has researched various bibliographical English, French, Spanish, Italian and German sources, has translated all to English and has arranged all the renown experts' definitions in alphabetical order.

Museum Documentation Association: Newsletter:

'New Terminology Source Published: An indispensable new reference tool is available for conservators, curators, archivists and collections professionals. Glossary of Conservation I is a dictionary of conservation and restoration terms. This, the first volume in a series on conservation, contains definitions from a wide range of respected European sources. From canvas to craquelure and from sepia to silica, this publication will guide you with accurate and detailed definitions.'

Diccionario técnico Akal de Conservación y restauración de bienes culturales / ed. Lourdes Rico Martínez, Celia Martínez Cabetas. - Madrid : Akal, 2003.

§ Thorough polyglot in English, French, German, Italian, and Spanish with 10,000 terms on 1122 p., used in art and conservation. Every term in one language is followed by the appropriate terms in all other four languages. Terms only, no definitions, emphasis is on terms used in conservation but it reaches far beyond that.

General reference works on art technological source research

Working group Art Technological Source Research

Making and Transforming Art: Changes in Artists' Materials and Practice / H. Dubois (et al., eds.). - London: Archetype, [forthcoming].

§ Proceedings of the Fifth Symposium of the fifth ATSR symposium in Brussels, November 2012.

The Artist's Process: Technology and Interpretation / Mark Clarke, Sigrid Eyb-Green, Jilleen Nadolny, Joyce Townsend (eds.). - London: Archetype, 2012.

§ The proceedings of the fourth ATSR symposium in Vienna, September 2010.

From the blurb: The overall theme of this volume is the artistic process as manifested in the artwork itself and as documented in visual and written sources. While many of the papers look at the work of 19th and early 20th century painters, other topics include Baroque decoration, the controversy about paints in Germany in the early 20th century, and non-traditional oils in artists' oil paints. The many editions of Theophilus' *Schedula diversarum arcium* and Alessio Piemontese's *Secreti* are listed and discussed. A number of sources that have previously received relatively little attention from scholars of art technology are considered, such as lawsuits, *realia*, diaries, and the use of modelling techniques from other fields that could be usefully applied to source research to give a clearer picture of the actual trends of development and use of new materials and technologies.

The artists whose works are examined include: Alonso Berruguete; Pedro Cabrita Reis; Goya; van Mander; the goldsmith Wenzel Jamnitzer; the pastel painter Rienk Jelgerhuis; Van Gogh; Edvard Munch and Lyonel Feininger.

16th Triennial Meeting [in Lisbon] of the ICOM Committee for Conservation, Preprints. - 2011. - CD-ROM.

§ Contains papers of the ATSR working group.

Study and Serendipity: Testimonies on Artists' Practice - London : Archetype, 2009

§ The proceedings of the third ATSR conference in Glasgow, June 2008.

From the blurb: The papers in this volume focus on the exploration of artists' practice found in the evidence recorded in visual and written documents, treatises, manuals, correspondence, ledgers, diaries and journals, paintings, drawings, cartoons, prints, photographs, as well as from the testimony of collections of pigments. Early accounts are compared to the latest analytical findings, and past deductions about art technology are questioned and critically assessed.

Topics include: techniques used by 15th-century Romanian illuminators and early modern printers; documentary evidence on the use of moulds in the production of tin relief work from the 13th to the 16th century; a discussion of 'impossible recipes' from medieval times; the making of colours and special-use inks by scribes; an evaluation of the sources for the Strasbourg manuscript family; a comparison between Rubens' retouching practice as described in contemporary sources, eye witness accounts and the paintings themselves; a training manual for the later 18th-century Spanish military cadet; Oudry's lectures on painting technique to the French Royal Academy; Vigani's 18th-century cabinet containing 80 organic and 90 inorganic art materials; the 19th-century Austrian artist Kupelweiser's extensive sketches for a monumental fresco; James McNeill Whistler's use of memory drawing; a study of materials from a late 19th-century Persian workshop of the master potter Ali Muhammad Isfahani; and contemporary art practice as described in artists' interviews, notebooks and diaries.

15th Triennial Meeting [in New Delhi] of the ICOM Committee for Conservation, Preprints / J. Bridgland (ed.). - New Delhi: Allied Publishers, 2008. - 2 vols.

§ Contains three papers of the ATSR working group: pp. 3–24; see below with the different themes.

Art Technology : Sources and Methods / Stefanos Kroustallis, Joyce H. Townsend, Elena Cenalmor Bruquetas, Ad Stijnman and Margarita San Andres Moya (editors). - London : Archetype, 2008.

§ The proceedings of the second ATSR conference in Madrid, October 2006.

The study of art technology has gained importance in recent decades as a relevant source of information, not only for determining the material history of an art object, but also for contributing to cultural aspects concerning its creation and use: aesthetic, economic, social, religious, etc. Often the results of such investigations are carried out within a narrow

discipline and are only made available within it. The success or failure of multidisciplinary approaches depends on the capacity to share information. Specialised researchers on sources relevant to the history, technology and production of art object as a whole can overcome this obstacle. But under what disciplinary aegis?

This volume contains papers in either English or Spanish, with abstracts in both languages, which address these issues through case studies, paying special attention to methodology. Different types of art technological sources and the theory of source research are examined. While there is an emphasis on textual sources, which are the most widely available and relatively easy to understand, an extensive range of subjects is covered:

Hispano-Islamic gilding techniques; mediaeval recipe books and Baroque painting treatises; precolonial and colonial Latin American pigments; industrial archives and patents; realia from the 18th and 19th centuries; audiovisual sources for contemporary art; and the importance as a source of laboratory analysis and reconstructions of historic recipes. All the studies are based on an unambiguous working method and accurate interpretation of results.

Art of the Past - Sources and Reconstructions / Mark Clarke, Joyce H. Townsend and Ad Stijnman (eds.). - London : Archetype, 2005.

§ In October 2004 the Art Technological Source Research study group held its first highly successful symposium at the Instituut Collectie Nederland, Amsterdam: *Approaching the Art of the Past: Sources & Reconstructions*. The symposium was held to discuss the role of source research and the use of reconstructions in the emerging field of art technological research.

Recipe books, treatises and manuals on artists' materials, tools and methods are of fundamental importance for an understanding of how art objects were made. Historically accurate reconstructions on the basis of these sources provide insight into the original appearance of an object, as well as workshop practices, and provide models for understanding material degradation. The interpretation of artists' intent rests on this kind of basic knowledge. For example: Van Gogh never intended the blossoms in his series of orchard paintings (Van Gogh Museum, Amsterdam) to appear quite as pale as they look today. How would they have looked originally? The recipe sources and reconstructions may answer this and help us understand what has happened.

Thea Burns reviewed these proceedings in *The Paper Conservator* (2007), p. 63-65. She observes an enthusiastic young group covering a large variety of subjects and pinpoints the difficulties encountered. Very rightly she concludes that 'much work remains to be done', which materialised in the following ATSR symposiums.

Other related publications

<http://www.chass.utoronto.ca/~bhall/articles/meister1.htm>

[URL NOT AVAILABLE ANYMORE]

§ Studying historical texts is common in art technological source research. More difficult is the study of visual sources, because it asks for a discerning eye and a lot of contextual knowledge, and because no training in the area is available. The author explains about the importance and value of imagery in the study of historical technology. With some adaptation it can be applied in the field of art technological source research.

http://fr.wikipedia.org/wiki/Connaissance_technique

§ Informative discussion on the various ideas about technique.

www.museion.gu.se/digitalAssets/809/809863_Dissertation_jacob_thomas1.pdf

§ Search with 'ATSR' to find that the author Jacob Thomas discusses in his dissertation the use of the principles of art technological source research in a museum environment, such as for organizing exhibitions.

Güldene Kunst-Pforte, Quellen zur Kunsttechnologie. / Christophe Zindel. - Bern : HKB, 2010. - 691 p. : ill. - (Schriftenreihe Konservierung und Restaurierung).

ISBN 3-9522804-4-5 (hardcover)

§ With thanks to Simone Bretz.

This extensive publication offers a chronological overview of sources on architecture, sculpture, painting, printmaking, artisanal crafts, art theory and conservation from late Antiquity until 1900, with bibliographical data, short annotations and indices.

Next to a general introduction to art technological sources and summaries of historical references more than 1200 selected European and also American sources are discussed,

including translations. The annotations discuss biographical and bibliographical data, including references and further reading. Includes a bibliography, person-, author- and incipit indices as well as a subject index, which summarise the art theoretical and technological contents. It is the largest published compilation of art technological writings presently.

Vivre des arts du dessin, France XVIe-XVIIIe siècle / Martine Vasselin. - Aix-en-Provence: Université de Provence, 2007.

§ The author, having gathered material for twenty years, covers about everything related to the arts in France between 1500 and 1800. Emphasis is on the craft aspects, the organisation of guilds, membership of the Académie, Royal Verdicts related to the arts and crafts, the training of artists, the commercial aspects, exhibitions, the daily life of artists and artisan, the studios. You name it, it is there and it is a good read. The book has one main drawback, having hardly any references. Per chapter a short reading list is given and here and there are some footnotes. If you want to know more about certain details you will have to work hard to dig up the source material.

Ateliergeheimen : over de werkplaats van de Nederlandse kunstenaar vanaf 1200 tot heden / Mariëtte Haveman, Eddy de Jongh, Ann-Sophie Lehmann, Annemiek Overbeek (eds.). - Lochem [etc.] : Kunst en Schrijven, 2006.

§ A series of articles on studio practices in the Netherlands (but also from elsewhere in the world) from 1200 to the present day. Although emphasis is on historic painting practices, there are also discussions on the historic printmaking business, Vincent van Gogh's The Hague period and on modern artists such as Piet Mondriaan and Willem de Kooning.

Original patents as an aid to the study of the history and composition of semisynthetic plastics / Sylvia García Fernández-Villa and Margarita San Andrés Moya. In: Journal of the American Institute for Conservation. - (Summer 2005). - P. 96–102

§ The introduction discusses the use and usefulness of (old) patents on plastics.

The body of the artisan, art and experience in the scientific revolution / Pamela H. Smith. - London, Chicago: The University of Chicago Press, 2004.

§ This book is about the role of artists and craftsmen with their knowledge of materials and techniques in the Scientific Revolution in the 16th-17th century. From the blurb: 'Since the

time of Aristotle, the making of knowledge and the making of objects have generally been considered separate enterprises. Yet during the late sixteenth and early seventeenth centuries, the two became linked through a “new” philosophy known as science. In *The Body of the Artisan*, Pamela H. Smith demonstrates how much early modern science owed to an unlikely source—artists and artisans. From goldsmiths to locksmiths and from carpenters to painters, artists and artisans were much sought after by the new scientists for their intimate, hand-on knowledge of natural materials and the ability to manipulate them. ... Smith shows how artisans saw all knowledge as rooted in matter and nature. With ... vivid examples of this Renaissance synergy among art, craft, and science’.

Nature's Workshop : Renoir`s Writings on the Decorative Arts / Robert L. Herbert. - New Haven, Conn. : Yale University Press, 2000.

§ From the blurb: ‘This book shows Auguste Renoir in an entirely new light, revealing an artist far more complex and thoughtful than previously believed. Seven unknown and unpublished texts written by Renoir, along with four other writings once published but now largely forgotten, are presented here in both French and English. They identify Renoir as an impassioned critic of architecture, architectural decoration, and the education of artists. These surprising texts were written in 1883–84, when Renoir hoped to found an exhibition society grouping all the crafts, and around 1910, when he prepared several drafts of a preface to a French translation of Cennino Cennini’s medieval treatise on the arts. Robert L. Herbert has uncovered Renoir’s “Grammar of Art,” long believed lost, and has disproved the idea that his reading of Cennini was related to his trip to Italy in 1881.’

La pollution au Moyen Age dans le royaume de France et dans les grands fiefs / Jean-Pierre Leguay. - Paris : Gisserot, 1999. - 128 p. : ill.

§ The beauty of mediaeval book illuminations, some of them showing the towns and houses where people lived, does not reveal much of the environmental pollution our ancestors had to live in daily. Clean tap water did not exist, humans and animals defecated often at random, sewer systems were rudimentary, and as a consequence epidemics decimated town’s populations. Not that mediaeval man was not aware of the unhealthy situation: regulations were issued and fines given. All this documentation gives us an idea how one tried to keep control of the living area. For our interest are the kinds and amounts of industrial pollutions. How did one deal with the toxic fumes, substances and liquid waste of tanners, dyers, metal

casters, pigment producers and printers? Large amounts of water were drawn from wells and streams, to be poured back after the production process, mingling with water to be used for drinking and irrigating farm land. Lead vapours from casting and pigment making were known causes for professional diseases. Production was therefore concentrated in special areas of the town in order to limit contamination, or was simply banned beyond the town walls. A later example is that 17th-century printers were legally obliged to burn their oil to varnishes at specially designated fields, because of the risks for fires and explosions.

Uit goede bron. Introductie tot de historische kritiek / Walter Prevenier. - Leuven (etc.) : Garant, 1992.

English translation: From reliable sources : an introduction to historical methods / Martha Howell and Walter Prevenier. - Ithaca, N.Y. ; London : Cornell University Press, 2001

§ A handboek on the materials and techniques for source research written for historians. It is fundamental if you start with source research, otherwise a bit old-fashioned. About texts in all their varieties, other kinds of sources are hardly mentioned.

Reconstructions

NEW In Artists' Footsteps : The Reconstruction of Pigments and Paintings / ed. by Lucy Wrapson, Jenny Rose, Rose Miller, Spike Bucklow. - London : Archetype, 2012. - xxv, 227 p. : 314 colour, 16 halftone illustrations

ISBN: 9781904982852 (hbk)

From the blurb: *In Artists' Footsteps* explores the technical study and reconstruction of Old Master paintings and pigments from the medieval to the modern period. The contributions from experts in the fields of technical art history and conservation reflect a broad spectrum of current research and investigation worldwide.

The authors address the making of historically informed reconstructions as a way of informing the conservation process, assisting in the training of conservators and understanding historical artistic processes. The undertaking of reconstructions, carried out in tandem with the study of artists' treatises and historical sources, is further supported by the technical study of physical works of art - which is also explored in this volume.

These essays are brought together to celebrate the work of Renate Woudhuysen-Keller, who retired from the Hamilton Kerr Institute, Cambridge, in 2011. Among the contributions is a number devoted to reconstructions of paintings made at the Hamilton Kerr Institute under the tuition of Dr Woudhuysen-Keller, for whom this topic was a primary area of research and interest.

NB: search this list with 'reconstruction' to find other references to the reconstruction of materials, machines, tools and techniques.

Artists' materials & techniques

Most dealers in artists' pigments supply a limited range of dry colour, commonly modern artificial pigments and dyestuffs. Historically used colourants can be found with some specialised suppliers.

Everybody knows about the materials dealers Kremer Pigmente:

<http://kremer-pigmente.de/>

But there is more:

For The Netherlands there is the windmill De Kat:

<http://www.verfmolendekat.com/>

Well known, too, is the Belgium dealer Blockx:

<http://www.blockx.be/>

Cornelissen & Son in London supply pigments since 1855:

<http://www.cornelissen.com/pigments-gums-and-resins.html>

The following is a commercial online database on emblemata, but may keep interesting imagery on and references to art technology. Try the search option in the upper left corner to check (for free!) the keywords available, such as workshop, studio, atelier, etc.

<http://www.arkyves.org/welcome>

NEW This is the common online database of two German print collections. Click the tab 'Bild-Browser' / 'Image-Browser' to search the Iconclass codes. Enter terms in German, English, French or Italian and click Return. Search for 'brush', 'palette', 'workshop', 'engraving' etc.

<http://www.virtuelles-kupferstichkabinett.de/> (German)

<http://www.virtuelles-kupferstichkabinett.de/?eng=1> (English)

NEW Historisches Lexikon deutscher Farbbezeichnungen / William Jervis Jones. - Berlin : Akademie-Verlag, 2013. - 5 vol.

ISBN 3-05-005953-2

Hb 978-3-05-005953-2

§ This is the complete lexikon, containing retrieved terms and interpretations.

Vol. 1: Einführung, Bibliographie, Althochdeutsch, Mittelhochdeutsch. - CXLVII, 226 p.

Vol. 2: A - E : Frühneuhochdeutsch - Neuhochdeutsch. - P. 230 - 883.

Vol. 3: F - K : Frühneuhochdeutsch - Neuhochdeutsch. - P. 886 - 1717.

Vol. 4: L - R : Frühneuhochdeutsch - Neuhochdeutsch. - P. 1720 - 2388.

Vol. 5: S - Z : Frühneuhochdeutsch - Neuhochdeutsch. - P. 2390 - 3161.

From the blurb:

Das deutsche Farbwortinventar ist das Ergebnis einer hochentwickelten morphologischen Produktivität, begleitet von bahnbrechenden technischen Innovationen (Mineralogie, Optik, Farbenchemie usw.) und glänzenden Leistungen in Kunst und Dichtung. An einem umfassendes, historisch orientiertes Belegwörterbuch zu diesem Thema hat es bisher gefehlt. Mit ca. 35.000 Lemmata bietet dieses Lexikon in fünf Bänden eine repräsentative Dokumentation deutscher Farbbezeichnungen (mit Komposita, Idiomen und über tragenen Verwendungen) vom Althochdeutschen bis in die Neuzeit. Erfasst werden dabei zahlreiche Fachausdrücke und Farbstoffnamen. Aufgrund umfangreicher Exzerpierungen präsentiert das Werk viele Neubelege, einen neuen Semantisierungsversuch und einen in der diachronen Farbwortlexikographie bisher nicht erreichten Grad der Kohärenz. Den längeren Wortartikeln werden sprachsystematisch übergreifende Diskussionen vorangestellt. Somit wird die Möglichkeit eröffnet, verschiedene offene Fragen der germanistischen und allgemeinen Linguistik wieder in Angriff zu nehmen. Der Universalität des Phänomens ‚Farbe‘ entsprechend dient das Lexikon zugleich als wertvolle Informationsquelle in vielen anderen Disziplinen

NEW German Colour Terms : A study in their historical evolution from earliest times to the present / William Jervis Jones. - Amsterdam : Benjamins, 2013. - xiv, 663 p. - (Studies in the History of the Language Sciences ; 119)

§ This is the English companion volume.

From the blurb:

This monograph provides, for the first time, a comprehensive historical analysis of German colour words from early beginnings to the present, based on data obtained from over one thousand texts.

Part 1 reviews previous work in colour linguistics. Part 2 describes and documents the formation of popular colour taxonomies and specialised nomenclatures in German across many periods and fields. The textual data examined will be of relevance to cultural historians in fields as far apart as philosophy, religious symbolism, medicine, mineralogy, optics, fine art, fashion, and dyeing technology.

Part 3 — the core of the work — traces linguistic developments in systematic detail across more than twelve centuries. Special attention is given to the evolving meanings of colour terms, their connotative values, figurative extensions, morphological productivity, and lexicographical registration. New light is shed on a range of scholarly issues and controversies, in ways relevant to German lexicologists and to specialists in other languages, notably French and English.

ISBN 90-272-4610-3

Hb 978-90-272-4610-3

E-book 978-90-272-7202-7

Table of contents

List of figures

Preface

Part 1. Colour linguistics from a German perspective

Part 2. Cultural aspects of colour naming and inventorisation in German

Part 3. Linguistic aspects of German colour lexis

Abbreviations

Bibliography. Primary sources

Bibliography. Secondary sources

Appendix A. Colour lists in early classified lexia

Appendix B. Extract from Christoph Arnold (1627–1685), *Kunst-spiegel* (1649)

Appendix C. Abraham Gottlob Werner (1749–1817), *Ausführliches und systematisches Verzeichnis des Mineralien-Kabinetts des ... Herrn Karl Eugen Pabst von Ohain* (Freiberg, Annaberg, 1791–2)

Appendix D. Selected lists of artists' colours

Index

NEW *Alchimie nell'arte : la chimica e l'evoluzione della pittura* / Adriano Zecchina. - Bologna : Zanichelli, 2012.

§ Study of the historical development of painting materials in relation to chemistry.

Arabische gom : de fascinerende biografie van een van de meest exotische producten op aarde / Dorrit van Dalen. - Amsterdam : Bakker, 2006. - 256 p. : ill.

§ Gum Arabic, a fascinating material which chemical formula is still not unraveled, used both in the production of food and artists' materials from the middle ages onwards, brought back by pilgrims to the Holy Land to cover their costs and traded by shipload from the 15th century. What would the world do without? The author sketches the history of gum Arabic, its uses and trade, secrets and political power, especially in modern times from her own experiences.

The Painter's Handbook / by Mark David Gottsegen. - New York : Watson-Guptill, 2006.

§ For updates see: <http://www.amien.org/>.

Glossaire des matériaux de la couleurs et des termes techniques employés dans les recettes de couleurs anciennes / Bernard Guineau. - Turnhout : Brepols, 2005. - (De diversis artibus; 73).

§ From the blurb: 'Bernard Guineau n'est pas seulement un pionnier dans l'application des méthodes physico-chimiques aux pigments et aux colorants anciens. Il a aussi scruté la littérature technique de la couleur depuis l'Antiquité jusqu'au XXe siècle. Le présent dictionnaire résulte d'immense recherches documentaires. Il fournit l'identification, et très souvent la formule chimique de plusieurs milliers de termes anciens relatifs à la couleur et aux matériaux de la couleur. C'est un outil indispensable pour l'historien d'art, l'historien des sciences, l'analyste, mais aussi le restaurateur et l'artisan.'

The most thorough dictionary on historical colour terms in its field, comparable to Nicholas Eastaugh's 'Pigment compendium', but more exhaustive. Almost double its size and probably four times the amount of items. Based on 120 historical sources, with short entries per term, non-French terms are added to the French items. Especially good for mediaeval terminology it answers questions like: what is colcothar? When does atramentum means what? Eleven pages on black (noir) with 120 references and a dozen other terms elsewhere. With a small number of chemical structures, advertisements, recipes and historical samples illustrating the text.

NEW Transmission of Artists' Knowledge, 16 June 2011 / Mark Clarke, Bert de Munck & Sven Dupré (eds.). - Brussel : Contactforum, 2012.

§ Series of papers following a one-day contact forum on the historical exchange and dissemination of information on art technology organised by the Vlaams Academisch Centrum (Flemish Academic Centre: Institute for Advanced Study). From the Introduction (p. 4): This ‘artists’ knowledge’ included practical information and trade secrets: recipes for making materials, instructions for their use, and recommended colour combinations. It could include motifs and design elements or models. Oral transmission of trade secrets within the workshop was standard procedure, but in addition, a great number of written technical treatises survive and their connection to workshop practices is open to debate. Equally important is the question of the circulation of recipes outside the workshop and thus that of the readership of collections of recipes and technical treatises. It is important to note that ‘artists’ knowledge’ (as we use the term here) also includes other types apart from artisanal knowledge that were appropriated and used by artists, such as theology (reflecting on how a religious scene should be depicted), but also optics, perspective, alchemy, and mathematics. If and how artists’ uses of such bodies of knowledge entails changes is also a question up for discussion.

Kunsttechnieken in historisch perspectief / Helen Westgeest (et al.). - 2nd ed. - Turnhout : Brepols, 2012.

§ 1st ed.: 2011. An English translation is planned.

Case-based chapters on ‘art techniques in historical perspective’, as the title says. The book’s contents range from classical to modern painting, drawing and sculpture, through printmaking and photography, to video art and installations. Contains a chapter on technical examination and conservation of art objects. Designed as a standard reference work for academic students in art history and conservation it is also useful as a handbook for professionals.

Pigments and Power in the Andes: from the Material to the Symbolic in Andean Cultural Practices 1500 - 1800 / Gabriela Siracusano. - London : Archetype, 2011. - 197 p. : 125 ill., of which 88 in col.

ISBN 978-1-90498256-2

§ From the blurb: This book is the result of a study of cultural practices related to the uses of colouring materials in the South American Andean region during the colonial period (sixteenth–eighteenth centuries) and their ‘powerful’ presence in the images of the conquest.

It offers the reader a new insight into the techniques and use of colour in Andean colonial painting.

A material history of color in Andean workshops (the 'making'), leads the reader to the exchange of ideas between different parties such as painters, pharamacists, physicians, alchemists, etc. (the 'knowledge'), and then to the symbolic and powerful dimension of these coloured powders as found in the sacred and political messages projected by the images (the 'power').

Starting with an analysis of the images and the concept of representation during the process of evangelisation/ domination, the author describes the discursive and iconographic strategies used by different parties to achieve several goals through the use of colour. The book's main hypothesis is that colors were silent protagonists of the Andean ritual system, a fact that was identified only by certain 'idol exterminators' who tried to 'rebrand' them by giving them a Christian meaning.

This is the English language edition of *El Poder de los Colores* by Gabriela Siracusano, published by Fondo de Cultura Economica, Buenos Aires 2005.

Trade in Artists' Materials: Markets and Commerce in Europe to 1700 / Jo Kirby, Susan Nash and Joanna Cannon (eds.). - London : Archetype, 2011.

§ From the blurb: Where did artists buy their materials? Who prepared them? What did they cost? Where did they come from, and how? This volume draws together the international research in this new and rapidly developing field of interdisciplinary enquiry by historians, conservators, scientists, economic historians and historians of trade. The evidence concerning supply and distribution, availability, cost, quality and value of artists' materials is fundamental for interpreting surviving objects in a wider sense.

The authors draw on documentary material as diverse as pharmacy price lists, shipping and customs records, merchants' handbooks, traders' inventories and court account books. These sources are combined with technical evidence from works of art to explore the movements of pigments, dyes, panels, canvases, alabaster, parchment and paper from their point of origin to their purchase by the consumer in the major European centres of trade.

The contributions range from specific case histories to more general views of the mechanisms and actuality of trading. Questions of terminology that have dogged the study of this topic are addressed and clarified, and new evidence concerning the nature of the materials traded and their identification is presented. Much of the detailed material discussed is provided in table

form, and the book, which is generously illustrated, includes many maps illustrating trade routes.

This volume is based on the papers for the international conference *European Trade in Painters' Materials to 1700* held at the Courtauld Institute and the National Gallery, London, [in 2005] with additional contributions, and is supported by International Academic Projects and the Courtauld Institute of Art.

Diccionario de materias y Técnicas (1. Materias) : tesoro para la descripción y catalogación de bienes culturales / Stefanos K. Kroustallis. - Madrid : Ministerio de Cultura, Museus Estatales, 2008. - 732 p. : 167 fig. in col.

ISBN 978-84-8181-382-1

§ An extensive and detailed alphabetical list of any possible term related to materials used in making works of art and craft, and in conservation. A standard reference tool for anyone involved in artists' materials and a guide for compiling databases for conservation research. From the blurb: This Dictionary is the first part of a grand effort to compile and systematise the terminology related to the material aspects of objects of cultural heritage. The object is to serve as a tool for indexing and for standardising terminology in databases for cultural heritage.

The Creation of Color in Eighteenth-Century Europe / Sarah Lowengard. - New York : Columbia University Press, 2008

§ The introduction is promising and the glossary inviting. With three short discussions on textual and visual sources on colour in 18th-century Europa. Also available as a series of online PDFs: <http://www.gutenberg-e.org/lowengard/index.html>

Try the search engine and take a look at the pictures. You can download the texts but not the pictures.

The journals of naturalists who visited Brazil in the 19th century – sources of information for paint materials and international trade / Luiz A. C. Souza. In: 15th triennial meeting of the ICOM committee for Conservation, preprints / Janet Bridgland (ed.). - New Delhi : Allied Publ., 2008.

Carriera Rosalba - maniere diverse per formare i colori / Manlio Brusatin, Vittorio Mandelli.
- Milano : Abscondita, 2005.

§ Full of details, linguistics, intimate knowledge, lots of notes, bibliography.

L'Alun de Méditerranée. Actes du Colloque International (Naples/Lipari, 4-8 juin 2003) /
édités par Philippe Borgard, Jean-Pierre Brun et Maurice Picon. - Naples ; Aix-en-Provence :
Centre Jean Berard, 2005. - (Collection du Centre Jean Berard).

§ Based on the international colloquium at the French Archaeological Institute in Naples
(Centre Camille Jullian, Centre Jean Bérard de Naples et al.), Naples, June 2003.

Review by Jilleen Nadolny.

Measuring Depicted Space – Optical Imaging of Paintings.

There is a world of difference between knowing that something is wrong and being able to prove it conclusively. I imagine that many ATSR members felt this upon reading David Hockney's *Secret Knowledge: rediscovering the lost techniques of the Old Masters*, 2002. Subsequently, bits of his theory have been disproven, with varying levels of authority. However, recently, scientific tools in the form of optical imaging, applied in an increasingly sophisticated manner, have provided an impressive means to evaluate the lighting sources, perspectival accuracy, and other aspects of the manner that reality is constructed in various works of art. Indeed, some of our own ATSR group members have been pursuing such solutions:

S. Savarese, R. Spronk, D. Stork, A. DelPozo, 'Reflections on praxis and facture in a devotional portrait diptych: a computer analysis of the mirror in Hans Memling's *Virgin and Child* and Maarten van Nieuwenhove', *Computer Image Analysis in the Study of Art*. Edited by Stork, David G.; Coddington, Jim. *Proceedings of the SPIE*, Volume 6810, pp. 68100G-68100G-10 (2008): <http://www.rii.ricoh.com/~stork/SavareseetalSPIE08.pdf>

[URL NOT AVAILABLE ANYMORE]

One of the authors of the above article, Dr. David Stork (Chief Scientist at the California Research Center of RICOH), has been particularly prolific in working towards a better understanding of pictorial space in paintings via optical imaging. He presents a number of very compelling arguments against the majority of Hockney's claims, using computer simulations of lighting, reconstruction of painted images in 3 dimensions and simple

photoshopping of perspectival lines onto compositions to make his points. A good introduction to his work may be accessed on-line:

<http://www.webexhibits.org/hockneyoptics/post/stork.html>

and extensive bibliographies are also available on the web:

<http://rii.ricoh.com/~stork/>

[URL NOT AVAILABLE ANYMORE]

His work shows, among other things, how accepting our brains can be of what we see; depictions work for us in “real” space even when they are not accurately rendered. Stork’s analysis of the ‘perspectively accurate’ rendition of the brass chandelier in the Aronolfini Wedding provides a fascinating look at what can pass for ‘correct’ perspective.

Of course, there are rebuttals of some of Stork’s work, and some of them employ documentary sources in their arguments. One of the more interesting is Susan Grundy’s article on webexhibits (see the conclusion, below):

<http://www.webexhibits.org/hockneyoptics/post/grundy11.html>

And naturally, rebuttals exist as well by David Hockney and Charles Falco, who worked with Hockney - (for example), compare:

<http://www.rii.ricoh.com/~stork/StorkFuruichi.pdf>

[URL NOT AVAILABLE ANYMORE]

with:

<http://www.optics.arizona.edu/SSD/Storkdataerrors.htm>

[URL NOT AVAILABLE ANYMORE]

Beyond debate however, is the fact that Dr. Stork utilises an array of sophisticated analytical techniques to process images, techniques that undoubtedly hold much promise for art research. Also worth noting: at a recent talk at Smith College in Northampton, MA (USA) in October, he announced to the audience that he welcomes suggestions for worthy research topics.

http://vision.mpiwg-berlin.mpg.de/imageCollection/drawing_instruments/

§ This page deals with drawing with optical instruments; the site offers an interesting Image Collection, Bibliography and an Electronic Library with digitized texts.

<http://www.oberlin.edu/alummag/spring2008/features/transforming.html>

§ This is an article on Sarah Belchetz-Swanson, her work as an artist and her cooperation with Phoebe Dent Weil about the reconstruction of historical painting techniques, Rembrandt's especially.

Dictionnaire des matériaux du peintre / Francois Perego. - Paris: Belin, 2005.

§ A 're-edition' of Gettens of Stout, with 20 years research and work to update it to an excellent book as the mother book; very colourful and even more intelligent devised, lots of sources, images, bibliography first rate - it is more a restaurers material info book than really for painters.

Ancient Egyptian materials and technology / ed. by Paul T. Nicholson and Ian Shaw. - Cambridge : Cambridge University Press, 2000.

§ 3rd printing: 2003.

This a 'massive' book, both in size (702 p.) and in contents. It is divided into three parts: Inorganic materials (stone, soil, painting materials, metals, Egyptian faience, glass), Organic materials (papyrus, basketry, textiles, leatherwork and skin products, ivory and related materials, ostrich eggshells, wood, mummification, oil-fat-wax, resins-amber-bitumen, adhesives and binders, hair), and food technology (cereals, brewing and baking, wine etc., fruits etc., meat). The contents are too wide to describe here, it suffices to say that there is a thorough index to find your way through the wealth of information.

The artist's illustrated encyclopedia : techniques, materials and terms / Phil Metzger. - Newton Abbot, Devon (UK) : David & Charles, 2001.

§ More books like this one have been published, but this is a fairly recent one. Entries are concise, but with an abundance of pictures to elucidate them. It serves both a quick update on a particular material or technique, as well as informing on modern English terminology.

Drawing and writing inks

http://www.nystamp.org/Topic_is_ink.html

§ On recognising various types of writing ink.

http://penelope.uchicago.edu/Thayer/E/Roman/Texts/secondary/SMIGRA*/Atramentum.htm

1

§ A fine piece of ‘classical’ source research, a 19th-century essay on the term ‘atramentum’, as used for writing ink.

Byzantinische Tinten-, Tuschen- und Farbrezepte / P. Schreiner, Doris Oltrogge. - Wien: Österreichische Akademie der Wissenschaften, 2011. - (Denkschriften / Österreichische Akademie der Wissenschaften, Philosophisch-Historische Klasse; 419; Veröffentlichungen der Kommission für Schrift- und Buchwesen des Mittelalters, Reihe 4, Monographien; 4).

§ Handbook on researching *realia* in Byzantine manuscripts and mediaeval book culture. Discusses 80 Byzantine recipes for black inks, colours, and grounds for miniature painting. Part 1 has the edited, translated and annotated texts. Part 2 gives technological comments on the reconstruction and analysis of the recipes. Contains a glossary of technical terms, constituents and application methods. A second glossary has Greek terms.

Tinten und Tuschen des arabisch-islamischen Mittelalters; Dokumentation - Analyse - Rekonstruktion; ein Beitrag zur materiellen Kultur des Vorderen Orients / A. Schopen. - Göttingen : Vandenhoeck & Ruprecht, 2006.

§ Discusses Islamic carbon inks and iron-gall inks up to the fifth (Islamic) / eleventh (Christian) century. Base of this study is a list of 165 references translated in German to original ink recipes, 56 of which are reconstructed. Contains an extensive glossary that classifies the different constituents.

Iron gall inks: on the manufacture, characterisation, degradation and stabilisation / Jana Kolar, Matija Strlic (eds.). - Ljubljana : National and University Library, 2006.

§ For a summary see below under ‘Source research and conservation’.

Dyestuffs and dying

Tintorería y medicina en la Valencia del siglo XV: el manual de Joanot Valero / L. Cifuentes i Comamala, R. Córdoba de la Llave. - Barcelona: Institución Milá y Fontanals, Departamento de Estudios Medievales, 2011 (Anuario de estudios medievales. Anejo; 70)

§ On fifteenth-century dying in Valencia. Includes a transcription of the original manuscript in Catalan and Aragon, with a modern translation in Castellán.

Natural Dyes - sources, tradition, technology, science / Dominique Cardon. - London : Archetype, 2007

§ This authoritative resource is an expanded, corrected and updated translation of the award winning book: *Le Monde des Teintures Naturelles*. - Paris : Belin, 2003.

At a time when more and more plants and animals are threatened with extinction by humanity's ever-increasing pressure on the land and oceans of the planet, this book sets out to record sources of colorants discovered and used on all the continents from antiquity until the present day.

Some 300 plants and 30 animals (marine molluscs and scale insects) are illustrated and discussed by the author, whose passion for natural dyes, with their colours of unequalled richness and subtlety, has taken her across the globe in search of dye sources and dyers. Botanical/ zoological details are given for each source and the chemical structures shown for each dye. Dyes employed by different civilisations, identified by dye analyses, are illustrated and relevant historical recipes and detailed descriptions of dyeing processes by traditional dyers are quoted and explained in the light of modern science.

Other current uses of such colorants, e.g. in medicine and for food and cosmetics, are also noted.

Although natural dyes have been replaced largely by synthetic dyes, increasing worldwide awareness of the harmful consequences of the pollution resulting from the production and use of some synthetic colorants has led to a significant revival and renewed interest in natural colorants. As potential renewable resources, natural dyes are an integral part of the major issue of our time – sustainable development. The aim of this book is to provide a scientific background for this important debate.

Tintes y tintoreros de América ; catálogo de materias primas y registro etnográfico de México, Centro América, Andes Centrales y Selva Amazónica. - Madrid : Ministerio de cultura, 2006. - 254 p. : full colour ill.

§ On the making and use of dyestuffs in Middle and South America. Richly illustrated showing the various steps of making the dyestuffs from local materials with local methods,

and applying them by hand or semi-mechanised in traditional ways. The introductory essay on the historical-ethnographic context refers to the few textual and visual sources known.

Indigo / Jenny Balfour-Paul. - London : British Museum, 1998.

§ The blue dye indigo has been the world's most valued dyestuff for almost five millennia. This text covers in detail all aspects of this subject: historical, agricultural and botanical; chemical and technological; commercial and economic; indigo's various uses in textiles and art; and its many sociological, medicinal and folkloric connotations. With several reprints.

The art of dyeing in the history of mankind / Franco Brunello. - Vicenza : Neri Pozza, 1973.

§ Concerning dyestuffs and dying through the ages, this volume will (should) be known to all DHA people. The volume covers the history of dyeing, its materials and techniques from prehistoric times through the ages until the emergence of the synthetic dyes. The author bases himself on a large amount of textual and visual sources (nice pictures) on dyeing techniques, making it a fine example of art technological source research. There is an extensive dictionary of natural dyestuffs at the end of the volume with all plant names in five languages.

Health and safety

The Artist's Complete Health and Safety Guide / by Monona Rossol. - New York : Allworth Press, 2006.

§ Mark Gottsegen: This is as comprehensive a guide as Mike McCann's Artist Beware.

Artist beware! The hazards in working with all art and craft materials and the precautions every artist and craftsperson should take / Michael McCann. - Guilford, Conn : Lyons Press, 2005.

§ The latest edition of McCann's handbook on Health & Safety.

Printsafe : a guide to safe, healthy & green printmaking / by Tim Challis. - London : estamp, 1990.

§ A slim, but most useful volume on health and safety issues in printmaking. Still valid and practical, although a kind of revolution has taken place in printmaking practice, changing from volatile toxic solvents and acids to far less fugitive liquids or even to solid materials.

Pigments and pigment production

A website on 18th-century English chemical terms, including names of pigments:

<http://www.dur.ac.uk/m.d.eddy/EklundsObsoleteChemistryTermsAtoH.html>

[URL NOT AVAILABLE ANYMORE]

This part covers the terms from A-H, there are two more parts for the rest of the alphabet and an overview.

Wikipedia has a nice list of ‘pre-scientific substances’, among them a lot of pigments, with links: http://en.wikipedia.org/wiki/List_of_alchemical_substances

<http://webexhibits.org/pigments/>

§ On pigments and their history, how to make paints and pastels, and how to use them.

NEW Blue Pigments : 5000 years of Art and Industry / François Delamare. - London : Archetype, 2013. - xi, 361 pages, [68] pages of plates : illustrations (some colour), map ISBN 9781904982371 (pbk)

See also the publication on blue by Michel Pastoureau of 2000 below.

For the original 2008 French edition see below.

From the blurb: In the natural world, blue rocks from which objects can be fashioned are rare - a few marbles, lapis-lazuli and related rocks, and minerals containing copper. However those which, once ground, can be used as pigments are exceptional. Only lapis-lazuli and azurite come to mind. The long absence of blues from the palettes of our distant ancestors is therefore easy to explain as is the fact that blue pigments have always been an expensive commodity which became the objects of a very lucrative trade, spanning continents and oceans.

The primary goal of this book is to show how much ingenuity man has needed to employ in order to make blue materials. From Egyptian blue to copper phtalocyanine, ranging through

Maya and Han blues, smalt, blue ashes, Prussian blue and artificial ultramarine, we cannot help but be in awe of the variety of technical solutions found. Each civilization has produced its own solution, or sequence of solutions. Thus one can say that blue pigments can be considered as markers of civilizations.

M. del Egido, S. Kroustallis (eds.), *Fatto d'archimia: los pigmentos artificiales en las técnicas pictóricas*, Madrid: Ministerio de Educacion, Cultura y Deporte, 2012.

§ A series of chapters on the historical production of artificial blue, red, yellow, green, white and black pigments. Based on documentary research and technical analyses many of the pigments discussed are reconstructed.

Zinnober - zurück zu Quellen / Laura Resenberg et al. - München: Siegl, 2010. - 116 p. : 36 ill.

ISBN 3-93564-330-6.

§ Review by Mark Clarke.

Interdisciplinary study that can be recommended, both for the content and as examples of best-practice methodology.

NEW *Bleus en poudres : de l'art à l'industrie, 5000 ans d'innovations* / François Delamare. - Paris : Mines Paris/Paritech/Les Presses, 2008. - 422 p. : ill., partly col. - (Sciences de la matière).

ISBN 978-2-911-76282-6 (pbk)

§ For the 2013 English translation see above.

See also the publication on blue by Michel Pastoureau of 2000 below.

NEW *Noir : histoire d'une couleur* / Michel Pastoureau. - Paris : Seuil, 2008. - 210 p. : ill.
§ 2nd ed.: 2011 (Seuil, Points; pocket format).

Auripigment - Orpiment / Carolin Rötter et al. - München: Siegl, 2007. - 198 p. : 142 ill, of which 112 ill. in col.

ISBN 978-3-93564-338-2.

§ Review by Mark Clarke.

Interdisciplinary study that can be recommended, both for the content and as examples of best-practice methodology.

Processes and pigment recipes : natural ultramarine / Spike Bucklow. In: Zeitschrift für Kunsttechnologie und Konservierung. - Vol. 20 (2006), no. 2. - P. 269-277.

§ The author first argues that it is the method and not the material that determines whether we are dealing with a work of art. To prove his argument he ‘outlines the analysis of ultramarine as a means of understanding the relationship between processes and products’.

Reconstructions of ultramarine recipes in the Bolognese manuscript (in Merrifield) and from Cennini form the base of his study. Basically, all recipes work and it is the handling of the material that makes art.

Giallorino – Storia dei pigmenti gialli di natura sintetica / Claudio Seccaroni. - Rome : De Luca Editori d’Arte, 2006.

§ The book belongs to the collection ‘Materiali della cultura artistica’, directed by the Italian Central Institute for the Catalogue and the Documentation. The matter concerns synthetic yellow pigments (lead tin yellow I and II, Naples yellow, lead tin antimony yellow) used in painting, glass, enamels, majolica/pottery and porcelains. The analytical data are crossed with historical information and with a lot of recipes. Sources are full printed in original language. Wide apparatus of notes at the end of each chapter. Rich index and bibliography at the end of the volume.

http://www.sfiic.fr/coll_coul/collcoul_annfr.htm

§ The website of the 2006 conference ‘Couleur & temps’ shows the contents and there are some chapters which so nicely combine source research with practical work, such as reconstructions: ‘La production des couleurs au XVe siècle’ (William Whitney), ‘Histoire de la fabrication et de l’emploi des pigment noirs’ (etc., Anna Maria Marinelli [et al.]). Also ‘Les comptes des ducs de Bourgogne à la fin du XIVe siècle, les noms et les prix des pigments’ (Jean Delivré) with indeed a list of colour names and its actual pigments with discussion about terminology (‘cinople’ is not green as one might expect but a kind of red) and prices.

Pigment compendium, a dictionary of historical pigments / by Nicholas Eastaugh (et al.). - Amsterdam : Elsevier, 2004.

§ Repertory of historical pigments, with short descriptions per term.

Bleu – l'histoire d'une couleur / Michel Pastoureau. - Paris : Seuil, 2000. - 215 p. : ill

§ 2nd issue: 2001; 2nd ed.: 2002; 3rd ed.: 2006.

The author is the best colour historian of France. Good introduction to the field of blue in terms of full embracing approach and quality of research and richness of sources; see also the 2008 publication on blue by François Delamare above. Good bibliography and lots of notes.

Printmaking techniques

<http://www.moma.org/exhibitions/2001/whatisaprint/flash.html>

§ Nicely done animations of the four basic printmaking techniques.

Engraving and Etching 1400-2000: Historical Developments of Manual Intaglio Printmaking Processes / Ad Stijnman. - London: Archetype ; Houten : Hes & De Graaf, 2012. - xiv, 658 p. : front., 302 fig.

§ This book surveys the history of the techniques of engraving, etching and plate printing - ie that of manual intaglio printmaking processes - from its beginning in the 1430s until today. These developments are observed in the light of the coherence between the technique of the intaglio print (such as its materials and methods of production); the 'style' or outward appearance of the print; the creator of the print; and the fashion typical of a particular social group, place and time. Economic, educational and social aspects are discussed, as well as the dissemination of the trade of intaglio printmaking. The author shows how intaglio printmaking developed steadily from the mid-fifteenth century, with the invention of the roller press and the etching of printing plates. By 1525 intaglio printmaking techniques could be said to have reached maturity and spread east and west following the European trade routes and colonisation. Further developments in plate-making resulted from a series of inventions and reinventions. After the abolition of the guilds on the European continent around 1800, and the introduction of photography and the expansion of the graphic industry, the engraving of images became a mere mechanical procedure. The handcrafted print made way for the large-scale mechanised graphic industry which emerged in the middle of the nineteenth century. Consequently artist-etchers withdrew to an elite position to concentrate

on the manual aspects of printmaking, which is the situation today. Contains a glossary of historical terms, a chronology of intaglio printmaking techniques, a list of fifteenth-century engravers and an exhaustive bibliography of practical manuals.

Studies on Intaglio Techniques in the 17th Century: Printmaking of Abraham Bosse and his Contemporaries / Ayumi Yasui, Yoshio Kamitani. - Kanazawa : Kanzawa Society for Art Studies, 2011. - 39 p. : ill.

§ A study of seventeenth-century French engraved and etched copper plates by means of close observation of the plates themselves. Demonstrates also the reconstruction of etching ground recipes after the third edition of Abraham Bosse's treatise on etching *Traité de la manière de graver* (1745, originally 1645).

Guía para la identificación de grabados / Rosa Vives Piqué. - Madrid: Arco, 2003. - 319 p. : ill.

§ A recurring theme in twentieth century art history and conservation is how to recognise the various printmaking techniques in the prints themselves and how to distinguish between them. Such information is especially useful for print collectors, conservators or curators. Classic and often reprinted is *How Prints Look* by William Ivins (1943). In the words of the author, it 'is an elementary introduction to the appearances (the outward and visible signs) of prints'. Another one is Felix Brunner's *Handbook of Graphic Reproduction Processes* (1962, with five reprints) with tri-lingual texts and many detail photographs. For similar works richly illustrated with details of graphic processes see the publications by Gascoigne (1986, with four reprints and a Dutch translation), Vives Piqué (2003) and König (2008). What these books have in common is explaining graphic techniques illustrated with details, which is strongly supportive in discerning particular printmaking processes. The student of the print is therefore advised to always bring a magnifying glass (enlargement 7x or more) for the better recognition of the techniques applied in producing the prints under study.

Encyclopedia of printing, photographic, and photomechanical processes. A comprehensive reference to reproduction technologies, containing invaluable information on over 1500 processes / Luis Nadeau. - Fredericton, NB (Canada): Nadeau, 1989-1990. - 2 vol.

§ 2nd ed. in 1 vol.: Fredericton 1994.

Authorative encyclopedia of terms and expressions used in printmaking and the graphic industry.

Erkennen Sie den Druck? Geschichte der Druckformen und die Erkennungsmerkmale der Drucke von der Frühzeit bis 1955 / Adalbert König. - Wien: König, 1998. - X, 282 p. : 161 fig.

How to identify prints / Bamber Gascoigne. - Londen : Thames and Houston, 1986. - (Unpaged, but instead numbered per technique) : ill., partly in col.
§ With several reprints and a Dutch translation (1988).

A handbook of graphic reproduction processes : a technical guide including the printmaking processes for art collectors and dealers, librarians, booksellers, publishers, artists, graphic designers and the printing trade / Felix Brunner. - Teufen: Niggli, 1962. - 379 p. : ill.
§ Tri-lingual: English, German and French.

How prints look, photographs with a commentary / William M. Ivins. - New York : Metropolitan Museum of Art, 1943. - 164 p. : ill.
§ With many reprints and still popular.

Source research and conservation

<http://www.inside-installations.org/home/index.php>

§ On 20th- & 21st-century art techniques. Documentation on contemporary artists' materials and techniques. Check the downloads which have information on the installations collected by means of interviews with the artists.

Textiles and Text / Maria Hayward, Elizabeth Kramer (eds.). - London : Archetype, 2007.

§ This publication focuses on the interrelationship between archival and bibliographic research and the study of extant objects. Papers consider how archival and bibliographic research can inform our knowledge of textiles and dress, in terms of their production, consumption, dissemination and deterioration and in turn, how the study of extant objects can give added depth to this analysis. The authors include conservators, curators, historians and conservation scientists.

Assessment and survey of the Vinland map and the Tartar Relation and Speculum Historiale / René Larsen, Dorte V. Poulsen, Marie Vest. In: Zeitschrift für Kunsttechnologie und Konservierung. - Vol. 20 (2006), no. 2. - P. 249-260.

§ A damage assessment of the much discussed Vinland map, in comparison with damage assessments of the Tartar Relation and Speculum Historiale manuscripts; the map is supposed to have been bound up together with either or both of the manuscripts. The ink and parchment of map and manuscripts are studied visually, but not analysed scientifically. The bindings of the manuscripts are studied. Suggestions are made for further research, but no decisive answer is given about the origin of the map.

Une étude scientifique de la technique picturale de Jean-Paul Riopelle / Marie-Claude Corbeil, Kate Helwig, Jennifer Poulin. In: Technè. - no. 24 (2006). - P. 47-52.

§ Reports a scientific study of the various painting materials used by the Canadian painter Jean-Paul Riopelle (1923-2002) in the course of his career. The project was performed in relation to the conservation of his works as well as their attribution, but also in order to better understand the creative processes of the artist.

Iron gall inks: on the manufacture, characterisation, degradation and stabilisation / Jana Kolar, Matija Strlic (eds.). - Ljubljana : National and University Library, 2006.

§ The concluding reports of the InkCor project, on the effects of iron gall ink corrosion.

Discussed are all aspects of iron gall ink, from an art historical, art technological, conservational and chemical/physical point of view. The book contains a wealth of new data on the subject, from the museum point of view to archival damage survey, from a discussion of the corrosion mechanisms to the identification of inks, from the historical background of ingredients to the first successful tests of a newly proposed medium to stabilise ink corrosion. Based on historical paper production new model papers are introduced. Based on historical ink recipes new model inks are proposed. Results of analyses of historical objects are compared to modern references. The newly developed non-aqueous treatments are amply discussed. Any further research into the subject of historical iron gall inks, the mechanism of ink corrosion and its treatment methods will refer to this book.

Source research and drawing

NEW The Luminous Trace: Drawing and Writing in Metalpoint / Thea Burns. - London : Archetype, 2012.

§ From the blurb: The origins of metalpoint (silverpoint, goldpoint, etc.) drawing are widely thought to lie in classical antiquity. The Luminous Trace investigates the artefactual and literary evidence for the use of metalpoint through the ages from earliest times up to its revival, particularly in the United States, in the later 20th and early 21st centuries, reviewing the history and historiography of metalpoint and its use for drawing and writing. Metalpoint drawings are the central objects of this study and their physical features are the prime consideration, juxtaposed with the written evidence which may suggest why artefacts look as they do.

With reference to historical textual, visual and material documentation.

The Invention of Pastel Painting / Thea Burns. - London : Archetype, 2007.

§ From the blurb: Chalks and pastels are particularly appropriate materials for portraits because they appear effortlessly to convey the warm tones and soft, matte velvety surface of skin. Portraits and head studies therefore figure prominently in histories of pastel. The Invention of Pastel Painting describes the relatively sudden emergence in the later seventeenth century of sets of friable pastel sticks and a new artistic practice of painting in pastel. The author reconsiders the use of natural and fabricated drawing sticks as tools, firmly locating their use in the context of historical function. 'Artistic techniques have a social history; they are signs endowed with cultural meaning by society.'

The visual, documentary and etymological evidence does not support the concept of a narrative history of pastel gradually progressing from a 'simple' original state in the drawings of Leonardo da Vinci, Jean and François Clouet and the Dumonstiers to an increasingly richly coloured and technically complex visual record in the paintings of Robert Nanteuil, Joseph Vivien and Rosalba Carriera, and then continuing to evolve through the nineteenth century.

In considering the history of chalk and pastel, the author argues that the change is aesthetic, not formal, and is grounded in social function and technical response. She has drawn not only on artists' letters and accounts, documents, critical and theoretical writings, and, broadly, the

secondary literature, but also on close visual examination and scientific analysis of selected chalk drawings and paintings in pastel, particularly those created between 1500 and 1750.

NEW Sobre as origens da perspectiva em Portugal : o ‘Liuro de Prespectiua’ do código 3675 da Biblioteca Nacional, um tratado de arquitectura do século XVI / Joao Pedro Xavier. - Porto : Faculdade de Arquitectura da Universidade do Porto (FAUP), 2006. - 584 p. : ill. ; 26 cm.

ISBN 9789729483790

§ Study and transcription of a text with instructions for drawing perspective in a 16th-century Portuguese manuscript on architecture.

Crayon, Paper, and Paint: an Examination of Nineteenth-Century Drawing Materials / Kimberly Schenck. In: The Essence of Line, French Drawings from Ingres to Degas / Jay McKean Fischer ... [et al.]. - University Park, PA : The Pennsylvania State University Press, 2005. - P. 57-85.

Hoofdkussens en –brekens. Een onderzoek naar historische tekenmaterialen en –technieken / Ton de Laat. - Amsterdam : Galerie Petit, [2000].

§ Reconstructions of historical drawing materials and -techniques. Glossary.

The pencil : a history of design and circumstance / by Henry Petroski. - New York : Knopf ; Toronto : Random House of Canada, 1990. - XI, 434 p. : ill.

§ With 11 reprints up to 2003, an edition in England (London: Faber and Faber, 1990) and a German translation (*Der Bleistift*, Basel: Birkhäuser, 1995).

From the flap: We use it [= the pencil] every day of our lives. It is virtually invisible, yet universal and necessary. In this fascinating and charmingly illustrated book, Henry Petroski celebrates the history of its design. His story brings in such figures as the American philosopher Henry David Thoreau, who designed pencils; Toulouse-Lautec, who declared, ‘I am a pencil’, and the great nineteenth-century manufacturing families, such as Dixon and Faber. Petroski describes the frantic search for materials to produce the perfect pencil point: explains why some pencils were yellow (to indicate pure graphite from the Orient); he even reveals exactly how they get the lead inside the wood.

Source research and painting

Greek Painting Techniques and Materials from the Fourth to the First Century BC / Ioanna Kakoulli. - London : Archetype, 2009. - 167 p. : 142 in col.

ISBN: 9781904982425 (paperback)

§ This book provides the first comprehensive overview of the techniques and materials used in a range of monumental paintings from the Late Classical to the Graeco-Roman period reflecting the Hellenistic culture.

Information is drawn from scientific technical studies, archaeological and art-historical documents and the surviving texts of ancient writers such as Theophrastus (end of the fourth century BC), Vitruvius (first century BC), and Pliny (first century AD). Based primarily on the technical examination and analyses of wall paintings, painted architectural elements and marble monuments, the scientific study of materials provides information on the chemical composition of the plasters, the nature of pigments and their microstructure and identifies patterns of trade and methods of manufacture (if synthesised). It further identifies the chemical and physical properties of binding media employed and colour changes in paint layers induced by the alteration of the painting constituent materials and/or external factors. The results suggest a highly developed and cosmopolitan culture, encompassing the entire Mediterranean region and beyond, from the mountains of Macedonia to the deserts of Ptolemaic Egypt and the Eurasian Plateau, throughout which ideas and goods flowed freely.

Jilleen Nadolny, One craft, many names: gilders, preparers, and polychrome painters in the 15th and 16th centuries. In: 15th triennial meeting of the ICOM committee for Conservation, preprints / Janet Bridgland (ed.). - New Delhi : Allied Publ., 2008.

Técnicas y materiales de la pintura española en los Siglos de Oro / Rocío Bruquetas Galán. - 2nd ed. - Madrid : Fundación de Apoyo a la Historia del Arte Hispánico, 2007. - 566 p. : full col. ill., tab.

§ 1st ed.: 2002.

Complete overview of painting materials and techniques in Spain in the sixteenth and seventeenth century based on extensive documentary research. With a glossary of historical technical terms and transcriptions of the documentary texts used.

Theories about the Eyckian painting medium for the late-eighteenth to the mid-twentieth centuries / Elise Effmann. In: *Reviews in conservation*. - Vol. 7 (2006). - P. 17-26.

§ An overview of the concerns and controversies about the painting medium employed by Jan van Eyck, based on 70 references from Raspe (1781) to the present day.

Atelierdarstellungen in der niederländischen Genremalerei des 17. Jahrhunderts : realistische Abbild oder glaubwürdiger Schein? / Katja Kleinert. - Petersberg (Germany) : Imhof, 2006. - (Studien zur internationalen Architektur und Kunstgeschichte; 40).

§ Based on her dissertation (Berlin: Freie Universität, 2003), this study encompasses a detailed introduction to the various aspects of 17th century painter's studio practices in the Netherlands. All aspects are dealt with: tools & materials, lighting & heating, etc. Being rich in references to textual and visual sources, and to a few realia, the second part of the publication contains a catalogue of 76 painting with painters at work in their studio. Some more drawings, and one print, of painters' studios are reproduced in the text.

Varnishes and very curious secrets : Cremona 1747, the manuscript 4 [H 113] of the Biblioteca Trivulziana in Milan / ed. by Vincenzo Gheroldi ; transcription Stefania Vitale ; essay on varnished in violin-making Luciano Colombo ; translation Minni Vesconi. - 2nd issue. - Cremona : Cremona Books, 2005. - 251 p.

ISBN 88-8359-011-2

§ The core of this book is a transcription with English translations of the French and Italian art technological recipes in the Trivulziana manuscript 4 [H 113]. There is a good deal of recipes for pigments in the ms., but the majority are varnish recipes either oil-based or solutions in alcohol.

From the blurb: This core of recipes has given rise to the studies presented in this publication. First, the cultural background of 18th century amateurs who wrote artistic recipe books is investigated with particular reference to their preferences and technical skills in preparing varnishes for paintings as well as 'Chinese varnishes' and varnishes for miniature painting. Moreover, two essays deal with further aspects of 18th century taste for varnishes: varnishes prepared by violin-makers, and varnishes used in the restoration of paintings. In fact, the Cremonese violin-makers achieved solutions which remain unsurpassed today.

Le métier de peintre au Grand Siècle / Antoine Schnapper. - [Paris] : nrf - Gallimard, 2004. - (Bibliothèque des histoires)

§ Discusses the prerequisites of the organisation of painters and their societies in 17th-century France and discusses, as first one ever, the costs of paintings, both the ones commissioned and the ones free marketed.

Quellenschriften des 17. und 18. Jahrhunderts zur mehrfarbigen grundierung = Written sources of 17th and 18th centuries on multilayered coloured priming / Adam Raft. In: Großgemälde auf textilen Bildträgern / ed. Manfred Koller ... [et al.]. - Klosterneuburg : Mayer, 2005. - (Restauratorenblätter ; Bd 24/25). - P. 65-75.

§ Study on multi-layered coloured grounds based on references in fourteen manuscripts and printed books from the 17th and 18th century. The sources are of Danish, Dutch, English, French and German origin, the De Mayerne ms. takes care of half of the recipes.

Das De Mayerne-Manuskript, Die Rezepte der Werkstoffe, Maltechniken und Gemälderestaurierung. Diplomarbeit, Institut für Technologie der Malerei, Staatliche Akademie der bildende Künste Stuttgart / Gudrun Bischoff. - München : Siegl, 2002.

§ The recipes related to painting in the De Mayerne ms. are taken from their original order, next ordered by material and technique, translated into modern German and discussed, with an emphasis on conservation practices. Glossary.

The Artist's Assistant : Oil Painting Instruction Manuals and Handbooks in Britain 1800-1900 with Reference to Selected Eighteenth-Century Sources / Leslie Carlyle. - London : Archetype, 2001. - xviii, 589 p. : diagrams, fig., tab.

§ Fascinating, accessible and carefully structured, The Artist's Assistant is the first comprehensive and critical analysis of information on nineteenth-century artists' materials. An invaluable resource, not only for conservators and historians of art technology, but also for artists, researchers and teachers who wish to work with authentic materials.

MUSE magazine, Canadian Museums Association, 12 November 2002, volume XX/6:

‘This huge volume is a godsend to enlighten professionals and students alike about some of the hidden and complex realities that lie on the surface of 19th century paintings. It provides greater understanding of artist's materials and methods and their evolution, and kindles insight and deeper appreciation for the subtle complexities of their ravishing beauty. No

serious art scholar, and certainly no museum or art history department library, should be without it.’

Hans-Christoph von Imhoff, *The Journal of The International Institute for Conservation of Historic Artworks*, vol. 47 (2002), no. 2. p 139-140:

‘...a highly useful, easily accessible and very important handbook for those concerned with English or English-influenced painting.’

College Art Association Journal:

‘This ... astounding ... book contains remarkable scholarship of the highest order. It provides a wealth of information about the development of English oil painting in an accessible and readable way. This is a reference that should be in every art-history library. It will prove an especially valuable resource for conservators who do research in order to treat nineteenth-century English paintings.’

Looking through paintings / Erma Hermens (ed.) ; Annemiek Ouwerkerk, Nicola Costaras (associate eds.). - Baarn: Prom ; London ; Archetype, 1998. - (Leiden Art Historical Yearbook; 11).

§ This book presents a collection of articles dealing with various aspects of technical art history. The papers are provided by many important scholars in this interdisciplinary field. Focussing on different periods and works, the articles all illuminate the role that the study of painting techniques and materials can have within art historical research.

Source Research and Glass

Antoine de Pise: L'art du vitrail vers 1400 / Claudine Lautier and Dany Sandron [for the *Corpus Vitrearum*]. - Paris: CTHS (Comité des travaux historiques et scientifiques), (2008). - 382 p. : full colour ill.

ISBN 2-73550659-2 (hardback)

§ Review by Mark Clarke: This volume presents the state of stained-glass window manufacture and window painting, using the c.1400 treatise of the practicing glazier Antonio of Pisa as a departure point (Assisi, Biblioteca del Sacro Convento MS 692). The treatise is reproduced in colour facsimile, edition, and French translation (superseding the 1902 edition of Bruck). Not only Antonio but all surviving mediaeval text passages on stained glass are included: Theophilus, Zagan, Francesco Formica and the Nuremberg *Kunstbuch* also all provided as edition and French translation, with Zagan, Formica and the *Kunstbuch* also given in facsimile. Antonio's work survives in Florence and is thus the perfect source with which to evaluate the relationship between text and workshop (a very good match, in this case). The book exploits this (in the section 'The Treatise of Antonio da Pisa put to the Test of Experimentation') with historically accurate reconstructions following all aspects of Antonio's text: building a kiln, cutting glass, casting comes, colouring and all. The only reservation is that the discussion of colouring of red glass is hopelessly outdated in attributing the colour to copper dendrites: more recent research has unequivocally demonstrated that in glass of this period it was due to nanoparticles of silver with some copper. Nevertheless this book is otherwise excellent, visually sumptuous, and very useful for ATSR.

Sand for Roman glass production: an experimental and philological study on source of supply / A. Silvestri, G. Molin, G. Salviulo and R. Schievenin. In: *Archaeometry*. - Vol. 48 (2006), no. 3 (August). - P. 415-429

§ According to Mark C. nice piece of interdisciplinary work: materials analysis, text analysis, reconstruction. From the blurb: 'This paper reports the results of an experimental study performed on Campanian littoral sand, together with a careful philological analysis of Pliny's text concerning the production of glass using the above sand in order to verify its suitability. Accurate chemical and mineralogical characterization of sand samples and experimental glasses was carried out, proving the unsuitability of sand for glass production in its original state. Taking into account both the results of the philological analysis of Pliny's text and the

mineralogical assemblage of the sand, a new hypothesis regarding Roman glass-making technology is proposed and tested here. The technology implies the production of 'quartz-enriched' sand by means of selective grindings according to the different degrees of hardness and cleavage of the mineralogical phases. Melting experiments, carried out on treated sand and in the temperature range compatible with Roman technology, yielded a glass with composition similar to those of typical Roman glasses. Therefore, new perspectives on the sources of supply of raw materials, hitherto debated, are opened up.'

Source research and printmaking

An Annotated Facsimile of the *Tractaet in wat manieren men op root koper snijden ofte etzen zal* (Amsterdam 1662): the Dutch Translation of Abraham Bosse's 1645 Treatise on Intaglio Printmaking [preliminary title] / Ad Stijnman. - Houten : Hes & De Graaf, [forthcoming, 2015].

§ Abraham Bosse's treatise of 1645, the first monograph on etching, engraving and plate printing, soon became the standard on intaglio printmaking. The French text went through five editions and translations in German, English, Dutch and Portuguese followed up to the early nineteenth century. Contains a facsimile of the Dutch translation of 1662 with an annotated modern English translation, and a bibliography of all the editions, translations, reworked versions and facsimiles of Bosse's treatise.

NEW A Manuel for Printing Copper Plates Predating Abraham Bosse's Treatise of 1645 / by Anja Grebe and Ad Stijnman. In: *Art in Print*. - Vol. 3 (2013), no. 4 (Nov./Dec.). - P. 12–20 : fig. 1a, 1b, 2–4.

§ The Stadtbibliothek Bamberg keeps a seventeenth-century manuscript catalogue of copper printing plates, wooden printing blocks and lead casts gathered by Paulus III Behaim von Schwarzbach (1592-1637), citizen of Nuremberg. At the end of the manuscript a text with instructions (the *Regeln* or 'Rules') for the printing of copper plates is added dated 16 November 1628 (*Actum Anno 1628 16. Novembris*). The text was written by an anonymous printer for Paul III Behaim (1592-1637), merchant by profession and collector of prints, printing blocks and plates. This is the earliest text that instructs all elements of intaglio printing in greater detail. According to the manuscript's title (*Regeln, so im Kupferdrucken, so woln in abtruckung der Holzstöck fleisig in obacht zunemen*), instructions for the printing of woodblocks were to follow the instructions for plate printing, but this text was never added. For a digitised reproduction of the manuscript see: http://bvbm1.bib-bvb.de/webclient/DeliveryManager?pid=2934971&custom_att_2=simple_viewer.

Earlier documents on intaglio printing are known, but this text can be judged a true practical manual encompassing all elements of the process. It thereby predates the chapter on intaglio printing in Abraham Bosse's well-known and influential treatise on etching and intaglio printmaking of 1645 by seventeen years. The article of the printed version of *Art in Print* gives an introduction to the Behaim and an English translation of the highly original text,

while annotating and discussing the instructions. The article is also available online for free, with additionally the transcription of the original German text, see:

<http://artinprint.org/index.php/articles> and scroll down.

Engraving and Etching 1400-2000: Historical Developments of Manual Intaglio Printmaking Processes / Ad Stijnman. - London: Archetype ; Houten : Hes & De Graaf, 2012.

§ Based on an exhaustive bibliography of practical manuals. For a summary see above under 'Printmaking techniques'.

Stradanus' printshop / Ad Stijnman. In: *Print Quarterly*. - Vol. 27 (2010), no. 1 (March). - P. 11-29 : fig. 4-20.

§ The print *Sculptura in aes* designed by Jan van der Straet (Johannes Stradanus; 1523-1605) in Italy c. 1590 is undisputedly the earliest workshop interior showing all the aspects of the engraving and printing of a copper *intaglio* plate. The print is well-known, often used to illustrate publications on the history of printmaking and it adorns the cover of the journal on print history *Print Quarterly* ever since its first issue in 1984, although the image has never really been questioned. The present article discusses the print in relation to its historical-technical context. Explained are the various tools, materials and machines visible, the activities of the fifteen men and boys (no women!), including two curious bystanders (people at work always attract attention). The article is illustrated with details from the print itself and from works by contemporaries to better elucidate what is shown. Further comparison is with contemporary Italian printshop inventories and the earliest technical references on engraving and etching. The first appendix describes an emblem. Its woodcut of 1566 goes with a poem heralding the invention of letterpress printing, although the image itself shows what seems to be a roller press, but is certainly not a book printing press. The second appendix has a list of depictions of engraving tools, engravers at work and *intaglio* print shops up to 1600.

Adriaan Schoonebeek's etching manual (1698): edition, translation, commentary / Frans A. Janssen, Huigen Leeftang, Adri Markus, Ad Stijnman. In: *Quaerendo*. - Vol. 40 (2010) . - P. 87-165 : 18 fig.

§ From the review by Nadine Orenstein in *Print Quarterly*: A recent issue of *Quaerendo*, the journal devoted to the history of manuscript and printed books, features an article on the hand-written etching manual of 1698 composed and illustrated by the Dutch etcher, publisher

and bookseller Adriaan Schoonebeek (1661-1705). ... Among the appendices are a translation and a transcription of the original text punctuated by images of Schoonebeek's clear and charming illustrations. The manuscript, which is based on the artist's own experience as an etcher, stands as the oldest complete Dutch etching manual.

Schoonebeek ... left Holland for Moscow in July 1698 to work for Tsar Peter the Great. His manual, written for the Tsar several months prior to his departure for Russia, is dated 1 January 1698. ... The article discusses Schoonebeek's work in Amsterdam as well as his employment by the Tsar as printmaker. ... The translation of the etching manual is excellently and amply footnoted with further explanations on the techniques and materials mentioned. As such it provides a clear and useful source in English for anyone wishing to learn about early methods of etching.

Handbuch für Malerradierer : das Radieren, die Ätzkunst, der Kupferdruck / Felix Hollenberg ; hrsg. von Anette Michels; mit Beiträgen von Veronika Mertens and Claudia Schönjahn. - München, Berlin : Deutscher Kunstverlag, 2008. - 232 p. : 81 fig.

ISBN: 978-3-422-02148-8 (hardcover)

§ The professional German printmaker Felix Hollenberg (1868-1945) kept careful notes of his experiments in etching and printing from 1917 onwards. He reworked and illustrated these notes for a typescript in the years 1936-1941. Although he had the plan to publish his experiences it never came from it. The present volume is a transcription of his typescript illustrating technical issues with his drawings and sketches. In that manner the book explains the state of technical knowledge of printmakers in Europe in the first half of the 20th century.

Painted prints : the revelation of color in northern Renaissance & Baroque engravings, etchings & woodcuts / Susan Dackerman ; with an essay by Thomas Primeau. - Baltimore : The Baltimore Museum of Art ; University Park, PA : The Pennsylvania State University Press, 2003. - xii, 295 p. : full colour ill.

§ The first exhaustive study on the hand-colouring of prints. With an introduction by Thomas Primeau on 'The Materials and Technology of Renaissance and Baroque Hand-Colored Prints'. With an appendix with 'Results of Analytical Testing of Hand-Colored Prints'.

Source research and sculpture

Nature and art, making and knowing : reconstructing sixteenth-century life-casting techniques / Pamela H. Smith and Tonny Beentjes. In: *Renaissance quarterly*. - Vol. 63 (2010), 1 (Spring).

§ NOT SEEN.

XXXIII. Eine Proportionslehre für den Bildschnitzer (Zweite Hälfte des XV. Jahrhunderts). In: *Anecdota novissima : Texte des vierten bis sechzehnten Jahrhunderts* / hrsg. von Bernhard Bischoff. - Stuttgart : Hiersemann, 1984. - P. 233-236. - (Quellen und Untersuchungen zur lateinischen Philologie des Mittelalters; 7).

§ Mark Clarke: Not really about the technique and technology of sculpture, but about human proportion, so it is still true that there are no early art TECHNOLOGICAL texts for sculptors. NB: References to two kinds of sculptors (sculptor & cisor) are found in Paulerinus' ms. of ca. 1453 (see below under 'Mediaeval sources'). Paulerinus furthermore mentions a wealth of other craftsmen that produce three-dimensional objects. The descriptions are summary, but he always gives a list of the tools they use and his terminology for craftsmen and tools is exceptional.

Pre-mediaeval sources - reprints, transcriptions, translations, studies

Il papiro di Leida. Un documento di tecnica artistica e artigianale del IV secolo d. C. / Adriano Caffaro, Giuseppe Falanga. - Salerno : Arci Postiglione, 2004.

Pliny the Elder

http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Pliny_the_Elder/home.html

§ Pliny online.

Pliny the Elder's Natural History, the Empire in the Encyclopedia / Trevor Murphy,. - Oxford: Oxford University Press, 2004.

§ For a review see: <http://ccat.sas.upenn.edu/bmcr/2004/2004-12-23.html>

Pliny's Catalogue of Culture, Art and Empire in the Natural History / Sorcha Carey. - Oxford : Oxford University Press, 2003.

Plinius d.Ä., Naturkunde. Lat.-dt. Buch XVIII. Botanik: Ackerbau / hrsg. und übers. Von P. Rosumek. In: Gnomon : kritische Zeitschrift für die gesamte klassische Altertumswissenschaft. - Vol. 73 (2001), no. 3. - P. 210-213.

Naturkunde : lateinisch-deutsch / C. Plinius Secundus d.Ä. ; hrsg. und übers. von Roderich König in Zusammenarbeit mit Joachim Hopp und Wolfgang Glöckner. - Zürich, Düsseldorf : Artemis und Winkler, 1973-2004. - 31 vol. - (Sammlung Tusculum).

§ Most welcome to this new translation of Pliny is the general index, lacking from the older Heinemann edition.

Reviews of the above:

Naturkunde Lat-dt Buch XXXIV: Metallurgie / P. Rosumek. In: Gnomon : kritische Zeitschrift für die gesamte klassische Altertumswissenschaft. - Vol. 69 (1997), no. 8. - P. 725-726

C. Plinius Secundus der Ä. Naturkunde Lateinisch-deutsch. Buch 31. Medizin und Pharmakologie: Heilmittel aus dem Wasser / R. König. In: The classical review. - Vol. 46 (1996), no. 1. - P. 50.

C. Plinius Secundus der Ä. Naturkunde Lateinisch-deutsch. Buch 37. Steine: Edelsteine, Gemmen, Bernstein / G. König. In: The classical review. - Vol. 46 (1996), no. 1. - P. 50-52 .

Mediaeval sources - reprints, transcriptions, translations, studies

<http://www.calcitesunoil.com/VanEyckSecret.html>

Informative and the author is doing his best, but as usual he relies on the few available photomechanical reprints instead of doing more intense source research. He partly neutralises this by making reconstructions.

More recent work in this field is carried out in the Impact of Oil Project:

<http://www.impactofoil.org/>

<http://dtm.bbaw.de/>

§ Click on HSA and find your way in a universe of German manuscripts. Click on EHZ for digitalised texts.

The most interesting part for art technological source research is:

<http://www.manuscripta-mediaevalia.de/>

§ Click on 'Datenbank', click on 'Expertensuche' to find references to manuscripts on art techniques. It is most useful, although the information given is unbalanced: sometimes detailed, sometimes lacking.

With some creative efforts it should be possible to trace material not yet found in the FHK database, but it will be difficult:

<http://db.re.fh-koeln.de/ICSFH/forschung/rezefpte.aspx>

Click also on 'Digitalisierte Handschriften' for nice pictures.

<http://www.gutenbergdigital.de/gudi/eframes/index.htm>

§ You will find here a complete copy of the important Göttingen model book. You can also see the Helmasperger's notarial instrument, which upon retrieval once and for all settled the discussion whether Gutenberg did invent printing books or not: facsimile, transcription, German translation, English translation. And for the lovers of a beautiful book there is an integral copy of the Göttingen copy of B42, the 42-line Bible printed on vellum by Gutenberg. At the time of appearance it was already famous, because it was faultless and because it could be read without glasses.

Proceedings of the Conference on the *Schedula Diversarum Artium* by Theophilus, September 2010 [preliminary title] / Andreas Speer (ed.). - Berlin, Boston : De Gruyter, [forthcoming, 2014].

§ Series of papers on the contents, function and dating, as well as on the supposed author of the highly influential *Schedula Diversarum Artium* (c. 1100–1125). Long thought to be of original nature, the papers make clear that even the earliest copies in Wolfenbüttel and Vienna contain recipes and prescriptions taken from earlier sources.

Mediaeval Painters' Materials and Techniques: the Montpellier *Liber diversarum arcium* / Mark Clarke. - London: Archetype, 2011.

§ The fourteenth-century (?) *Liber diversarum arcium* (Montpellier, Ms. H 277) contains, with nearly 600 recipes, the most complete set of instructions in the craft of mediaeval painting to have survived to the present day. It demonstrates that when the van Eycks and their contemporaries transformed painting in the fifteenth century, they did so using materials and techniques of oil painting that already existed. Contains a transcription and annotated modern English translation of the manuscript.

Cennino Cennini, *Boken om Målar-konsten = Il libro dell'arte* / K. Forsberg, B. Ossian Lindberg (eds.). - Limhamn: Sekel (Isell & Jinert), 2011.

§ New Swedish translation of Cennini's well-known manuscript.

Il Libellus ad faciendum colores dell'Archivio di Stato dell'Aquila: origine, contesto e restituzione del *De arte illuminandi*; studio introduttivo, facsimile, testo e traduzione a fronte / C. Pasqualetti, P. Bensi (coop.), A. Perriccioli Saggese (ed.). - Firenze: SISMELE edizioni del Galluzzo, 2011. - (Micrologus' Library; 43).

§ Study of the *Libellus ad faciendum colores* (Aquila), with a facsimile, transcription and modern translation.

The Materials of the Image = As Matérias da Imagem / L. Afonso (ed.). - Lisboa: Cátedra de Estudos Sefarditas Alberto Benveniste da Universidade de Lisboa, 2010. - (Série monográfica Alberto Benveniste ; 3).

§ A series of studies around the *Livro de como as facem as cores (das tintas todas)* (Ms Parma 1959), including reconstructions of white lead and red lead pigments. Contains a transcription and modern Portuguese translation of the original manuscript.

Segreti d'arti diverse nel regno di Napoli. "Il manoscritto It. III.10 della Biblioteca Marciana di Venezia" / F. Frezzato, C. Seccaroni. - Saonara (Pd) : Il Prato, 2010

ISBN 978-88-6336-088-2.

§ This is a completely new revised transcription of the Marciana Ms. The very big step ahead compared with Merrifield's transcription are that this time *all 407* instead of only the 36 recipes on painting materials and techniques have been transcribed. The production of the ms could be secured at Gaeta (Southern Italy) around 1570 instead of Rome around 1510-20, although some of the recipes go back to the early 16th century with possible 15th-century provenances.

Over schrappen, schrijven, verluchten en binden : het maken van boeken in de Middeleeuwen / Anne Margreet W. As-Vijvers. In: *Beeldschone boeken : de Middeleeuwen in goud en inkt / red. Micha Leeflang en Kees van Schooten.* - Utrecht : Museum Catharijneconvent ; Zwolle : Waanders, 2009. - P. 46-5

ISBN 978-90-400-8581-9

§ A short discourse concerning Dutch handbooks on techniques for writing and illumination of mediaeval manuscripts.

Arabic manuscripts : a vademecum for readers / by Adam Gacek. - Leiden [u.a.] : Brill, 2009. - XVIII, 338 p. : ill., diagrams. - (Handbook of Oriental studies ; Sect. 1: The Near and Middle East / ed. by H. Altenmüller; 98).

ISBN 978-90-04-17036-0

§ Alphabetical, encyclopaedic reference work. Information on every aspect of the Arabic ms, abbreviations, codicology, paleography, bibliography.

Pen and parchment, drawing in the Middle Ages / Melanie Holcomb (et al.). - New York: Metropolitan Museum; New Haven, London: Yale, 2009.

§ P. 24-26 has a paragraph 'Artists' sketches and the transmission of the graphic aesthetic', which shortly discusses and illustrates model books.

P. 120-122 discusses and illustrates the 'Model book of initials' kept in the Fitzwilliam Museum, Cambridge, MS 83-1972.

Working with Anglo-Saxon manuscripts / Gale R. Owen-Crocker (ed.). - Exeter : University of Exeter Press, 2009.

§ A handbook for the student of mss, very elucidating. The last chapter (From manuscript to computer) discusses all kinds of issues related to digitising mss, reading texts, provenances getting lost, etc.

Contemporary textual evidence for the use of pigments in Anglo-Saxon England in the absence of technical descriptions / Mark Clarke. In: 15th triennial meeting of the ICOM committee for Conservation, preprints / Janet Bridgeland (ed.). - New Delhi : Allied Publ., 2008. - P. 3-9

Trattati medievali die tecniche artistiche / Silvia Bianca Tosatti. - Milano : Jaca Book, 2007. - X, 191 p. + index : ill.

ISBN 978-88-16-40778-7

§ Discusses seven known mediaeval technical treatises:

Ch. I: Mappae clavicula

Ch. II: Eraclius

Ch. III: De coloribus et mixtionibus

Ch. IV: Theophilus

Ch. V: De arte illuminandi

Ch. VI: Cennini

Ch. VII: Johannis Alcherius in Lebegue's ms.

Every text is discussed systematically, various copies are mentioned, emphasis is on painting and pigments.

Der "Liber illuministarum" aus Kloster Tegernsee. Edition, Übersetzung und Kommentar der kunsttechnologischen Rezepte / Anna Bartl, Christoph Krekel, Manfred Lautenschlager and Doris Oltrogge. - Stuttgart : Steiner, 2005.

§ Translated and transcribed edition of the Liber illuministarum, München, Bayerische Staatsbibliothek, Ms. Cgm 821. Better known as the Tegernsee Manuscript. It is a bit

exaggerated to say it is worth a study German to be able to read the book, but a rich source on medieval art techniques it is.

Review: Bartl et al. "Der »Liber illuministarum«" / by Mark Clarke. In: *Ambix*. Vol. 54 (2007), part 2 (July). - P. 219-221.

Il Libellus di Chicago. Un ricettario di arte, artigianato e farmaceutica (secolo XV) / Caffaro Adriano, Falanga Giuseppe. - Salerno : L'officina dell'arte, 2005.

De clarea. Manuale medievale di tecnica della miniature (secolo XI) / Adriano Caffaro. - Salerno : Arci Postiglione, 2004.

Scrivere in oro. Ricettari medievali d'arte e artigianato (secoli IX-XI). Codici di Lucca e Ivrea / Adriano Caffaro. - Napoli : Liguori Editore, 2003.

§ A transcription of the Lucca Codex from around 800 AD, containing the oldest known recipe for making a linseed oil varnish. With a transcription of the Codex Ivrea.

Memorie genovesi. Gli annali di Caffaro (1099-1163) / a cura di Gabriella Airaldi ; traduzione di Marina Montesano. - Genova : Frilli, 2002. - (Collana storica: 1).

For French research into the materials of mediaeval book production see:

<http://aedilis.irht.cnrs.fr/materiaux/>

The sub-heading 'Résumés en ligne, classés par date d'intervention' shows the articles published in relation to the project in the period 2001-2005, either by author or by theme.

Click on title for full text.

Paulerinus (Pavel Zídek), Liber Viginti Arcium (ff. 185ra-190rb) / Alena Hadravová (ed.). - Praha: Koniasch Latin Press, 1997.

§ A Bohemian manuscript written by Pavel Zídek from Prague, also known as Paulerinus (c. 1413-1471), in the 1460s. It is kept in the Jagiellonian Library of the University in Cracow, under the signature BJ 257. The ms., a kind of encyclopedia, is famous for linguistics, because he writes neo-Latin with a number of self-invented terms and the text has glosses in old-Czech and German explaining his terms. For art technological source research there is the part called 'Liber Viginti Arcium', the text of which is a treasure trove as he gives terms for

about two hundred craftsmen and craftswomen, with their activities and the tools they use. Per artisan he spends between six and twelve lines. Main crafts concern wood working, metal working, leather working, construction working, the various people active in scriptoria, sculptors, painters, a paper maker, a printmaker, a producer of toys and playing cards, in short every mediaeval craft you can think of. The ms. became known when J. Muczkowski wrote his dissertation about it in 1835, where after it stirred the 19th-century intellectual world, among others because of the references to writing and early printing. The integral annotated text of the 'Liber Viginti Arcium' was recently published again with a bilingual Czech-English introduction and Latin-Czech indices.

Scribes and illuminators / Christopher de Hamel. - London : British Museum Press, 1992. - 72 p. : ill.

0-7141-2049-9

§ Concise but excellent, well illustrated and easy accessible text on the writing and illumination of mediaeval manuscripts.

The Art of All Colours / Mark Clarke. - London : Archetype, 2001.

§ Much was written in mediaeval times concerning the preparation and use of artists' materials, and we are fortunate that many of the manuscripts containing such writings survive. They vary from lengthy treatises to a few lines scribbled in a margin, and from the accurate and practical to the purely literary. These sources have been used for many years by art historians, practising artists, conservators and restorers as guides to the techniques of medieval artists and artisans.

This book explores the history and interpretation of mediaeval technical treatises on the arts. It examines the nature, variety and content of sources from the earliest times to AD1500, and the relationship between what was written and what was practised. The author seeks to answer questions about how and why the texts were compiled, as well as why they sometimes seem obscure. The book lays out distinctions between practical and alchemical texts and provides a translation of technical terminology. Finally, this book contains a catalogue of more than 400 manuscripts that contain such technical texts, many of them largely unknown. These lesser known texts expand our understanding of medieval painting across a wider range of techniques, countries and centuries than those covered by the few well-known treatises such as Cennino Cennini's *Craftsman's Handbook* and Theophilus's *On*

Divers Arts. Detailed descriptions and extracts are given for the more important texts, and a full bibliography of published editions and translations is included.

A valuable source for all those interested in the techniques and practices of medieval artists.

Studies in Conservation, vol 46 (2001), p. 304:

,'...The Art of All Colours is...a perfect tool, valuable for all scholars of mediaeval craftsmanship.'

College Art Association online, CAA. Reviews (June 2002):

,'...will surely find a niche as a valuable research tool...The sheer usefulness of (Mark Clarke's) index will soon earn his volume an appreciative audience of scholars in the field of manuscript production and other areas of medieval painting.'

The 'Musterbuch' of Wolfenbuettel and its Position in the Art of the Thirteenth Century /

Hugo Buchtahl. - Vienna : Österreichische Akademie der Wissenschaften, 1979

§ The Wolfenbuetteler Musterbuch (Wolfenbuettel (G), Herzog August Library, Cod. Guelf.

61, 2 Aug. 8°) is a 13th-century miscellaneous gathering of copies of Byzantine and

Byzantinizing design formulas for Biblical scenes. It seems to have been compiled by a

craftsman working in Lower Saxony around and after 1200. That means, the same region

where Theophilus was working a century earlier and kept in the same collection which keeps

the oldest Theophilus manuscript.

Early-modern and modern sources

<http://katalog.ub.uni-heidelberg.de/cgi-bin/search.cgi?query=si:273714333>

Electronic-Sources and -Documents for the History of Art 1350-1750. FONTES presents sources and documents for the early modern history of art in electronic form, together with commentaries and illustrations. The website is hosted by the University of Heidelberg, Germany, with financial support of the Deutsche Forschungsgesellschaft. The majority of the digital texts available are related to early and modern art historical research; updates are quarterly. Actual historic texts related to art techniques can also be found here. The modern texts are digitised as PDF, some historical text photographed without anything more, there is no database, nor keywords to further search the material, just the usual search functions.

On 17th-century art techniques: John Bate, 'Mysteries of Nature', 1st ed. 1634, this is the 2nd one of 1635: <http://special.lib.gla.ac.uk/exhibns/month/nov2003.html>

Further editions: 1634 (2 issues?), 1635 (2 issues?), 1638 (?), 1654, 1977 (repr. of the ed. 1634).

Sir Isaac Newton, in his youth, ardently studied The Mysteries of Nature by John Bate. He copied large parts of it in his notebook, especially the recipes on drawing and painting. A complete transcription can be read at:

<http://www.newtonproject.ic.ac.uk/texts/viewtext.php?id=NATP00001&mode=normalized>

[URL NOT AVAILABLE ANYMORE]

Libro per secreti varij 1793 / P. Baraldi, R. Baroni Fornasiero, E. Sgarbi. - Bologna : Pitagora Editrice, 2005

§ Reprint of the original.

Ricette per la colorazione dei legni impiegati nelle tarsie rinascimentali / Claudio Seccaroni.

In: Bollettino ICR. - Nova serie, no. 12, (2006), (Jan./June). - P. 29-35

§ Summary: 'Recipes for colouring the wood used in inlays of the Renaissance period.

A previously unknown recipe for colouring the wood used in inlays was recently discovered in a 16th-century manuscript kept at the Marciana National Library in Venice. The discovery was the starting point for an examination of Renaissance recipes in this field, many of which

are still in use today. The survey revealed a very meagre corpus within which the Venetian recipe stands out for its detail and completeness; however, a general description of the various techniques used for colouring and treating wood is contained in the short chapter on wooden inlays forming part of the preamble to Giorgio Vasari's *Lives of the Artists*. In the case of red colouring for wood, the recipe in the Venetian manuscript suggest using 'cimatura di grana', a colouring agent obtained from red-dyed fabric with 'kermes', and also used to make a red laquer for painting. The ingredients and procedures described in this and other recipes show that there was a close link with contemporary techniques for dyeing yarns and fabrics.' The appendix has transcriptions of recipes from four Italian and German sources.

Li tre libri dell'arte del vasajo nei quali si tratta non solo la pratica, ma bevemente tutti I secreti di essa / Cipriano Piccolpasso Durantiono. - Forni, 2004

§ Reprint of the original.

With the aid of numerous drawings the greatest of the 16th-century Italian treatise writers describes the central Italian tradition of ceramic work: the preaparation, the use and measures of materials and colours. The present edition contains contributions by G. Lazzarini (18th-century) on the making of fine majolica and others by various authors on 'coloured glazes'.

Espingarda perfeytea, or, The perfect gun / edited and translated by Rainer Daehnhardt and W. Keith Neal. - London: Sotheby Parke Bernet; Cascais: Sociedade Portuguesa de Armas Antigas, 1974

§ 1974 reprint of an 18th-century Portuguese manual on gun making with an English translation. Of course, it is about metal and probably well-known to the metals people, but one can also look at it from the point of view that the same materials, tools and machines are used in various arts and crafts. For example, there are references to armenian bole, brazil wood, charcoal, a lot about iron, some things about gold and wood. The illustrations show tools and machines and how they are worked with, with detailed explanations in the text.

The Painter's Manual of Dionysius of Fourna / translated into English by Paul Hetherington. - Repr. - Torrance, Cal. : Oakwood, 1996

§ Still available English translation with commentary of the Hermeneia after the ms. cod. gr. 708 in the Saltykov-Shchedrin State Public Library in St. Petersburg, Russia.

1st ed.: 1974.

Illustriertes Haushaltungs-Lexicon : eine Quelle des Wohlstandes für jede Familie. Ein vollständiges Recept-Handbuch für alle Bedürfnisse des Haushaltes in der Stadt und auf dem Lande, sowie sicherer Rathgeber und bequemes Nachschlagebuch ... [etc.] / Luise Wilhelmi. - Strassburg : Schultz, 1884

§ This is a massive household encyclopedia. In between shoe polish and wine refining are recipes for cleaning prints and preparations for dyestuffs. For the online version see:

<http://diglib.hab.de/wdb.php?dir=drucke/ed000009>

The left part of the screen has thumbnails for navigating, which takes some time to peruse the 1188 pages.