

Descriptive Terminology for Works of Art on Paper

**GUIDELINES FOR THE ACCURATE AND CONSISTENT
DESCRIPTION OF THE MATERIALS AND TECHNIQUES
OF DRAWINGS, PRINTS, AND COLLAGES**

**BY NANCY ASH, SCOTT HOMOLKA, AND STEPHANIE LUSSIER
WITH REBECCA POLLAK AND ELIZA SPAULDING**

EDITED BY RENÉE WOLCOTT

PHILADELPHIA MUSEUM OF ART

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PREFACE

Scrutiny of exhibition wall labels reveals an ongoing struggle to bring museum visitors clear, accessible, consistent, yet technically accurate information about the materials and techniques of works of art. A quick search of online museum collections and exhibition catalogs exposes inconsistent descriptions and misidentified processes, or widely different descriptions for similar works of art. These examples highlight the pressing need for guidelines that direct how materials and techniques of manufacture are documented and presented. In an attempt to address this need, we undertook a research and documentation project—supported by an IMLS 21st Century Museum Professionals grant and substantial volunteer efforts—that has culminated in *Descriptive Terminology for Works of Art on Paper*.

Our goal for this publication was to create a system that would allow users with different levels of expertise to describe drawings, collages, and prints as consistently and comprehensively as possible, while addressing the complexities unique to each medium. *Descriptive Terminology* provides a step-by-step approach to identifying and recording information about the materials and manufacture of works of art on paper, and to recording, updating, and adapting media descriptions stored in collections databases. Its users—conservators, curators, registrars, catalogers, and others charged with accurately describing artworks—will bring different levels of knowledge and connoisseurship to the task. The guidelines contained in this publication are intended to help any of them write more meaningful and accurate descriptions through the use of consistent terminology and syntax, regardless of the level of detail ascertained about an artwork. While *Descriptive Terminology* focuses on art on paper in the Western tradition, many of its guidelines will likely have more universal application.

The challenges facing those charged with developing and refining media descriptions—the countless complicated issues that gave rise to this project—are perhaps illuminated by a few examples:

- What does the term “crayon” mean today, and how do we define and make sense of various terms used to describe fabricated drawing sticks such as conte crayon?
- How do we visually distinguish and describe specific types of paint, and what descriptive language is appropriate or required when a paint cannot be confidently identified?
- How do we describe and order the myriad processes and techniques used in creating a complex print?
- How do we consistently describe a collage and its various components?

These questions point to the need for a prescribed approach to terminology for works of art on paper. The terms used to describe works of art depend on cultural and technical contexts, and their precise meanings often change over time. Controlled vocabularies, most notably those developed in the Getty Research Institute’s Art and Architecture Thesaurus (AAT) Online, compile and organize historic and contemporary language related to cultural works. The Getty’s initiatives focus on integrating defined terminology with cataloging systems, and utilize a hierarchical and inclusive approach for indexing and retrieving information.

While the guidelines we present in this publication incorporate the elements of controlled vocabularies, our point of departure is different: we begin with direct examination of the work of art, and focus on how the language used to describe our findings can lead to a deeper understanding of the artwork and its creation. The guidelines and terminology recommendations in this publication thus evolve from close examination of the artworks themselves, rather than from a previously defined hierarchy of terms.

Our project officially began in November 2011, when we (the project conservators) began to compile information on materials terminology from general and specialized sources such as exhibition catalogs, existing museum cataloging guidelines, and online vocabularies. The sources we initially relied on included

CAMEO: Conservation and Art Material Encyclopedia Online (<http://cameo.mfa.org>) from the Museum of Fine Art, Boston, the Getty AAT Online (www.getty.edu/research/tools/vocabularies/aat/), the Whitney Museum of American Art in-house Collections Documentation Initiative (CDI) Guidelines, and the Art Institute of Chicago Italian Drawings Survey Guidelines. In order to establish an informed working group, we also reached out to other paper conservators whom we knew to have strong interests in the study of artists' materials and who represented a range of fine art collections, recognizing that their input and feedback would be critical to the success of the project.

We then began creating draft justification documents that incorporated our early thoughts on materials issues, syntax, and organization, and shared them with the working group. Extensive e-mail exchanges and in-person working group meetings held at the Philadelphia Museum of Art in March 2012 and April 2013 helped us to develop and refine the documents. Other critical feedback came from colleagues who participated in the Art on Paper Discussion Group session we organized at the 2012 American Institute for Conservation annual meeting and from those who attended a presentation at the Print Council of America meeting the same year. Throughout the process we applied the draft guidelines to works in our own collection, a process that often revealed gaps or difficulties. At each stage we evaluated feedback from our colleagues and integrated their suggestions wherever possible. Finally, in the summer of 2014, colleagues at the Art Institute of Chicago and the Fine Arts Museums of San Francisco used a draft of this publication in evaluation exercises, and their feedback helped us assess the overall usability and applicability of the guidelines and refine them further.

While we believe that with *Descriptive Terminology for Works of Art on Paper* we have achieved our goal—providing a system that enhances our ability to communicate knowledge about materials and techniques using consistent, mutually understandable, and meaningful language—we recognize that this is not the last word on a broad and challenging topic. We also acknowledge that differing opinions about terminology and descriptive language will always exist, as will long-established institutional protocols. Consensus is, after all, a lofty—and rarely attainable—pursuit! We are certain that these guidelines will continue to evolve through engagement with and feedback from our colleagues, and we welcome their continuing involvement and support.

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- Judith Walsh, Buffalo State College

Once the publication began to take final shape, we relied on the expertise and assistance of many other members of the PMA staff. Evan Towle, Librarian for Digital Collections and Services, and Conna Clark, Image Rights Manager, guided us in selecting and formatting images and obtaining the necessary permissions. Jessica Milby, Assistant Director for Collection Information, and Renee Bomgardner, Database Standards Administrator, advised us on management of collections information and possible approaches within TMS. Bill Ristine, Creative Director for Web and Interactive Technology, and Brian Newell, Web Production Specialist, advised us on format, and posted both the early draft, for comment, and the final publication on the PMA website. Finally, Sherry Babbitt, William T. Ranney Director of Publishing, provided editorial insight and design recommendations.

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Finally, we could not have completed this endeavor without the efforts of Renée Wolcott, whom we initially hired as a project evaluator. Once we had accepted her invaluable insights and suggestions, we welcomed her on board as editor and designer for the publication. With her tireless help, we were able to shape *Descriptive Terminology for Works of Art on Paper* into the publication you now have before you.

USERS' GUIDE

I. OBJECTIVES

Descriptive Terminology for Works of Art on Paper is intended to address the need for more accurate and consistent documentation of the materials and techniques used to create works of art on paper. This is challenging work, and to date there has been no detailed guide for handling it. The guidelines presented here are designed to provide conservators, curators, registrars, catalogers and others charged with describing art on paper with a step-by-step approach for describing all aspects of the manufacture of these works.

The project was prompted by several recurring problems: 1) how to effectively and consistently describe and communicate the materials used in works of art to other museum professionals and to the public, 2) how to facilitate the recording and subsequent use of materials information in museum collections information systems, and 3) how to refine descriptive language to contribute most effectively to the educational and visual experiences of the museum visitor. While these guidelines are primarily addressed to conservators and curators, they are intended to assist all professionals working in this subject area. One intended result is more accurate, and hence more meaningful, material descriptions through the use of consistent terminology, regardless of who generates and records the information. Conservators, curators, registrars, catalogers, and other users will bring different levels of knowledge and connoisseurship to the task. Therefore, an additional goal is to educate those with less experience, or perhaps with less direct access to the physical works of art, in how to record information that is accurate, regardless of the level of detail ascertained about an artwork. Detailed characterizations of drawing materials and hierarchy charts for prints, which provide guidelines for preferred terminology and usage that progress from the general to the specific, will serve as tools to assist in this process. The guidelines in this publication also encourage the use of precise descriptive language. They generally discourage the use of historical, regional, or period-specific terms, since such terms can be inaccurate or incorrect, or their meaning may have been lost over time.

It is hoped that the impact of the project will be threefold: 1) conservators will be able to communicate their knowledge about the materials of works of art on paper in a more accurate and consistent manner, 2) allied museum professionals (curators, catalogers, etc.) will have greater understanding of these materials through improved resources, and 3) the museum-going public will improve its visual and informational literacy.

II. VISUAL EXAMINATION OF ARTWORKS

Descriptive Terminology for Works of Art on Paper emphasizes the need for direct visual examination when describing works of art. Though we hope that this publication will benefit all those charged with describing and caring for collections, we cannot overstate the importance of involving conservators in the process of identifying and describing media and techniques. This is a vital first step in the process of writing accurate, consistent descriptions of works of art on paper.

Include Conservators in the Descriptive Process

Conservation work bridges the art historical, the technical, and the scientific. Conservators use visual examination and technical analysis to identify artists' materials and methods of manufacture. They routinely examine and develop detailed descriptions for traditional, contemporary, and idiosyncratic artists' materials for exhibition labels and catalogs. This information often appears in checklists and captions in print publications and online catalogs, and in exhibition wall labels and didactic panels.

To describe a work of art on paper, the conservator first examines and identifies the materials present and the techniques by which they were applied. This entails characterizing materials according to their unique and distinctive features, as observed using magnification, different angles and types of light, and—if appropriate and feasible—chemical or instrumental analysis. The process combines knowledge of the physical characteristics of materials and techniques with an understanding of the time periods in which they were used. It may involve research such as consulting comparative images (photomicrographs), timelines, and other reference materials. Technical connoisseurship, or the instinct and critical judgment developed through a deep knowledge of art materials, is a vital component of conservation training.

To help conservators and others who examine works of art, Part III of *Descriptive Terminology for Works of Art on Paper* covers the identification and characterization of materials and techniques, with advice for selecting appropriate terms for various media and the ways in which they have been manipulated.

Employ Magnification and Critical Lighting

Visual identification of many of the distinctive physical characteristics described in this publication requires viewing the art with both the unaided eye and with magnification—for instance, using a 5x to 10x loupe or magnifier. Such relatively low-magnification viewing conditions may reveal many distinguishing visual characteristics that contribute to accurate identification; however, higher magnification viewing through a stereomicroscope is sometimes necessary to reveal certain characteristic features of an artist's materials or techniques. In addition, the use of critical lighting—such as raking or specular illumination—is an essential tool, often bringing out identifying features of media such as embossment of the support, particle morphology, surface sheen or gloss, and opacity. Additional characterization of media based on microchemical testing or instrumental analysis techniques is not addressed in this document, but may be necessary for definitive identification of paints or other media.

Consult and Evaluate Existing Literature and Primary Source Materials

Original records or references to the materials and techniques of manufacture for works of art—for example, dealer or gallery records, printers' documentation sheets, or descriptions from early or first exhibitions—can be useful tools in identification, as they are typically unfiltered by history and reinterpretation. Published technical studies or other in-depth materials research specific to an artist or time period can also be invaluable, as such studies often bring together art-historical connoisseurship and definitive materials identification or analysis to inform attribution. It is, however, important to evaluate source information critically, since even records originating from an artist, a studio, or a scholarly publication can be misleading or inaccurate, and materials information from past “authoritative” sources is routinely republished or perpetuated as established fact.

III. USING THIS PUBLICATION

Descriptive Terminology for Works of Art on Paper is divided into three parts: Part I: Recording, Accessing, and Adapting Media Descriptions, Part II: Rules of Syntax, and Part III: Identification and Characterization of Materials and Techniques. Each part contains practical guidelines for writing or recording descriptions of works of art on paper. These guidelines are accompanied by textual formatting that will help users navigate the publication, which is also abundantly illustrated with images of works of art on paper from the collections of the Philadelphia Museum of Art. The organizational structure and formatting features of *Descriptive Terminology* were designed to provide users with a practical tool for deciphering and describing works of art on paper. The publication is available as a downloadable PDF that can be navigated online or printed out for use as a reference tool.

Part I: Recording, Accessing, and Adapting Media Descriptions

This section provides instructions for recording and managing information about design materials and techniques within institutional collections information systems. It recommends the use of three fields for recording information about media (MEDIUM, EXTENDED MEDIUM, and TECHNICAL NOTES) and one (PAPER/SUPPORT) for supports, so that different levels of detail can be recorded, used, and adapted for different purposes. Descriptions to be entered in the EXTENDED MEDIUM field are the primary focus of these guidelines; such descriptions should be as accurate, concise, consistent, and complete as possible, following the rules set forth for language, syntax, and order. The MEDIUM description may reflect institutional or curatorial preferences and protocols, and may thus be the same as the EXTENDED MEDIUM description or a more concise adaptation of it.

Recording, Accessing, and Adapting Media Descriptions also addresses protocols for entering, updating, changing, and adapting descriptions of artworks. It recommends developing institutional protocols for retaining existing source information (particularly medium descriptions or materials information originating from auction catalogs, artists, or galleries) and for documenting any changes made.

Part II: Rules of Syntax

This section provides the syntactical framework for writing concise yet comprehensive EXTENDED MEDIUM descriptions. Once conservators have examined a work of art and gathered information about its materials and techniques, they need a consistent approach for assembling that information in order to achieve a degree of logical coherence and accuracy. This brings into play the rules of syntax, which govern the way words are combined, the structure or order of elements, punctuation, and other grammatical issues. Rules of Syntax includes guidelines that are designed to help users develop and record descriptions in a consistent, detailed, yet economical format, typically progressing from the most- to least-dominant material in a given work of art. This section also addresses how to designate and include color, how to select plural or singular terms, and when to include information about supports. The section is divided into three subsections: General Syntax, which provides guidelines applicable to all types of works of art on paper, Drawing-Specific Syntax, and Print-Specific Syntax.

Part III: Identification and Characterization of Materials and Techniques

This section is designed to help users identify the materials and techniques present in a work of art based on their visual characteristics, and to describe those materials and techniques in a consistent way in the EXTENDED MEDIUM field. Its three subsections cover three distinct types of works of art on paper: Drawings, Collage and Material Additions, and Prints. Due to the inherent differences between these types of artworks, each of the subsections utilizes a slightly different structure.

In Drawings, individual drawing materials are grouped by broad medium type (dry drawing materials, ink, and paint) and then by specific material (chalks, graphite, pastel, etc.). The section also includes instructions on describing different forms of the same medium (such as graphite *pencil* versus graphite *powder*) and presents tips for differentiating media based on subtle visual characteristics. Finally, Drawings includes a section on manipulations and reductive techniques, actions that are performed on the drawing materials or support after the media have been applied.

Collage and Material Additions provides a concise system for consistently describing a range of works that incorporate attached elements, from works of art that are exclusively collage to drawings or prints that include paper elements or material additions. Collage and Material Additions includes a chart that illustrates four categories of collage and provides instruction for syntax and choosing terms.

In Prints, the characterization of print processes and techniques is organized into four parts. Part I, Print Categories, introduces the user to the classification of prints, and discusses the types of prints found within each category. The print categories are organized according to the well-established 19th-century divisions of *relief*, *intaglio*, and *planographic*, with *stencil* incorporated as a distinct fourth category. Parts II-IV— the Print Hierarchy Charts, Lists of Print Terms, and Print Glossary—guide the user in selecting appropriate terms to describe prints. The Print Hierarchy Charts organize myriad techniques and variations within each broad print process category, and provide a structure for identifying and describing prints using terms appropriate for the user's experience and familiarity level, from most general (e.g., *intaglio print*) to very specific (e.g., *soft ground etching and spit bite aquatint*). Each broad print process category also has a section dedicated to related photomechanical techniques. (For example, *collotype* is found under the Photomechanical Planographic heading within the broad category Planographic.) The Lists of Print Terms include both general and specific terms for describing prints and printmaking processes and techniques, and are organized alphabetically within each broad print process category. The Print Glossary provides detailed, comprehensive definitions for print process terms and includes additional information such as the dates for significant inventions and periods of use for individual techniques.

Textual Formatting

The following formatting is used throughout *Descriptive Terminology for Works of Art on Paper* to help users navigate the document:

<u>Underlined text</u>	Used to indicate terms, phrases, or formats recommended for use
<i>Italicized text</i>	Used for general emphasis and to clarify the usage of specific terms
<u>Gray underlined text</u>	Used to indicate materials or techniques that are defined within the document proper
Gray text	Used to indicate terms that are defined in the Print Glossary
Red text	Used for hyperlinks and references to other sections of the publication; the red text is linked to those headings in the PDF version
SMALL CAPS	Used to designate field names in collections management systems


Illustrations

Details from works of art in the collections of the Philadelphia Museum of Art are included throughout this publication to illustrate the application of the guidelines. The details are linked to thumbnail images of the complete works of art, with detailed cataloging information, in Appendix 2.

Appendices

This publication includes two appendices to help readers summarize the guidelines for media description and to examine their application to specific works of art. The first, the Guidelines Summary, is a quick reference guide to the contents of this publication. The second, the Image List, provides thumbnail images of the complete works of art from which the details used to illustrate this publication were taken, and includes full cataloging information for each work. In most cases, these images are linked to high-resolution images on the PMA website. In the future, Timelines for dates of use and Bibliographies for both Drawings and Prints will provide detailed information about specific dates, periods of development, and periods of use for materials, techniques, and methods of manufacture. The latter two resources are currently under development and may be available at a later date.

Viewable and Printable Formats

Descriptive Terminology for Works of Art on Paper is designed to be used either as an interactive PDF, stored locally on your computer or another digital device, or in printed form. In the PDF version, the table of contents and text include hyperlinks (in red text) that can be clicked on to navigate to relevant sections within the document or to external web-based resources. The image details that illustrate the publication are linked to thumbnail images of the complete works of art in Appendix 2; clicking on a thumbnail image in the appendix will take the user to a larger image on the PMA website. Note that navigating back to the previous page of the PDF (as in a web document) requires adding the **Previous Page tool** to the Navigation Toolbar in Adobe Acrobat Pro. To install the tool, right click on the toolbar > choose Page Navigation > and then click on Previous View. The navigation arrow  will appear on the toolbar. In Adobe Reader use ALT + left arrow to navigate to the previous page.

The PDF may be printed double-sided on letter-sized paper to be spiral bound or used in a three-ring binder, providing a hardcopy resource for use in a variety of settings or locations. We recommend using 32-80 lb white paper designed for digital printing and photo-quality printing for optimum image clarity.

PART I
RECORDING, ACCESSING, AND ADAPTING
MEDIA DESCRIPTIONS

RECORDING, ACCESSING, AND ADAPTING MEDIA DESCRIPTIONS

The development of museum collections information systems has in many ways bypassed the essential internal dialogue that leads to a critical review of the materials and techniques used in individual works of art. That is to say, when information is entered into such databases, often by catalogers not trained in materials identification, the entry takes on the appearance of authority yet may not result from any sort of formal assessment of the work of art. Moreover, the technical descriptions entered into these systems are then often used or adapted without a full appreciation or understanding of important nuances. A description may be extracted from a collections database for a specific use (e.g., image captions in a publication) without first ascertaining the accuracy of the information, which might involve checking the record for recent verification, asking a curator to vet it for accuracy, or consulting a conservator for close visual assessment of the work of art.

In most collections information systems, including The Museum System (TMS) by Gallery Systems, a single primary field—MEDIUM—is used to record the physical or material aspects of an artwork. This may include design media (e.g., watercolor, acrylic, gold leaf), techniques and processes (e.g., collage, etching), sometimes the support (e.g., paper, board, other), and often implements and manipulations of media (*pen and ink*, *watercolor with scraping*). These descriptions may be used for wall labels, websites, or exhibition catalogs and can greatly inform the viewer's appreciation of the material characteristics of a work of art, yet vast inconsistencies are found in the presentation of this information, not only in comparisons across collections, but often within a single institution.

Descriptive Terminology for Works of Art on Paper seeks to remedy this situation by recommending four distinct fields for data entry, each for a different level or type of information, and by providing guidelines for consistent and accurate description of artists' materials and techniques. In order to implement this system, the existing workflow—how descriptive information is entered, and how it is used and managed once it is created—must be carefully examined. Since most large institutions use a collections database that is routinely accessed by staff from many departments, this process includes identifying key staff who use or develop media- and technique-related content, determining how their roles interrelate, and investigating the range of end uses for the information. Departmental practices for information retrieval and use can vary widely, and each user group may have different suggestions for terminology and data-entry protocols. Based on discussions with conservators, curators, and other staff who work with small and large collections, both outside of and within institutions, it is clear that the way such information is managed depends upon the institutional setting as well as the nature of the collections involved.

I. LEVELS OF DESCRIPTION

This publication recommends recording and managing three levels of information about materials and techniques: EXTENDED MEDIUM, MEDIUM, and TECHNICAL NOTES, in three different dedicated fields in collections information systems, with information about supports entered in a fourth PAPER/SUPPORT field that is included in most collections databases. In the proposed system, changes or updates to information in these fields will be tracked in a concise and consistent way, and institutions or individuals can readily access and adapt information for different purposes. The focus of *Descriptive Terminology for Works of Art on Paper* is the EXTENDED MEDIUM. The guidelines provided here—and the supporting information found in the Hierarchy Charts, Lists of Print Terms, Print Glossary, etc.—were designed to help users write detailed descriptions to be recorded in the EXTENDED MEDIUM field. Such descriptions, derived from direct visual examination and developed using the syntax and terminology recommended in this publication, satisfy the principal goal of describing works of art as concisely and consistently as possible while conveying maximum information.

A. EXTENDED MEDIUM

The EXTENDED MEDIUM field is the primary focus of this publication: in it, the work of art is described as concisely and consistently as possible while conveying maximum information. The EXTENDED MEDIUM field contains detailed, vetted information that—to the extent possible—results from a conservator’s close scrutiny of an object, or its close assessment by a curator or cataloger. The descriptions provided in this publication are EXTENDED MEDIUM descriptions and include a significant amount of detail to illustrate the level of description that is possible with direct access to the work of art, specialized knowledge, and proper magnification. When the person responsible for developing a description has limited access to magnification or critical lighting, less experience with identifying complex materials, or limited direct access to the object, it may be appropriate to enter a shorter, less detailed description in this field. Those who write EXTENDED MEDIUM descriptions should include only what they know or can identify with confidence. Sometimes the simplest descriptor for a work of art, such as *print*, may be the most appropriate.

B. MEDIUM

The information in the MEDIUM field may be the same as that in the EXTENDED MEDIUM field, or it may contain a simpler or more concise description of materials and techniques for a given work of art. While it maintains the accuracy of the description in the EXTENDED MEDIUM field, it may also reflect curatorial preferences and institutional protocols and be an adaptation of the EXTENDED MEDIUM entry by a conservator, curator, or cataloger.

In TMS, the MEDIUM field is located on the Front Card tab of the Data Entry Display Mode (the primary data-entry screen). It contains the information that likely appears in an online collections search, in the printed fact sheet for an object, or in exhibition wall labels. In some institutions, this field may already contain systematic, accurate, curator-approved descriptions. In older, larger institutions with hundreds of thousands of collections objects, however, “historical” descriptions are more common, and the process of systematically updating them may be daunting. Older MEDIUM entries may be descriptions of unknown authorship, long associated with an object, or descriptions provided by a gallery or dealer. They may contain traditional nomenclature that is no longer recommended or used, or inconsistent media identification or descriptions, even for works with very similar manufacture. In each instance, the information may or may not be accurate. Ideally, using the guidelines set forth in this publication, the EXTENDED MEDIUM description will result from direct visual assessment of the work, and a new or updated MEDIUM entry will reflect a systematic adaptation of the EXTENDED MEDIUM that conforms to curatorial preferences and institutional protocols.

C. TECHNICAL NOTES

The TECHNICAL NOTES field provides a place for detailed observations about materials and techniques and is not structured or limited by the rules of syntax provided in this publication. It may include a more comprehensive characterization of materials and techniques or a range of other visual observations, possibly derived from conservation documentation or intended for scholarly purposes. The field may include notes pertaining to comparative study of related works, descriptions of visible deterioration or condition issues that support the identification of a material, or references to discussions with an artist or artist’s estate. While the TECHNICAL NOTES field is not intended for the recording of in-depth technical analysis, it might refer to the results of such study.

D. PAPER/SUPPORT

In TMS the PAPER/SUPPORT field resides on the Front Card tab of the Data Entry Display Mode, below the MEDIUM and DESCRIPTION fields (see fig. 1). It is used to record detailed information about print and drawing supports, including paper type (e.g., laid or wove, hand- or machine-made), color, surface texture, thickness, the absence or presence of watermarks, and information about mounts or secondary supports.

Additional information can be recorded in the TECHNICAL NOTES field. Where institutional preference is to include details about the support (e.g., color or paper type) in the MEDIUM description, that information can be drawn from the PAPER/SUPPORT field.

II. USING DEDICATED FIELDS IN COLLECTIONS INFORMATION SYSTEMS

This portion of *Descriptive Terminology for Works of Art on Paper* offers guidance on recording and managing media descriptions using dedicated fields in a collections database, and on standardizing practices for entering, updating, and adapting that information. This process includes establishing protocols for entering new descriptions while retaining existing and original source information and documenting any changes made.

- 1. Identify key decision-making staff.** Consult with conservators, curators, registrars, and collections information staff and identify the roles they play in generating and managing medium descriptions and entering them into a collections information system.
- 2. Outline staff responsibilities and workflow protocols.** Clarify existing protocols for entering and updating information. Determine whether adjustments are needed, taking into consideration the system recommended in this publication. This includes protocols for entering and revising descriptions in the MEDIUM field and for retaining and documenting older descriptions.
- 3. Identify needed database changes.** Identify content fields that will enable the recording of four levels of conceptual information: EXTENDED MEDIUM, MEDIUM, TECHNICAL NOTES, and PAPER/SUPPORT. This may require renaming existing fields or configuring new ones.
- 4. Implement database changes.** Rename or configure the dedicated fields outlined above.
- 5. Create an internal guide for data entry.** Create a new (or adapt an existing) guide that outlines staff responsibilities, describes the data-entry workflow, and defines the scope of content for each field. The guide should also include information about how to document changes or revisions to descriptions already present in the database.

A. Implementation at the Philadelphia Museum of Art

At the Philadelphia Museum of Art (PMA), conservators are working with Collections Information staff to implement a four-tier data entry system like the one described here. The MEDIUM field on the Front Card tab of the Data Entry Display Mode of the TMS collections information system (see fig. 1) will continue to be utilized.

As PMA protocol dictates, changes to the content of the MEDIUM field may be made only with direct curatorial approval.

The EXTENDED MEDIUM and TECHNICAL NOTES entries will be recorded on the adjacent Notes tab. Here they will be recorded as TEXT ENTRIES in TMS with a TEXT TYPE selection that defines the field (see fig. 2). Either the description author or an intermediary staff

The screenshot shows the 'Front Card' tab of the TMS system. It displays a form for entering or editing data for a work of art. The form is organized into several sections:

- Basic Information:** Includes fields for 'Period', 'Date' (c. 1575), 'Culture', 'Constituent(s)', 'Artist/Maker' (Raffaellino da Reggio), 'Group Inform...', 'Title' (The Virgin and Child), and 'Object Name'.
- Medium:** A dropdown menu showing 'Black chalk, traces of white chalk, and touches of pen'.
- Dimensions:** A text field showing 'Sheet: 9 x 7 13/16 inches (22.8 x 19.8 cm)'.
- Description:** A large text area for entering the description.
- Credit Line:** A text field showing 'The Muriel and Philip Berman Gift, acquired from...'.
- Paper/Support:** A dropdown menu showing 'Cream laid paper. Watermark: Crossed Arrows (See...'.
- Catalogue Raisonné and Portfolio/Series:** Additional dropdown menus for classification.

The interface includes a navigation bar at the top with tabs for 'Front Card', 'Notes', 'Documentation', 'Media', 'Context', 'Related', 'Other', and 'Bibliography'. A small thumbnail image of the artwork is visible in the top right corner.

Fig. 1. Detail from the Front Card tab of the Data Entry Display Mode (the primary data-entry screen) in TMS, showing the MEDIUM and PAPER/SUPPORT fields at lower left

member will enter information into these fields. In TEXT ENTRY fields, metadata such as the author and date can be documented. Both the metadata and the body of the TEXT ENTRY are fully searchable.

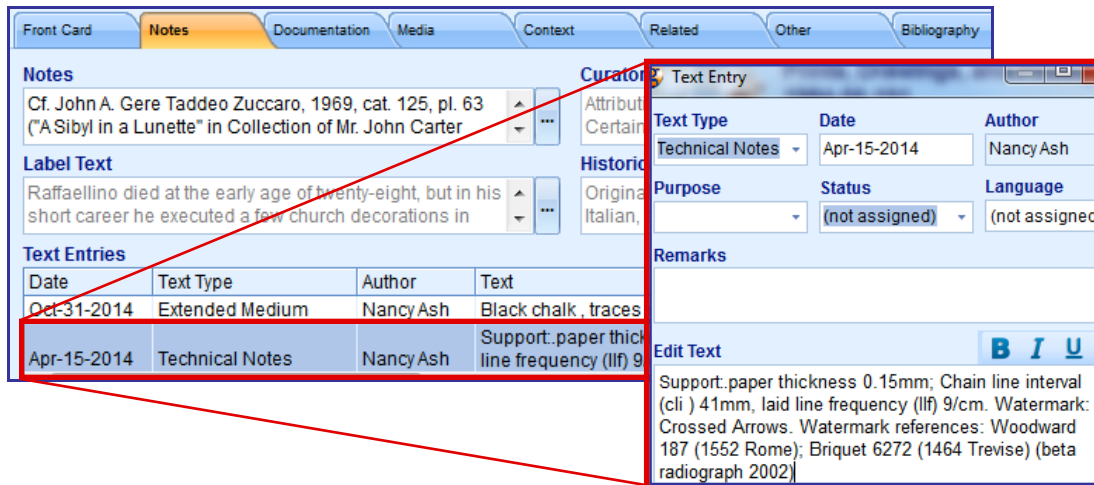


Fig. 2. Detail from the Notes tab of the Data Entry Display Mode in TMS at the Philadelphia Museum of Art, showing the TEXT ENTRIES fields for the EXTENDED MEDIUM and TECHNICAL NOTES entries. The correct field must be selected from the TEXT TYPE authority list (drop-down menu) in the Text Entry dialog box.

Information in the MEDIUM, EXTENDED MEDIUM, and TECHNICAL NOTES fields is available to PMA staff through TMS. At the PMA, only the MEDIUM field is used in public information, but curatorial staff may import information from the EXTENDED MEDIUM and TECHNICAL NOTES fields into the MEDIUM field as needed. The Editorial and Graphic Design, Publishing, and Education departments may then use the MEDIUM field for wall labels, catalog checklists, image captions, etc. Any label they create is retained as a Label Archive TEXT ENTRY in TMS.

Collections Information staff are also introducing a TMS Alert that will let curators and other designated staff know when conservators have added new information to the EXTENDED MEDIUM or TECHNICAL NOTES fields in an object record. Curators can then use the information from TEXT ENTRIES to modify the MEDIUM description if desired. The alert will only show results within a given user’s department, since this project may eventually expand beyond works of art on paper.

If a user has active alerts, the notification in figure 3 will appear in the lower right portion of the screen when TMS is opened. Clicking on the notification will open an Alerts window with a list of the altered objects records for review. The alerts can also be independently monitored from within the system.

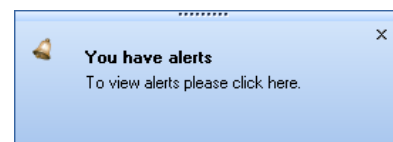


Fig. 3. Alert notification for changes to the EXTENDED MEDIUM or TECHNICAL NOTES fields in TMS at the Philadelphia Museum of Art

B. Implementation at the Whitney Museum of American Art

One goal of the 2008–2010 Collections Documentation Initiative at the Whitney Museum of American Art was to provide detailed descriptions of the museum’s works of art on paper. The individual works were visually examined, and their descriptions were entered into the MEDIUM and SUPPORT fields in TMS. It quickly became apparent that the amount of descriptive detail desired varied depending on the user and the end use of the information (e.g., a wall label vs. a scholarly publication), and that existing protocols limited the type and amount of information that could be entered in the MEDIUM field.

The Whitney decided to follow the example of the Solomon R. Guggenheim Museum, which was first to create and use an EXTENDED MEDIUM field, and which also uses a TMS alert system to facilitate internal dialog about changes to MEDIUM descriptions. In both museums, the MEDIUM and EXTENDED MEDIUM fields were located in close visual proximity on the Front Card of TMS, which made it easier to adapt a MEDIUM description from an EXTENDED MEDIUM description (see fig. 4). To enable this layout, the existing DESCRIPTION field was renamed EXTENDED MEDIUM; where the DESCRIPTION field already contained data, the information was relocated. The project demanded close collaboration among key staff, including conservators, curators, registrars, and other information management personnel.

The screenshot shows the TMS interface for object 46.18. The top navigation bar includes menus for File, Edit, View, Query, Report, Conservation, Registration, Related, Tools, Maintenance, and Help. The object is identified as 'Permanent Collection 46.18'. Below the navigation bar are several tabs: Curator Approved, Public Access, On View, Accountability, Virtual Object, and In Jurisdiction. The main content area is divided into several sections:

- Classification:** A dropdown menu showing 'Printed'.
- Period:** A dropdown menu showing '(1919-1920)'.
- Constituent(s):** A list of details including Artist: Max Weber, 1881-1961; Donor: Max Weber, 1881-1961; Provenance-source: Max Weber, 1881-1961; and Provenance-present owner: Whitney Museum of American Art.
- Title:** A text field containing 'Figure Number 3'.
- Object Name:** An empty text field.
- Media:** A thumbnail image of a woodcut print with a red border and a caption '3 media on file...'.
- Front Card tab:** A series of tabs including Notes, Documentation, Media, Context, Related, Other, and Bibliography.
- Medium:** A text field containing 'Woodcut'.
- Extended Medium:** A text field containing 'Color woodcut'.
- Dimensions:** A text field containing 'Sheet: 9 1/4 x 6 5/8 in. (23.5 x 16.8 cm)' and 'Image: 4 1/4 x 2 in. (10.8 x 5.1 cm)'.
- Credit Line:** A text field containing 'Gift of the artist'.
- Paper/Support:** A text field containing 'beige (2), thin (2), slightly-textured (1), hand-made eastern laid paper; with plant fibers visible throughout;'.
- Signed:** A text field containing 'Lower right below image in graphite: MAX WEBER'.
- Mark(s):** A text field containing 'Lower left corner in ink: 10' and 'Stamp on verso lower left in ink [horizontal orientation]: APR 9 1930'.
- Inscription(s):** An empty text field.
- Catalogue Raisonné:** An empty text field.
- Portfolio/Series:** An empty text field.
- Current Location:** An empty text field.

Fig. 4. Detail from the Front Card tab of the Data Entry Display Mode in TMS at the Whitney Museum of American Art, showing the adjacent MEDIUM and EXTENDED MEDIUM fields. The EXTENDED MEDIUM field replaced the standard DESCRIPTION field.

At the Whitney, changes made to the MEDIUM description are recorded in a Conservation Report using the TEXT ENTRIES field, where users must select Media Correction from the TEXT TYPE authority list or drop down menu (see fig. 5). The Media Correction entries include both the original MEDIUM description and the new revision. If the revisions do not follow standard museum protocols, the entries may also include explanations or justifications. The date and the name of the person entering the change are also recorded, along with other specific details related to the MEDIUM change. This information could also be recorded using a TEXT ENTRY field elsewhere in TMS (for example, under the Notes tab of the Data Entry Display Mode, as has been proposed at the PMA).

Summary

Activity Type: Condition Report

Display Record Record Locked for Edit

Activity Date: Jul-22-2010 Report Date: []

Overall Condition: []

Examiner: Stephanie M. Lussier

Text Entries

Date	Text Type	Author	Text
Jul-22-2010	Media Correction	Stephanie M. Lussier	Changed from: Color etching and photolithograph with collage elements TO: Collage of etching on metal, color photolithograph, charcoal and pastel on paper

Details

Project: Collection Documentation Initiative

Request Date: [] Due Date: []

Duration (Days): 0 Cost: []

Priority: [] Completed

Second Examiner: []

Overall Testing & Analysis

WATERMARKS: None apparent

EXAMINATION CONDITIONS: Normal: Unhinged with full access to recto and verso; access to varied light sources and microscope

SUPPORT(S): Overall condition: moderate overall discoloration; moderate surface

Remarks

NOTES ON MANUFACTURE:
Paper collage elements and background printed with lithography, metal printed with etching; ink stamp (handprint), LR; hand additions in charcoal and pastel (shadows)

Fig. 5. Detail from the Conservation Report screen in TMS at the Whitney Museum of American Art, showing the TEXT ENTRIES fields that track changes to the MEDIUM description. Users must select Media Correction from the TEXT TYPE authority list (drop-down menu) in the Text Entry dialog box. Notes on manufacture (i.e., TECHNICAL NOTES) are recorded in this system in the REMARKS field.

Additional notes on materials or techniques of manufacture (referred to in this publication as TECHNICAL NOTES) were entered in the REMARKS field in the Conservation Report with the added heading “Notes on Manufacture” (see fig. 5).

PART II
RULES OF SYNTAX

RULES OF SYNTAX: MEDIA RELATIONSHIP AND DEGREE

Drawings, prints, and collages often combine materials, techniques, and print processes in complex ways. The rules of syntax presented here are intended to guide the user through many of the issues encountered in describing these works, such as word order, word choice, phrasing, and punctuation.

I. GENERAL SYNTAX

A. General Listing Format

GUIDELINE Order by visual dominance.

List media and techniques in order of visual dominance, from most to least dominant, as evident in the work of art.

Use the serial comma.

Separate multiple, distinct materials or techniques with commas; include a comma and the conjunction and before the last term listed. When only two media or processes are present, connect them using and without a comma. Do not end the description with a period.

Examples

- Hard ground and soft ground etching, aquatint, and drypoint, with sulfur tint and roulette (*See fig. 6, Buhot.*)
- Watercolor and black chalk on paper (Only two media are present, so no comma is necessary.)

GUIDELINE Use commas to set off a prepositional phrase only when the phrase modifies multiple media.

Use commas to set off a prepositional phrase that modifies the preceding media listing (and the succeeding support) only when the phrase describes an action, manipulation, or material that affects more than one of the materials or processes. When a prepositional phrase (e.g., *with scratching out*) modifies only a single medium, place the phrase immediately after that medium and do not use commas.

Examples

- Pen and brush and black and brown inks, watercolor, blue-green matte opaque paint, gold metallic paint, and graphite, with scratching out, on paper (Scratching out affects all media, so the prepositional phrase is set off with commas.) *See fig. 7, Lewis.*
- Graphite with scratching out over acrylic paint on paper (Only graphite is scratched away, so no commas are necessary.)
- Brush and black ink, acrylic paint with scratching out, and blue ballpoint pen on board. (Only acrylic paint is scratched away.)



Fig. 6. Hard ground and soft ground etching, aquatint, and drypoint, with sulfur tint and roulette. Detail from Félix Hilaire Buhot, *L'Hiver à Paris*, 1879. PMA 2012-25-29



Fig. 7. Pen and brush and black and brown inks, watercolor, blue-green matte opaque paint, gold metallic paint, and graphite, with scratching out, on paper. Detail from Samuel Lewis, *A Deception*, c. 1802. PMA 2012-172-163



Fig. 8. Black chalk with red and white chalks over charcoal on paper. Detail from Gaetano Gandolfi, *David with the Head of Goliath*, c. 1790. PMA 1984-56-125

GUIDELINE Use “with” to indicate minor materials or techniques. Use the preposition with to signal less abundant materials, minor techniques or manipulations, or material additions. List the predominant media first, followed by with, then the secondary materials or actions.

Examples

- Watercolor and pastel with graphite on paper (Watercolor and pastel have equal importance; there is a lesser amount of graphite.)
- Pen and black ink, graphite, and acrylic paint with gold metallic paint on paper (Gold metallic paint is a distinct and separate medium that is present to a lesser degree than the other media.)

GUIDELINE Use “over” when describing layered media. Use the preposition over to describe the relationship of layered media. Generally the predominant medium appears over less abundant (or less visible) media.

Example

- Black chalk with red and white chalks over charcoal on paper (See fig. 8, Gandolfi.)



Fig. 9. Pen and brown ink (est. iron gall) on paper mounted on paper. Detail from Giovanni Francesco Barbieri (called il Guercino), *Samson and Delilah*, 1646. PMA 1994-83-1

GUIDELINE Use “(est.)” if uncertain about the identification of a medium. When identification of a medium is not certain but is surmised with some degree of confidence, follow the visual description with (est.) or include the estimated medium in parentheses: (est. [medium]). For example, the distinctive aging characteristics of iron gall ink allow it to be identified with some degree of confidence. See *Drawings II: Inks, B: Brown Inks* (page 53) and *Drawings III: Paint* (page 59) for recommended usage of this parenthetical term.

Examples

- Pen and brown ink (est. iron gall) on paper mounted on paper (See fig. 9, Guercino.)
- Matte opaque paint (est. casein) on paper

B. Designating and Including Color

Including color in medium descriptions provides more complete documentation of the materials and can contribute to better understanding of the work of art. Generally applicable guidelines are provided below. For rules specific to prints, see *Print-Specific Syntax F: Color Prints* (page 33).

GUIDELINE Include color names if only one or two colors of a given medium are present. Generally, include color names if only one or two colors of a given medium are present and omit individual color names if three or more colors are present. Exceptions might include works such as

chiaroscuro woodcuts, in which the individual colors can be critical in distinguishing an impression. (See [Drawing-Specific Syntax D: Selecting Singular or Plural Forms for a Drawing Medium Present in Multiple Colors](#), page 26.)

Examples

- Graphite and red ballpoint pen on paper (Only one color of ink is present.)
- Brush and colored inks on paper (More than two colors of ink are present.)

GUIDELINE Use hyphenated compound terms to describe intermediate colors.

To describe intermediate colors, use hyphenated compound color terms (e.g., red-orange). The second color indicates the predominant tone. Do not use *-ish* to modify the subordinate (first) color (e.g., *reddish-orange*). Avoid the terms *cool* and *warm*.

Example

- Chiaroscuro woodcut, printed in gray-green, light olive, and black inks from three blocks (Note the use of *gray-green*, not *grayish-green*.) See [fig. 10](#), *Vicentino*.

GUIDELINE Use “light” or “dark” to indicate extremes of value or intensity.

Use light or dark to modify color descriptions. Do not use *medium* since a color is understood to be of an average intensity if neither light nor dark is specified.

Example

- Pen and light brown ink over black chalk on paper

GUIDELINE Include descriptions of distinctive colors.

Describe metallic, iridescent, or fluorescent drawing materials when possible. Reserve *metallic* color descriptors such as *gold*, *silver*, or *bronze* for materials with a distinctly metallic appearance. Use the word order [color] metallic [material], not *metallic [color] [material]*; the latter suggests the presence of the actual metal rather than just its appearance. (See [Drawings III: Paint, G: Luminescent and Lustrous Colors](#), page 68.)

Examples

- Pastel with gold metallic paint on canvas (See [fig. 11](#), *Cassatt*.)
- Brush and pink fluorescent ink over graphite on paper

C. Including Supports

This publication provides only basic guidelines for identifying the support in a medium description. A more comprehensive discussion of paper supports (including approaches to characterizing surface texture, thickness, tonality, manufacturing techniques, watermarks, etc.) is beyond its scope, and may be addressed in a dedicated resource at a later point.

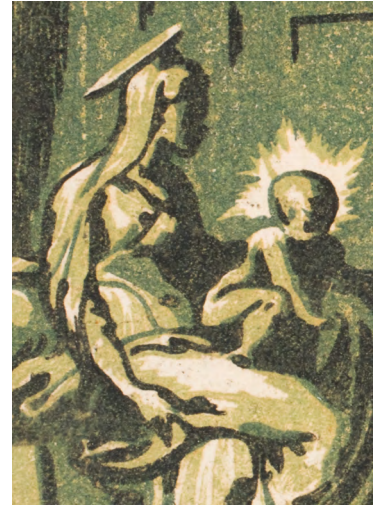


Fig. 10. Chiaroscuro woodcut, printed in gray-green, light olive, and black inks from three blocks. Detail from Niccolò Vicentino, *The Adoration of the Magi*, Mid-16th century. PMA 1985-52-2093

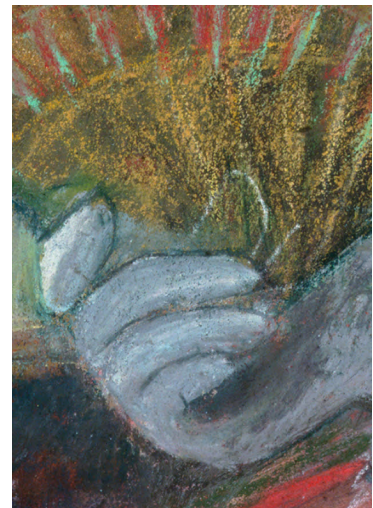


Fig. 11. Pastel with gold metallic paint on canvas. Detail from Mary Stevenson Cassatt, *In the Loge*, c. 1879. PMA 1950-52-1



Fig. 12. Wax crayon on orange paper. Detail from Max Ernst, *Rara Avis*, From *VVV Portfolio* (New York: VVV, 1942). PMA 1950-134-973

GUIDELINE

Identify the primary support following the materials and techniques.

Follow the list of materials (and implements, manipulations, and paper or material additions, where applicable) with on paper. If the paper is white or off-white, do not include color or tonality descriptors (e.g., cream, beige, buff). For colored paper, include the paper color (e.g., blue, red, orange) using the form on [color] paper. For repurposed or other paper supports with pre-existing media or printing, use on found paper or on printed paper as appropriate. Use on board to describe any of a variety of rigid or semi-rigid paper-based supports. A broad range of terms exist for the description of such supports, depending on fiber composition, structure, finishing, and other characteristics. Institutions or individuals also sometimes use different terms depending on support thickness; for example, the term *card* is commonly associated with various types of supports that fall in a range between *board* and *paper* (e.g., tag, Bristol, folder stock). Record all specific details about paper manufacture, including paper color, texture, whether it is laid or wove, machine-made or hand-made, Western or Asian, etc., and presence of watermarks in a dedicated PAPER/SUPPORT field.

Examples

- Ink wash and pastel over traces of black chalk on paper
- Wax crayon on orange paper (See fig. 12, Ernst.)
- Acrylic paint on found paper
- Screenprint on printed paper

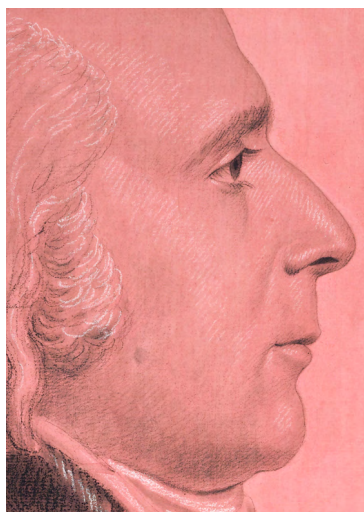


Fig. 13. Black and white fabricated chalks over graphite on paper prepared with pink ground. Detail from Charles Balthazar Julien Fevret de Saint-Mémin, *Portrait of John Sitgreaves*, 1798. PMA 1996-196-2

GUIDELINE

Use “toned with [medium]” to describe papers colored overall with paint, ink, or dry media.

Use on [support] toned with [color] [medium] to describe overall color imparted by the application of an ink or paint wash or dry media.

Example

- Pen and black ink on paper toned with yellow-brown wash

GUIDELINE

Use “prepared with ground” to describe papers with a surface coating applied by the artist.

Use prepared to describe a surface coating applied by the artist to isolate the paper surface and add texture or tooth, as for metalpoint or pastel. Use the form on [support] prepared with [color] ground. Do not use *tinted* or *toned* (e.g., *blue-toned*) to describe the color of a ground. See **Drawings I: Dry Drawing Media, F: Metalpoint** (page 46).

Example

- Black and white fabricated chalks over graphite on paper prepared with pink ground (See fig. 13, St. Memin.)

GUIDELINE Use “coated” to describe papers with a surface coating applied during manufacture.

Use coated to describe a visually distinct and separate surface coating applied during the paper’s manufacture.

Example

- Color offset lithograph on coated paper

GUIDELINE Identify repurposed supports and commercial supports with pre-existing media.

Whether the artist has repurposed old materials (e.g., a used envelope, brown bag, or printed advertisement) or purchased a commercial or decorative paper to use as a support, address the artist’s incorporation of pre-existing imagery when describing the work.

If a previously printed image (e.g., a photocopy) contributes to the meaning or visual impact of an artist’s work, use the more specific form on found [photocopy, newspaper, etc.] instead of the more general form on found paper. This acknowledges the presence of a found support while distinguishing the media applied by the artist from the pre-existing imagery or media.

Use the form on printed paper to describe wallpaper, wrapping paper, or other commercial or printed papers that were acquired by the artist, including more specific information as necessary to distinguish the artist-generated imagery from commercially printed imagery (e.g., an artist’s screenprint on commercially printed paper). (See also [Collage and Material Additions](#), page 166.)

Enter any more detailed descriptions of found or commercially printed supports in a PAPER/SUPPORT or TECHNICAL NOTES field. For example, “found paper” or “found paper bag” could be expanded to “torn brown paper bag with pre-existing notations written in black ballpoint pen.”

Examples

- Soot and spit, stick-applied and wiped, on found printed envelope. (See *fig. 14, Castle*.)
- Acrylic paint, gesso, and graphite on printed newspaper (See *fig. 15, Thek*.)
- Color screenprint on commercially screenprinted paper

GUIDELINE Identify distinctive paper or board types in parentheses following the support.

If the support is a specialized paper or board, the paper or board type may be included in parentheses following the main support type. Use the form on [support] (specialized type), e.g., on paper (tracing paper), on paper (sandpaper), on board (Bristol). Also record this information in the PAPER/SUPPORT field.

Example

- Red chalk and charcoal on paper (tracing paper)



Fig. 14. Soot and spit, stick-applied and wiped, on found printed envelope. Detail from James Castle, *Farmscape, view from inside shed through shed doors*. Date unknown. PMA 2007-121-7

TECHNICAL NOTE: James Castle’s media and supports were analysed and language specific to his materials and techniques developed for a retrospective exhibition. Detailed notes on the supports were added to enrich the descriptions of works by this self-taught artist. Support details: [Mutual Creamery Co., May 16, 1932]; punched for hanging.



Fig. 15. Acrylic paint, gesso, and graphite on printed newspaper. Detail from Paul Thek, *Untitled (Butterflies)*, 1988. PMA 1992-129-1

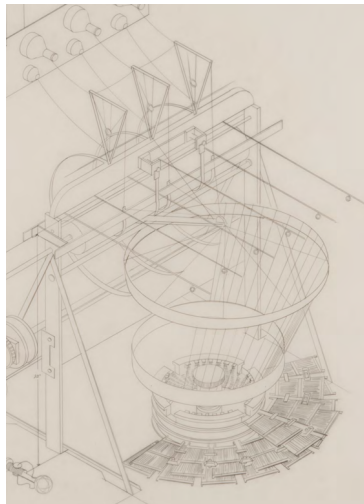


Fig. 16. Graphite on polyester film (Mylar). Detail from Alice Aycock, *The Great God Pan*, 1980. PMA 1981-36-1

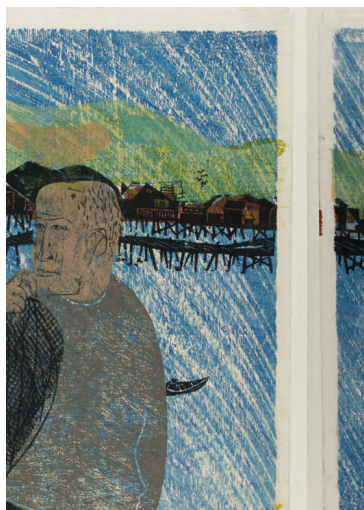


Fig. 17. Color woodcut printed on two sheets of paper (diptych). Detail from Antonio Frasconi, *Monte-rey Fisherman*, 1951. PMA 1952-31-48a,b

GUIDELINE Identify non-paper supports.

If the support is a material other than paper or board, identify the support type using clear descriptive terminology (plastic, wood, plywood, fabric, etc.).

Examples

- Screenprint on plastic
- Graphite on polyester film (Mylar) See fig. 16, Aycock.
- Acrylic paint and graphite on wood

GUIDELINE Include the number of supports for individual works comprised of multiple separate supports.

Where prints or drawings are created on two or more separate supports that are intended to be displayed together as a single work, describe them using the form on [number] sheets of [support]. Include further description in parenthesis (e.g., diptych, triptych) if desired.

Example

- Color woodcut printed on two sheets of paper (diptych) See fig. 17, Frasconi.

GUIDELINE Include the number of joined pieces for a single work on multiple adhered supports.

Where multiple pieces of paper, board, or other materials are adhered together to form the support for a single work of art, use the form on [number] joined sheets of [support].

Example

- Graphite and watercolor on two joined sheets of paper

Secondary Supports

Works on paper often are adhered or attached, either overall or at discrete points, to a secondary support. Secondary supports may include flexible materials (paper, fabric, plastic film, etc.) or rigid or semi-rigid materials (board, wood, masonite, cast acrylic, etc.).

GUIDELINE Describe attachment to a secondary support after the primary support.

If a work has been attached partially or completely to a secondary support or mount that is aesthetically integral, has historical significance, or is otherwise original to the work, follow the primary support with mounted on [support]. Such supports include collectors' mounts for Old Master drawings and secondary supports that are signed, inscribed, or visually integrated (with media or design) by the artist (e.g., mounts by Paul Klee). For the latter, identify the details that link the support with the artist (e.g., artist's inscription or decorative design). Use board to describe any of a wide range of rigid or semi-rigid paper-based supports. Enter other details about mounts or secondary supports, including

means of attachment, specific board types, etc., in a PAPER/SUPPORT or TECHNICAL NOTES field. Do not describe standard museum mat components or housings as secondary supports.

Examples

- Watercolor, sprayed through stencils and brushed, on paper mounted on board inscribed by the artist (See *fig. 18, Klee.*)
- Red chalk on paper mounted on board
- Graphite on paper mounted on wood

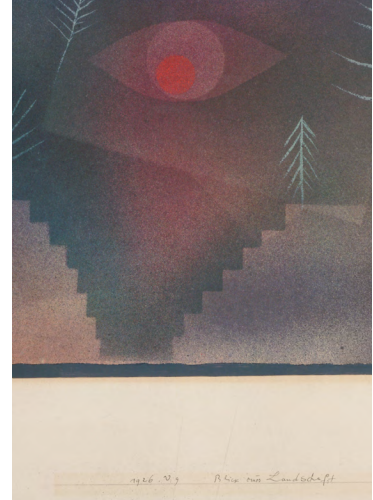


Fig. 18. Watercolor, sprayed through stencils and brushed, on paper mounted on board inscribed by the artist. Detail from Paul Klee, *Glance of a Landscape (Blick einer Landschaft)*, 1926. PMA 1950-134-120

II. DRAWING-SPECIFIC SYNTAX

A. Listing Format

For word order and linking of terms, follow the [General Syntax A: General Listing Format](#) guidelines (page 17). First list materials and implements, then manipulations, then paper or material additions. ([Material additions](#) include any non-paper objects attached to a support.)

B. Word Choice for Underdrawings, Less Abundant Media, and Highlights

GUIDELINE Use “over [medium]” to identify an underdrawing.

Use the form [over \[medium\]](#) to describe the first medium applied, especially if it appears to serve as the initial sketch or underdrawing. Where the function of the underdrawing is a significant aspect of the work (e.g., where there is clear evidence of the artist working out the composition), this can be elaborated in a TECHNICAL NOTES field. (See [General Syntax A: General Listing Format](#), page 17.)

Examples

- Watercolor and opaque watercolor with pen and brown ink over traces of graphite on paper mounted on board (The graphite in this example is an underdrawing, with traces visible through gaps in the paint.) See *fig. 19, Hughes*.

GUIDELINE Use “touches of [medium]” to describe scarce but visually significant media.

The phrase [with touches of \[medium\]](#) can be used to distinguish a minimally applied but markedly visible medium, such as a single stroke of paint.

Example

- Watercolor, charcoal, and black chalk with touches of white chalk on paper

GUIDELINE Use “traces of [medium]” to describe scarcely visible media.

The phrases [with traces of \[medium\]](#) or [over traces of \[medium\]](#) can be used to indicate minute or scarcely evident amounts of the given medium.

Example

- Watercolor and charcoal over traces of graphite on paper

GUIDELINE Use “with white [medium]” to describe highlights.

While phrases such as *heightened with* or *with white heightening* have traditionally been used to describe white media applied to a



Fig. 19. Watercolor and opaque watercolor with pen and brown ink over traces of graphite on paper mounted on board. Detail from Edward Robert Hughes. *A Basket of Oranges (Portrait of George Mackay MacDonald)*, 1878. PMA 1986-26-348



Fig. 20. Pen and brush and brown ink with white opaque watercolor on paper toned with brown wash. Detail from Francesco Salviati (Francesco de' Rossi, also called il Cecchino). *Christ Disputing with the Doctors in the Temple*, 1539? PMA 1984-56-78

drawing to create highlights, it is recommended to list the white medium used to create highlights after the other media, following the rules of syntax for less abundant materials.

Examples

- Pen and black ink with white opaque watercolor
- Pen and brush and brown ink with white opaque watercolor on paper toned with brown wash (See fig. 20, Salviati.)

If institutional or curatorial preference is for a more traditional approach, use heightened with [medium] (not *with white highlights* or *heightening*).

Example

- Pen and black ink heightened with white opaque watercolor on paper

C. Designating and Including Color in Drawings

For color inclusion and description see [General Syntax B: Designating and Including Color](#) (page 18).

D. Selecting Singular or Plural Forms for a Drawing Medium Present in Multiple Colors

Full-Palette Media

Full-palette media include wax crayon, colored pencil, pastel, and watercolor. They are produced in a broad spectrum of colors and are typically available in sets.

GUIDELINE Always use the singular form with full-palette media; list the colors only when fewer than three are present.

Since full-palette media names imply plurality, always use the singular form. List individual colors only when fewer than three are present for a given medium (e.g., red and blue colored pencil). If three or more colors are present, do not list them; the absence of individual color names (e.g., blue or red) implies that three or more colors are present in the work.

Examples

- Red and blue wax crayon on paper (Individual colors are listed, indicating that only those two colors are present.)
- Colored pencil with white opaque paint over charcoal on paper mounted on board (Individual colors are omitted, so multiple colors are implied.) See fig. 21, Wood.



Fig. 21. Colored pencil with white opaque paint over charcoal on paper mounted on board. Detail from Grant Wood, *Plowing*, 1936. PMA 2009-227-1

Other Drawing Media

Drawing media that are not generally available in a full palette include natural and fabricated chalks, conte crayons, and inks.

GUIDELINE For limited-palette media, always use the plural form when multiple colors are present, even if they are not listed.

Use the plural form whenever multiple colors are present, even if individual colors are omitted from the description.

Examples

- Pen and blue and red inks on paper
- Colored inks on paper
- Red and white fabricated chalks on paper
- Blue and red ballpoint pens on paper
- Brown and yellow washes on paper

E. Multiple Forms of the Same Drawing Material

Dry drawing media such as chalks, graphite, and charcoal often exist in multiple different forms, either in their natural state or as compressed sticks, pencils, or powders.

GUIDELINE When multiple forms of the same medium are present, list them separately.

If a design medium is present in more than one distinct form (e.g., *graphite pencil* and *powdered graphite*, or *vine charcoal* and *compressed charcoal*), list each separately. If a design material is present in variations of the same form, such as two different graphite pencils, it is not necessary to identify them separately (i.e., just use *graphite* or *graphite pencil*). However, if the forms of the medium appear distinctly different, as in tonality, they may be distinguished in the medium description. If visual distinctions are subtle, record the observations in a TECHNICAL NOTES field (e.g., *appears to be executed using two different charcoals, or evidence of harder and softer pencil being used, etc.*).

Examples

- Graphite pencil and powdered graphite on paper
- Compressed charcoal and charcoal wash on paper (See *fig. 22, Osborne.*)

F. Including Implements Used to Apply Ink and Paint

GUIDELINE Include implements when their use is not implicit.

For ink in general, as described in [Drawings II: Ink, page 51](#)), the implement used is not implicit and the choice of implement significantly affects the appearance of the drawn line; it should therefore be included in the description using the form [implement] and [color] ink. For paint in general, as well as for thin, translucent ink washes, both of which are usually applied with a brush, do not list the implement in the media description: the implement's use is implicit. However, if an ink wash or paint is applied with an implement other than a brush, include the implement in the medium description and elaborate upon its use in a TECHNICAL



Fig. 22. Compressed charcoal and charcoal wash on paper. Detail from Elizabeth Osborne, *Leslie*, 1969. PMA 2010-68-1



Fig. 23. Pen and brown and black inks and washes over black chalk on paper. Detail from José Jusepe de Ribera, *Man in a Fantastic Hat*, before 1652. PMA 1984-56-8



Fig. 24. Pen and brown ink (est. iron gall) and wash over traces of black chalk on paper mounted on paper. Detail from Giovanni Battista Tiepolo, *Scherzo di fantasia (Three Figures and an Owl)*, c. 1735-40. PMA 1984-56-92

NOTES field, if desired. (For descriptions of “direct application” and other atypical techniques, see [Drawings II: Ink](#), page 51, and [Drawings III: Paint](#), page 59.)

Examples

- Pen and brush and black ink, watercolor, and graphite on board
- Pen and brown and black inks and washes over black chalk on paper (See *fig. 23, Ribera*.)
- Graphite and black oil paint on paper
- Sponge-applied matte opaque paint on paper

GUIDELINE

When adhering to institutional practices for implement inclusion, record additional details in an EXTENDED MEDIUM field.

Description protocols in strictly modern or contemporary collections may differ greatly from those in collections with more encyclopedic holdings or Old Master drawings. One significant difference is that tools or implements are commonly omitted when describing drawings in modern or contemporary collections. Nevertheless, when tools or implements are omitted from a MEDIUM field description according to institutional preference, their inclusion is recommended in an EXTENDED MEDIUM field.

Examples

- Pen and brown ink (est. iron gall) with brown wash over traces of black chalk on paper mounted on paper (See *fig. 24, Tiepolo*.)
- Ink and black chalk on paper (In a modern art museum, this might be the MEDIUM field entry for the work listed above, with the full description retained in the EXTENDED MEDIUM field.)

III. PRINT-SPECIFIC SYNTAX

A. Listing Format

GUIDELINE Follow the **General Listing Format for word order and punctuation.**

For word order and punctuation, follow the **General Syntax A: General Listing Format** guidelines (page 17). (See also **Prints II: Print Hierarchy Charts**, page 93.) Where they can be determined, first list printmaking processes and associated techniques, then physical manipulations of the image matrix, then hand coloring (if applicable).

Examples

- Etching and aquatint
- Lithograph and screenprint
- Etching and engraving with drypoint (only minimal presence of drypoint)
- Woodcut printed in black ink and color monotype, with touches of watercolor (hand coloring) (See *fig. 25, Gauguin*.)

GUIDELINE Include the printing process for atypical uses of the printing matrix.

A printing matrix (the material or substrate from which the print is pulled) may be inked and printed in a way that is not typical for the process; for example, an etched plate may be surface inked (with a roller) and printed *relief* (with ink transferring only from the raised surface rather than from the recesses). An etched plate also may be printed simultaneously *relief* and *intaglio*. (See **Prints I: Print Categories**, page 85, for more detailed explanation of terms and usage.)

In cases of atypical use of the printing matrix, list the printmaking processes and associated techniques (if applicable), then physical manipulations of the image matrix (if applicable), then a comma, then printed [process]. If any material additions or hand coloring are present, list these after the type of printing process. (See **Print-Specific Syntax D: Hand-Applied Media**, page 32, and **F: Color Prints**, page 33.)

Examples

- Color hard ground and soft ground etching and engraving, printed intaglio in orange, green, and black inks and relief in blue and red inks (gradated inking) See *fig. 26, Hayter*.
- Color etching and aquatint, printed intaglio and relief, with watercolor (hand coloring)



Fig. 25. Woodcut printed in black ink and color monotype, with touches of watercolor (hand coloring). Detail from Paul Gauguin, *Manao tupapau (The Spirit Watches Over Her)*, 1894. PMA 1950-129-16

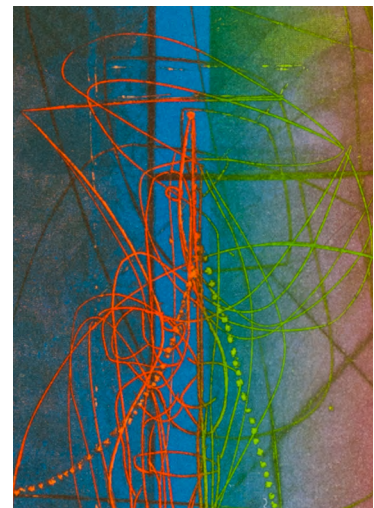


Fig. 26. Color hard ground and soft ground etching and engraving, printed intaglio in orange, green, and black inks and relief in blue and red inks (gradated inking). Detail from Stanley William Hayter, *Le pendu*, 1983. PMA 2012-25-10



Fig. 27. Etching, lift ground and spit bite aquatint, and drypoint. Detail from Kara Walker, *no world*, 2010. PMA 2010-142-1

B. Listing Associated Techniques

The phrase “associated techniques” describes printmaking techniques that exist only in conjunction with more general processes, notably etching. (See [Prints I: Print Categories, F: Variations in Technique and Associated Print Techniques](#), page 92) While the term *etching* is typically used to describe *hard ground* etching, the term has been used historically to indicate any print made through the process of etching a plate. In this more general sense, the term *etching* can encompass a range of specific techniques (such as aquatint), and thus lacks specificity. Therefore, use the appropriate descriptive terms for multiple processes and associated techniques, when known, when recording the EXTENDED MEDIUM description for prints (*hard ground* etching, *soft ground* etching, etc.).

GUIDELINE List associated techniques before primary print processes.

List all associated techniques before the primary print process to which they are connected, with terms separated by serial commas as necessary. Primary processes can be used as standalone terms when encountered in isolation. (See [Prints II: Print Hierarchy Charts](#), page 93.)

Examples of associated techniques (also elaborated in the Print Hierarchy Charts):

Primary Process	Associated Techniques
etching	hard ground, soft ground, open bite/flat bite
aquatint	lift ground, soap ground, spit bite, creeping bite

Examples

- Soft ground etching and spit bite and lift ground aquatint
- Hard ground and open bite etching
- Etching, lift ground and spit bite aquatint, and drypoint
(See *fig. 27, Walker*.)

C. Additional Manipulations of the Image Matrix

Mechanical Manipulations

“Additional manipulations” refer to physical changes to the image on the print matrix beyond the primary printmaking process or technique. Examples include mechanical techniques such as scraping, burnishing, sanding, etc. Note that *needle* is implicit in *line etching*, as is *rocker* when describing traditional mezzotint techniques; however, rockers and other stippling or texturing tools may also be employed in conjunction with etching techniques, and should be listed in conjunction with them as appropriate.

Selective Inking Techniques

Selective inking techniques can be either repeatable (e.g, blended or “rainbow” rolling in lithography) or unique (e.g., “monotype”



Fig. 28. Etching with unique inking (manipulated plate tone). Detail from John Marin, *Woolworth Building, No. 1*, 1913. PMA 1969-81-86

inking of the surface of a plate or block using a brush). With selective wiping of plate tone in intaglio, more or less ink is intentionally left on areas of the plate, and is sometimes selectively removed to create “highlights” in the final print (see fig. 28, Marin). Another selective inking technique is *à la poupée* inking, in which multiple colors of ink are applied selectively to areas of an intaglio plate before printing in a single pass through the press. (See [Lists of Print Terms](#), page 109, for guidance in choosing appropriate terms to describe additional manipulations.)

GUIDELINE

Describe additional manipulations of the image matrix using the phrase “with [manipulation].”

When tools have been used to physically alter the matrix, or when the matrix has been selectively inked (or the ink further manipulated) before printing, describe these actions using the phrase with [manipulation or inking technique].

Examples

- Etching with scraping and burnishing
- Aquatint with selective wiping
- Etching with unique inking (manipulated plate tone) See *fig. 28, Marin*.
- Color etching and engraving with *à la poupée* inking

GUIDELINE

Tool vs. action: Only state the tool when no verb exists to describe its use.

List the printmaking process followed by with [action or tool]. Use the action (gerund) form of the word when listing techniques associated with mechanical manipulation (scraping and burnishing, not scraper and burnisher); default to listing the tool only when no verb form exists (roulette, scorper, etc.). (See [Lists of Print Terms](#), page 109, for a list of appropriate terms.)

Examples

- Soft ground etching and engraving with scorper (The scorper is the tool; no verb form exists.) See *fig. 29, Hayter*.
- Aquatint and drypoint with scraping (Use *scraping* not *scraper*; scraping is the action.) See *fig. 30, Picasso*.

GUIDELINE

Use the serial comma for more than two tools or actions.

If more than two tools or actions are present, separate the terms with commas, and precede the last tool or action with a comma and the word and.

Examples

- Hard ground etching with scraping, burnishing, and selective wiping (See *fig. 31, Homer*.)
- Etching with scraping, sanding, and burnishing



Fig. 29. Soft ground etching and engraving with scorper. Detail from Stanley William Hayter, *Cronos*, 1944. PMA 1950-43-14



Fig. 30. Aquatint and drypoint with scraping. Detail from Pablo Ruiz y Picasso, *Blind Minotaur Guided by a Girl at Night*, 1934. PMA 1950-129-110



Fig. 31. Etching with scraping, burnishing, and selective wiping. Detail from Winslow Homer, *The Life Line*, published 1887. PMA 1941-53-157

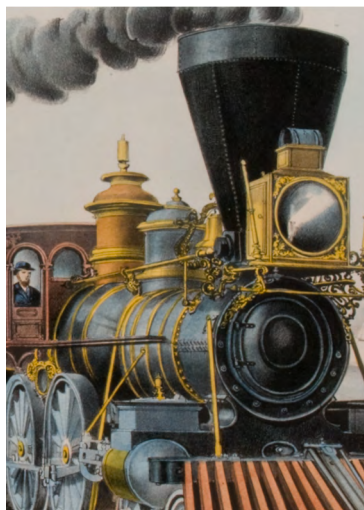


Fig. 32. Lithograph with watercolor (hand coloring). Detail from Frances Flora Bond Palmer, *American Express Train*, 1864. PMA 2009-215-4

GUIDELINE Include the appropriate action or tool after each printmaking process.

If more than one printmaking process is present, list with [action or tool] after each before listing additional processes. To clearly associate each tool or action with its related printmaking process, close each phrase with a comma.

Examples

- Etching and engraving with scraping and burnishing, and inkjet print
- Etching with scraping and burnishing, drypoint, and inkjet print
- Aquatint and drypoint with scraping (See fig. 30, Picasso.)

D. Hand-Applied Media

The term *hand coloring* is a general term indicating that media have been manually applied to a print with the intent of coloring or enhancing it. The term can be used for any historical time period. To guide the description of paint or drawing media applied to a print as separate and distinct image components, follow **Prints I: Print Categories**, page 85.

GUIDELINE List hand-applied media (hand coloring) after manipulations of the image matrix.

List the printmaking process(es), any associated techniques or physical manipulations of the image matrix (if applicable), then “with [applied media] (hand coloring).” If watercolors have been applied by brush, the implement is considered implicit and should not be included. When paint has been applied through a stencil, use with stenciled [applied media] (hand coloring). When the type of paint used for hand coloring is unknown, refer to **Drawings III: Paint** (page 59) to guide paint description. In this system, retaining the term *hand coloring* (in parentheses) facilitates searching a collections database for all prints with hand coloring. However, the term could be omitted according to institutional preferences without compromising the accuracy of the medium description.

Examples

- Lithograph with watercolor (hand coloring) See fig. 32, Palmer.
- Etching and engraving with colored pencil (hand coloring)
- Lithograph with stenciled watercolor (hand coloring)

E. Material Additions

Material additions include any non-paper objects attached to a print. (See **Collage and Material Additions**, page 79, for guidelines for describing works that combine drawn, printed, and other media.)

GUIDELINE Use “with” to list material additions.

For prints that include material additions, list primary printmaking process(es), physical manipulations of the image matrix, and any hand-applied media, followed by with [material additions].

Examples

- Screenprint with glitter
- Lithograph with sequins and hair

F. Color Prints

For general color description see **General Syntax B: Designating and Including Color** (page 18).

GUIDELINE For prints in two or more colors, include “color” before the printmaking process.

To describe a print executed in two or more colors (including black), use color [printmaking process(es)].

Examples

- Color drypoint and aquatint (See fig. 33, Cassatt.)
- Color photoscreenprint

GUIDELINE Include the number of colors if known.

If the number of ink colors is known with certainty, follow color [printmaking process] with a comma, then printed in [number] colors. Spell out the number of printing ink colors rather than using numerals; hyphenate compound terms (e.g., *twenty-six*). Indicate the source of the number of ink colors (e.g., “provided in printer’s documentation sheet”) in a TECHNICAL NOTES field. Note that it can be extremely difficult to accurately discern the number of distinct printed colors by visual examination. For example, two overprinted colors often form a third distinct “color,” and a single visual “color” may actually be the result of multiple layers of different printed inks. A full list of the ink colors, when known, can be provided in a TECHNICAL NOTES field.

Examples

- Color lithograph, printed in fourteen colors (See fig. 34, Johns.)
- Color screenprint, printed in twenty-four colors (Indicate the source of the determination in a TECHNICAL NOTE.)

GUIDELINE For prints in a single non-black color, use “printed in [color] ink” after the printmaking process.

If a print is executed in a single color other than black, list the process, then a comma, then printed in [color] ink. Listing a print process without indicating a color implies the use of black ink. Describe all other details, such as subtle color observations (e.g., if a black ink appears to be especially “cool” [blue-black] or “warm” [brown-black] compared to other impressions of the same print),



Fig. 33. Color drypoint and aquatint. Detail from Mary Stevenson Cassatt, *By the Pond*, c. 1896. PMA 1946-11-7

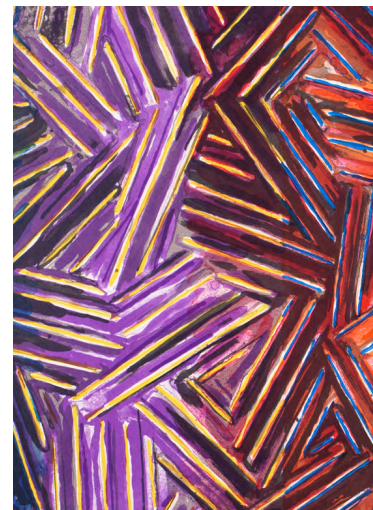


Fig. 34. Color lithograph, printed in fourteen colors. Detail from Jasper Johns, *Between the Clock and the Bed*, 1989. PMA 1989-3-3



Fig. 35. Soft ground etching and drypoint with roulette, printed in red-brown ink. Detail from Hilaire-Germain-Edgar Degas, *On Stage III*, 1876-77. PMA 1941-8-33

in a TECHNICAL NOTES field. (See **General Syntax B: Designating and Including Color**, page 18, for instruction on describing intermediary colors.)

Examples

- Etching, printed in orange ink
- Soft ground etching and drypoint with roulette, printed in red-brown ink (See *fig. 35, Degas*.)

GUIDELINE List individual colors and number of matrices if known.

For prints printed in a limited number of colors from multiple blocks, plates, or stones (such as chiaroscuro woodcuts or modern lithographs printed from both plates and stones, like those by Jasper Johns), one may record the distinct colors and number of matrices used for an impression if they can be identified or distinguished with certainty. In these instances, follow the process with a comma, then printed in [color] ink(s) from [number] [matrix type]. If possible, indicate the source of ink colors and matrices (e.g., “provided in printer’s documentation sheet”) in a TECHNICAL NOTES field.

Examples

- Color lithograph, printed in black and tan inks from two stones (See *fig. 36, Olivier*.)
- Chiaroscuro woodcut, printed in gray-green, light olive, and black inks from three blocks (See *fig. 37, Vicentino*.)
- Color lithograph, printed from three plates and one stone



Fig. 36. Color lithograph, printed in black and tan inks from two stones. Detail from Ferdinand Olivier, *Friday, Meadow outside of Aigen near Salzburg*, 1818-22. PMA 1997-170-6

GUIDELINE Describe distinctive ink colors and characteristics.

Describe metallic, iridescent, or fluorescent printing inks, as well as specific, distinctive ink components or materials, such as flocked printing. When naming colors, reserve “metallic” color descriptors such as *gold*, *silver*, or *bronze* for inks with a distinct metallic appearance. Use the word order [color] metallic [material] instead of “metallic [color] [material],” which suggests the presence of the actual metal rather than just its appearance. (See **Drawings III: Paint, G: Luminescent and Lustrous Colors**, page 68.)

Examples

- Lithograph printed in gold metallic ink
- Color screenprint, printed in fluorescent inks with black flocking (See *fig. 38, Marti*.)

GUIDELINE Specify solid-color tone stones, plates, or “flats” if known.

If the design is printed in a single ink (typically black) accompanied by an additional solid color printed from an unworked lithographic stone or plate, relief block, or intaglio plate (traditionally called a *tone* or *tint* stone, block, or plate, and known as a *color flat* in

contemporary printmaking), describe it by listing the print process, then a comma, then printed in black ink with [color] tone stone [or block, plate, etc.], choosing the appropriate term for the matrix. If uncertain about the use of a tone stone, block, etc., use the default format color [print process] printed in [number] colors as outlined above for any print in two or more colors (including black).

Example

- Woodcut, printed in black ink with blue-green tone block

G. Including Supports

In a long-established tradition, support information for prints is generally omitted from the MEDIUM field in collections information systems and from wall labels or catalog entries. However, with the emergence in the 20th century of artists working on a wide variety of supports and combining printing with various materials and fabrication techniques, printing on paper can no longer be considered implicit. Contemporary artist Virgil Marti, for example, used aluminized laminate paper for a print. This underscores the need for an EXTENDED MEDIUM field in which the support type can be recorded. (See **General Syntax C: Including Supports**, page 19.)

GUIDELINE Identify the primary support for atypical or distinctive papers and for materials other than paper.

For prints on a distinctive paper support (e.g., colored paper or paper with a surface treatment) or on a material other than paper, identify the support type using clear, appropriate descriptive terms (e.g., on plastic, wood, fabric, etc.).

Examples

- Screenprint on aluminized paper
- Lithograph and inkjet print on blue coated paper
- Lithograph on plastic
- Color relief print on wood

GUIDELINE Use “printed *chine collé*” to describe prints incorporating that process.

Chine collé is a technique in which a sheet of thin paper (traditionally Chinese, called the *chine* paper) is placed on the inked printing matrix followed by a sheet of thicker paper (called the *plate* paper). These are then run through the press together to produce the print. The papers are usually dampened, sometimes incorporating a weak sizing agent or adhesive to encourage bonding between the sheets.

Describe a print that incorporates the *chine collé* technique by adding a comma and the phrase printed *chine collé* after the



Fig. 37. Chiaroscuro woodcut, printed in gray-green, light olive, and black inks from three blocks. Detail from Niccolò Vicentino, *The Adoration of the Magi*, Mid-16th century. PMA 1985-52-2093



Fig. 38. Color screenprint, printed in fluorescent inks with black flocking. Detail from Virgil Marti, *Black Light Poster, Cycle Thief*, 1994. PMA 1994-69-1

process(es). Do not use *chine collé* to refer to any print that has been adhered or otherwise mounted to a second sheet after printing.

Example

- Color lithograph, printed *chine collé*

GUIDELINE

Identify prints produced as part of a larger series, set, or portfolio.

If a print was produced as part of a series, set, or portfolio, include its relationship to the larger group of prints by adding a comma and the phrase from a [series, portfolio] of [number] prints by the artist (or by various artists) at the end of the medium description. Spell out numbers instead of using numerals (e.g., seventeen, not 17).

Examples

- Color lithograph, from a series of eight prints by the artist
- Color etching and aquatint, from a portfolio of ten prints by various artists

PART III

**IDENTIFICATION AND CHARACTERIZATION
OF MATERIALS AND TECHNIQUES**

DRAWINGS: IDENTIFICATION AND CHARACTERIZATION OF MATERIALS AND TECHNIQUES

I. DRY DRAWING MEDIA

A. Chalk

Chalk is a natural or fabricated drawing material generally used in stick form. It has a non-waxy, dry appearance without sheen, and its particles are not splintery and do not clump. Line width and color are fairly consistent.

Differentiating among Chalk Types

Natural chalk is a mined material and may contain imperceptible harder inclusions that cause isolated striations within the drawn line.

Fabricated chalk is a manufactured medium made predominantly from powdered chalk with pigments and other additives combined with non-greasy binders. It may be distinguished from natural chalk by subtle visual characteristics (e.g., visible binder, lack of isolated striations) or by drawing date. (Note that natural red and white chalks continue to be mined and are available in the early 21st century.)

Powdered chalk is made of pulverized natural or fabricated chalk and is characterized by scattered discrete particles that are visible with magnification. It is used to create broad tonal areas. Beginning in the 15th and 16th centuries, powdered chalk was used to transfer drawings by pouncing through pricked holes in cartoons.

Colored chalks can be natural or fabricated. Natural chalk exists in a narrow range of colors, and fabricated chalk is traditionally limited to the same red, black, white, yellow, and brown.

Distinguishing Black Chalk from Graphite and Charcoal

Black chalk may be difficult to distinguish from other gray or black stick media, but is generally blacker than graphite, more compact and cohesive than charcoal, and has a finer and more even particle structure than either.

Distinguishing Fabricated Chalk from Pastel

The distinction between fabricated chalk and pastel is subtle, and the two can be difficult to differentiate, especially when comparable colors are used in isolation. Compared with pastel, natural and fabricated chalks are generally harder and less powdery or friable, and tend to be used in a more linear fashion (with more of the support left exposed than with pastels). They are available in discrete (limited) colors, whereas pastel is a full-palette medium produced in a wide range of colors.

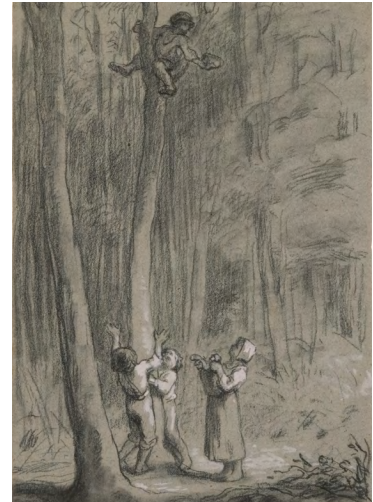


Fig. 39. Black and white chalks with white opaque watercolor on blue paper. Jean-François Millet, *Children Hunting Birds' Nests*, c. 1850. PMA 1950-33-1



Fig. 40. Red chalk with touches of white chalk, squared in red chalk, on paper toned with yellow wash. Detail from Pompeo Girolamo Battoni, *Studies for the Merenda Holy Family*, c. 1740. PMA 1978-70-165

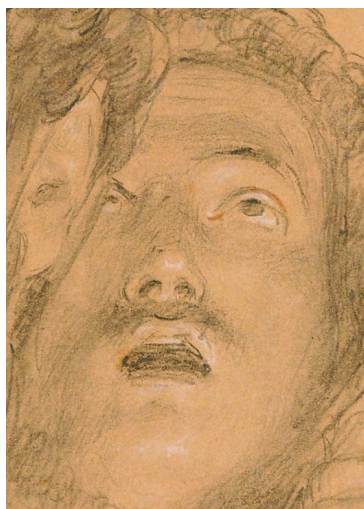


Fig. 41. Black and white chalks with touches of red chalk on brown paper. Detail from Sir David Wilkie, *The Orderly of Sir David Baird and Three Companions*, 1835-36. PMA 1942-51-1

GUIDELINE Use “chalk” or “fabricated chalk” to describe the medium.

Use chalk to refer to the naturally mined drawing material and fabricated chalk to refer to drawing sticks made from chalk and powdered pigments combined with binders that are not oily or waxy. *Chalk* can also serve as the umbrella term for natural or fabricated chalk if the nature of the material is not certain or greater specificity is not necessary. Date of creation or historical context may also help to distinguish these media.

GUIDELINE Include the chalk color in the medium description.

Include the chalk color in the medium description: [color] chalk or [color] fabricated chalk. This is particularly important since each naturally occurring chalk type has a distinct material or chemical composition, whether it is one of the more common colors (black, white, or red) or a less common color (e.g., brown, yellow). If three or more colors are present, however, the color names may be omitted in favor of the general term colored chalks.

Examples

- Black fabricated chalk on paper
- Black and white chalks with white opaque watercolor on blue paper (See fig. 39, Millet.)
- Red chalk with touches of white chalk, squared in red chalk, on paper toned with yellow wash (See fig. 40, Battoni.)

GUIDELINE Use the plural form “chalks” when more than one color is present.

Because chalk is not a full-palette medium, use the plural form chalks whenever more than one color of chalk is present, whether or not the individual color names are listed. (See [Drawing-Specific Syntax D: Selecting Singular or Plural Forms for a Drawing Medium Present in Multiple Colors](#), page 26.)

Examples

- Black and white chalks with touches of red chalk on brown paper (See fig. 41, Wilke.)
- Colored chalks on paper

B. Charcoal

Charcoal is produced by burning vines or twigs of wood in an oxygen-deprived atmosphere. A burned stick used as a drawing implement is referred to as natural or “vine” charcoal. Under magnification, natural charcoal exhibits sparkly, splintered particles that disperse and often settle into the interstices of the paper (see fig. 42). Charcoal typically has a warm or black-brown tonality compared to graphite, and its shade varies depending on its source (the type of vine or wood). When it has not been treated with a fixative, charcoal is easily manipulated, disrupted, or lifted. Different forms have unique identifying characteristics, as described below.

Differentiating among Forms of Charcoal

Compressed charcoal consists of finely ground charcoal, sometimes with additives, pressed into sticks with little to no binder and fired to harden. Compressed charcoal produces crisper, denser, darker marks than natural vine charcoal. It exhibits less scatter, is slightly less easily manipulated or lifted, and the particles tend to be more homogeneous.

Charcoal pencil is compressed charcoal encased in a wooden shaft; it can be sharpened to a fine point to create finer, thinner lines that exhibit less particle scatter.

Oiled charcoal is charcoal soaked in oil to obtain a denser, richer, less easily manipulated medium. Initially, oiled charcoal is more intensely black than dry forms of the medium, but it acquires a brown tone over time, often with oily penetration or halos visible around the lines. Particles appear coarse, with some clumping, and are brown-black under magnification.

Powdered charcoal is pulverized charcoal used primarily to create broad tonal areas and to transfer drawings by pouncing through pricked holes in the design (from the 15th and 16th centuries to the present). The discrete particles visible with magnification are smaller in size than those from a stick of charcoal, but retain a splintered appearance. Modern powdered charcoal is likely to contain additives such as graphite or black pigment.

Wetted charcoal refers to a charcoal stick, either natural or compressed, that has been dipped in water before application. The lines exhibit greater tonal density than those made with dry charcoal, and may even have a fluid appearance.

Distinguishing Charcoal from Black Chalk or Graphite

When compared with either black chalk or graphite, charcoal generally appears dustier and more diffuse, with particles settling within the interstices of the paper.

GUIDELINE Use “charcoal” to describe the natural medium; identify other forms.

Use charcoal to describe the natural medium, including the appropriate term when a particular form of charcoal is distinct and identifiable. (See **Drawing-Specific Syntax E: Multiple Forms of the Same Drawing Material**, page 27.)

Examples

- Charcoal and charcoal pencil, with erasing and scratching out on paper (See *fig. 43, Wilson*.)
- Compressed charcoal and charcoal wash on paper (See *fig. 44, Osborne*.)
- Black chalk and oiled charcoal on paper

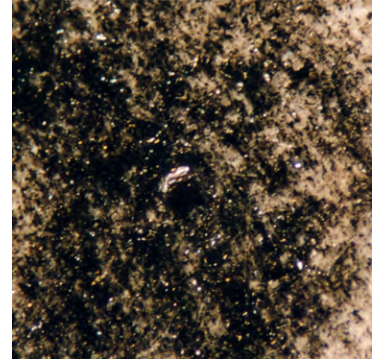


Fig. 42. Photomicrograph of charcoal showing reflective, splintered particles

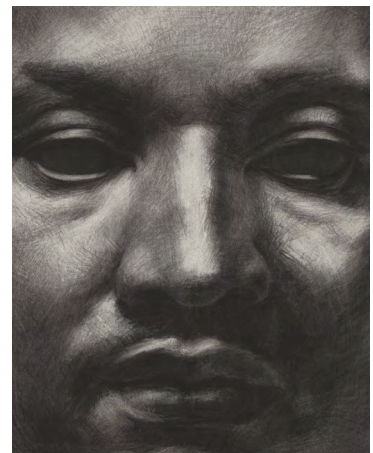


Fig. 43. Charcoal and charcoal pencil, with erasing and scratching out, on paper. Detail from John Woodrow Wilson, *Martin Luther King, Jr.*, 1981. PMA 2000-34-1



Fig. 44. Compressed charcoal and charcoal wash on paper. Detail from Elizabeth Osborne, *Leslie*, 1969. PMA 2010-68-1



Fig. 45. Colored pencil with white opaque paint over charcoal on paper mounted on board. Detail from Grant Wood, *Plowing*, 1936. PMA 2009-227-1

C. Colored Pencil

Colored pencil is the term for an extruded or molded drawing stick composed of pigments and/or dyes bound with various binders and fillers. By definition, colored pencils contain a waxy component, although the associated glossy appearance is less prominent than in wax crayon. The colored drawing material is usually encased in a wooden shaft, although colored pencils are also available in woodless, wrapped or unwrapped sticks. Binders include cellulose ethers and gums. Colored pencil is considered a full-palette medium.

Compared with wax crayon, colored pencil tends to be deposited more consistently and uniformly. It typically displays finer line width, and the colors are more easily layered to give a blended appearance. Depending upon the pressure exerted by the artist and the fineness of the point, however, colored pencil may be difficult to distinguish from wax crayon.

Watercolor pencils are a subset of colored pencils with surfactants added to the binder to make them water soluble. They can be wetted prior to application by dipping the tips into water, or manipulated after application with a wet brush, imparting a denser and more fluid appearance. When not wetted, watercolor pencil appears similar to other colored pencil (i.e., somewhat waxy, with a relatively uniform and narrow line width).

GUIDELINE Use “colored pencil” to describe the medium.

Use the term colored pencil to describe a colored medium with a compact line that is relatively smooth, somewhat waxy or shiny, and has even color dispersion. List individual colors in the description if fewer than three colors are present, but include the word *colored* whether or not individual colors are listed, as it is an intrinsic part of the material name.

Examples

- Colored pencil with white opaque paint over charcoal on paper mounted on board (*See fig. 45, Wood.*)
- Graphite and blue colored pencil on paper

GUIDELINE Use “black colored pencil” where appropriate.

Use black colored pencil to describe a pigmented, black, waxy pencil that appears consistent in manufacture with other colored pencils.

GUIDELINE Always use the singular form “colored pencil” even when listing individual colors.

For colored pencil as for other full-palette materials, the medium name implies plurality; therefore, always use the singular form colored pencil even when listing individual colors. When three or more colors are present, individual colors may be omitted; in the absence of individual color descriptors multiple colors are implied.

(See [Drawing-Specific Syntax D: Selecting Singular or Plural Forms for a Drawing Medium Present in Multiple Colors](#), page 26.)

Examples

- Graphite and red and blue colored pencil on paper
- Colored pencil and graphite on two sheets of paper (diptych) See *fig. 46, Andrade*.

GUIDELINE

Use “watercolor pencil” to describe colored pencils with water-soluble components.

Use the term watercolor pencil where the presence of a water-soluble component is clearly evident due to the appearance or manipulation of the media. If the medium has been manipulated using water, describe it according to the guidelines for manipulations. (See [Drawings IV: Manipulations and Reductive Techniques, Transfer Techniques, and Coatings, A: Manipulations](#), page 71.) Follow full-palette guidelines above for use of the singular or plural.

Examples

- Watercolor pencil on paper
- Graphite and blue and red watercolor pencil on paper

D. Crayon

The term crayon describes a class of drawing materials made by mixing ground natural or synthetic pigments and/or dyes with fillers and binders (often grease, oil, or wax) and pressing or extruding the mixture into a drawing stick. While different types of crayons have varying visual characteristics, they generally have fairly smooth and consistent line quality, distinctive luster and viscosity, and uneven and variable deposition (i.e., “puttying” or clumping) due to the artist’s working method (uneven hand pressure, friction, and heat). Crayons produce relatively rich, dense lines that are not powdery or markedly friable (see *figs. 48 and 49*).

Note that crayon traditionally has been used as a generic term for any fabricated drawing stick, encompassing a continuum of dry media ranging from fabricated chalks (with virtually invisible binders) through conte crayons (some perceptible binder) to oil pastels and wax crayons (highly visible binders).

Differentiating among Crayon Types

Conte crayon (with a lowercase “c” and no accent) is a generic, non-proprietary term used to describe a specific type of fabricated chalk or crayon. It may be distinguished from other fabricated chalks and crayons by its smooth, densely colored, velvety line, and by the absence of a visibly oily or waxy binder (see *fig 48*). Conte crayon can be manipulated with water.



Fig. 46. Colored pencil and graphite on two sheets of paper (diptych). Detail from Edna Andrade, *Flip Flop*, c. 1982. PMA 2008-100-23a,b



Fig. 47. Conte crayon with white chalk on paper. Georges Seurat, *Trombonist (Study for "Circus Side Show")*, 1887-88. PMA 1986-26-31



Fig. 48. This photomicrograph of black conte crayon with white chalk from a Seurat drawing (fig. 47) shows the dense, velvety medium clinging to the raised laid lines in the paper. A portion of the white chalk arc that defines the trombone is also visible. Field of view is 10 x 11 mm.

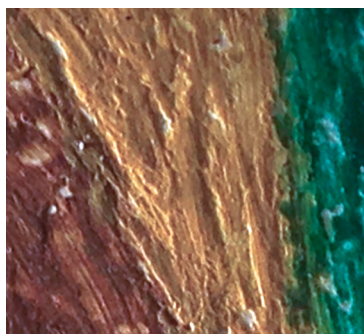


Fig. 49. Photomicrograph of wax crayon showing clumping of the waxy medium. Field of view is approximately 19 x 19mm.



Fig. 50. Wax crayon and graphite on paper. Detail from Martín Ramírez, *Untitled (Muleshoe Deer)*, c. 1952. PMA 2002-53-41

Grease pencil has a limited palette (typically black or red) and is characterized by a consistency similar to soft lithographic crayon. It has a high pigment content and contains both greasy (tallow) and waxy binder components.

Lithographic crayon is distinguished by its dense, heavily pigmented appearance and by lines that clump or “pick up” (lift) at the ends. Depending on their hardness grade, lithographic crayons may be soft and easily smudged or may resemble grease pencils. They can be manipulated with water or organic solvents.

Oil pastel (See **H: Pastel**, page 48.)

Paint stick (See **G: Paint Stick**, page 47.)

Wax crayon refers to a molded or extruded colored crayon that is characterized by a high ratio of wax to colorants (pigments or dyes), and is distinguished by lines that clump or “pick up” (lift) at the ends (see fig. 49).

Commercial materials that are similar to crayons may also be adopted for use in works of art. *Lipstick* is one example. It has a composition high in wax and grease or oil and is characterized by a very soft consistency; it is prone to smudging and “puttying.”

Distinguishing Crayon from Chalk

Both chalks and crayons can exhibit fairly consistent line width and color, but the binders in crayons are waxy, oily, or greasy and are more visible than those in chalks; the degree of visibility varies with the type of crayon. Crayon marks have more luster, viscosity, and cohesion than chalk marks, and crayons tend to deposit unevenly (often referred to as “puttying” or “clumping”) compared with chalks.

GUIDELINE Use “crayon” to describe the medium, and specify the type of crayon.

Use crayon to describe a class of dry drawing media that has a clearly visible binder and produces marks characterized by rich, dense deposition. Always specify the type of crayon as identified by its distinctive visual characteristics (see list above).

Examples

- Conte crayon with white chalk on paper (See fig. 47, *Seurat*.)
- Lithographic crayon and charcoal on paper
- Wax crayon and graphite on paper (See fig. 50, *Ramírez*.)

GUIDELINE Always use the singular form “wax crayon,” even when listing individual colors.

For wax crayon as for other full-palette materials, the medium name implies plurality; therefore, always use the singular form wax crayon even when listing individual colors. When three or more colors are present, individual colors may be omitted; in the

absence of individual color descriptors multiple colors are implied. (See [Drawing-Specific Syntax D: Selecting Singular or Plural Forms for a Drawing Medium Present in Multiple Colors](#), page 26.)

Examples

- Red and blue wax crayon on paper
- Wax crayon (More than two colors of crayon are present, so they are not individually noted.)

E. Graphite

Graphite is a naturally occurring, silvery black form of carbon that was first used as a writing medium in the mid- to late-16th century, and was first produced in fabricated drawing sticks and pencils in the late 18th century. The terms graphite, pencil, and graphite pencil have all been used to describe a dry drawing medium with a graphite-containing core encased in wood. Modern graphite pencils contain fillers or binders (e.g., clay) and sometimes an additional black colorant to produce a richer black line.

Differentiating among Forms of Graphite

Graphite is distinguished by its metallic sheen or luster and its gray to black tone (see fig. 51). The sheen and tone may vary depending on factors such as hardness, composition, and application. Natural graphite may contain imperceptible harder particles or impurities that create isolated striations within the drawn line.

Graphite pencil consists of a graphite-containing core within a wood shaft. Pressure exerted on a graphite pencil may cause it to indent the paper subtly or strongly (see fig 52, Cézanne).

Graphite powder is pulverized or powdered graphite that can be dusted, sprinkled, or wiped onto a drawing support.

Graphite stick is a solid fabricated block of compressed graphite (available in different degrees of hardness) that produces broad dense lines and can be used to create wide swathes when used on its side.

Graphite wash describes graphite powder combined with water, possibly with the addition of an organic solvent to break surface tension or a binder such as gum arabic. Graphite wash can be applied to a support in a variety of ways (brushed, wiped, spattered, etc.).

Spray graphite is finely pulverized graphite dispersed from a pressurized can; it is commercially available as a lubricant. It can be applied to a drawing support like spray paint or airbrushed media, and may exhibit features in common with those media.

Indelible copy pencil contains a core of graphite and a water-soluble dye, bound with clay and set within a wooden shaft. The dye typically bleeds purple when wet.

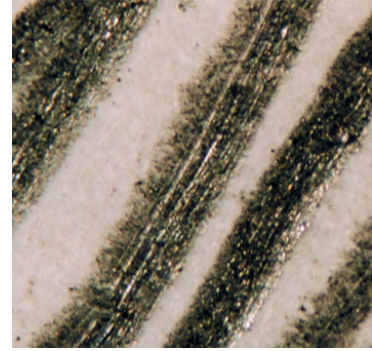


Fig. 51. Photomicrograph showing the metallic sheen of graphite pencil lines. Field of view approximately 15 x 15 mm.



Fig. 52. Graphite pencil on paper. Detail from Paul Cézanne, *Bowler Hat and Garment*, 1885-1900, Page XXXVIII (verso) from *Sketchbook II*. PMA 1987-53-67b



Fig. 53. Graphite pencil with yellow and blue colored pencil on board. Detail from Colin Gill, *Two Archers*, c. 1926–27. PMA 2006-53-137

Distinguishing Graphite from Metalpoint

Compared with metalpoint, graphite produces gray to black lines that may vary widely in thickness and in value, and can be used to produce continuous tonal gradations. The natural form may contain isolated striations within the drawn line due to particulate inclusions. Metalpoint lines, in comparison, are generally fine and light with a limited value range and tonalities ranging from cool gray to warm orange-brown. Metalpoint generally does not significantly indent the paper or ground.

GUIDELINE Use “graphite” to describe graphite-containing media.

Use graphite where graphite is a visible component of the drawing medium, even if other (sometimes significant) black colorants and/or fillers are visible with magnification. Include the graphite form or implement if known and when greater specificity is desired. Note that the terms graphite or graphite pencil may be chosen based on line quality, date of execution, or material availability as well as institutional preference.

Examples

- Graphite pencil with yellow and blue colored pencil on board (See fig. 53, Gill.)
- Watercolor and graphite pencil on paper

GUIDELINE Specify the forms of graphite present.

When more than one form of graphite is present in the same drawing, include the appropriate term for each (e.g., graphite pencil and graphite wash; see **Drawing-Specific Syntax E: Multiple Forms of the Same Drawing Material**, page 27.)

Examples

- Graphite pencil and spray graphite on frosted Mylar
- Graphite pencil and graphite wash on paper (See fig. 54, Dine.)



Fig. 54. Graphite pencil and graphite wash on paper. Jim Dine, *Drawing Lesson (version 2)*, 2008. PMA 2014-45-5

F. Metalpoint

Metalpoint refers to a metal stylus used for drawing or to the technique of drawing with such a tool, typically on a paper with a prepared ground. As the stylus is drawn across the surface, tiny particles of metal are deposited, creating a delicate mark. Metalpoint use dates to antiquity and was particularly popular from the 14th century to the beginning of the 16th century.

The color of metalpoint lines may change as a result of environmental exposure. Most become lighter and more transparent over time, except lead, which may darken. Likely color tones for specific metals include the following:

- Silver: natural silver gray may shift to brown
- Gold: natural yellow does not change except when heavily alloyed

- Lead alloys: natural deep gray may develop a slight blue tint
- Tin: natural silvery gray does not change significantly
- Bismuth: natural pink does not change significantly
- Copper: natural orange-brown may develop a slight yellow tint
- Brass: natural gray-yellow does not change
- Bronze: natural warm gray does not change; it may have a yellow tint on a titanium white ground

Grounds

Metalpoint drawings are typically executed on papers coated with prepared grounds, which are usually colored or toned.

Distinguishing Metalpoint from Graphite

It can be difficult to distinguish metalpoint from graphite pencil if the presence of a ground cannot be discerned. Metalpoint is characterized by fine lines and relatively light strokes, and is not suited to the continuous tonal gradations that can be achieved with graphite. The tone of metalpoint lines can range from cool gray to warm orange-brown, while graphite is limited to a gray-to-black continuum.

GUIDELINE Use “metalpoint” unless the specific type of metal is known.

Use the generic term metalpoint (one word, unhyphenated) if the type of metal has not been determined. Use a more specific term (e.g., silverpoint, goldpoint) if the metal has been identified through analysis, visual assessment, or historical attribution.

GUIDELINE Specify the color of the ground.

Describe the support and the ground as follows: on paper prepared with [color] ground. Do not use “tint(ed)” or “tone(d)” to describe the color of the ground (e.g., “blue-toned”). Include specific information about the material used for the ground (e.g., the type of paint or pigment used) either in the media description or in a TECHNICAL NOTE field.

Examples

- Metalpoint with graphite pencil on paper prepared with white ground (See fig. 55, Stella.)
- Silverpoint on paper prepared with pink ground
- Silverpoint on paper prepared with zinc white ground

G. Paint Stick

Paint stick (two words, no hyphen) is a pigmented, oil-based fabricated drawing stick that hardens slowly over time and may have a tacky surface (see fig. 56, Twombly). Oily halos may form around the drawn medium over time, and oily fatty-acid blooms may develop on its surface. Paint stick contains a higher concentration of volatile oils than oil pastel, and a skin may form on the surface of the medium as it slowly dries. *Paint stick* is the preferred term, although the medium is also called *oil stick*.



Fig. 55. Metalpoint with graphite pencil on paper prepared with white ground. Detail from Joseph Stella, *Self-Portrait*, 1920s. PMA 1988-21-1

TECHNICAL NOTE: in this work the delicate brown lines are metalpoint and the gray lines are graphite pencil.

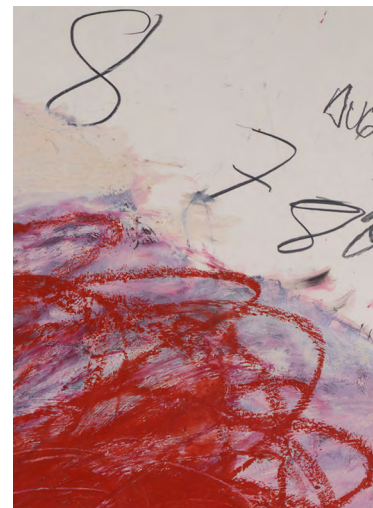


Fig. 56. Paint stick and graphite on paper. Detail from Cy Twombly, *Drawing for "Fifty Days at Iliam,"* 1978. PMA 1989-90-12



Fig. 57. Pastel on paper. Detail from Cecilia Beaux, *Ethel Page (Mrs. James Large)*, 1890. PMA 2008-67-1

H. Pastel

Pastel is a class of fabricated drawing stick produced in a wide, virtually continuous array of colors (a full-palette medium). Pastels consist of finely ground pigments or colorants and fillers mixed with a relatively small amount of binder (typically a carbohydrate, although the amount and type of binder can vary across the range of materials marketed as pastels).

Differentiating among Pastel Types

Pastel pencils, produced in brands such as Carbothello, DeWint, etc., typically include the pastel material enclosed in a wooden casing; when sharpened, they are capable of producing consistently finer lines than pastels in stick form.

Oil pastel is a pigmented, oil-based drawing stick that produces a soft, non-drying or slow-drying layer that can be manipulated easily. Oily halos may form around the drawn medium over time, or oily fatty-acid blooms may form on its surface.

Distinguishing Pastels from Fabricated Chalks

Pastels generally appear softer, drier, and more powdery or friable than fabricated chalks, and are more easily manipulated after application. Pastels come in a wider range of colors, encompassing the entire color spectrum. If a drawing is worked up like a tonal painting, with soft, multicolored media that cover most of the paper, it is likely a pastel.

GUIDELINE Use “pastel” to describe the medium; specify the pastel type if known.

Use pastel to describe a soft, easily manipulated, relatively powdery fabricated drawing medium produced in a full color palette. Use pastel pencil to describe a similarly powdery, easily manipulated colored drawing medium that exhibits the controlled application and relatively consistent line width characteristic of a pencil form. Note that white and black pastels are also available. These and other typical chalk colors may be difficult to distinguish from fabricated chalks.

Examples

- Pastel on paper (*See fig. 57, Beaux.*)
- Pastel pencil over graphite on board
- Oil pastel, wax crayon, and graphite on paper

GUIDELINE Always use the singular form “pastel,” even when listing individual colors.

For pastel as for other full-palette materials, the medium name implies plurality; therefore, always use the singular form pastel even when listing individual colors. When three or more colors are present, individual color names may be omitted; in the absence of individual color descriptors multiple colors are implied.

Examples

- Charcoal with red and white pastel on paper
- Pastel over graphite on board

I. Other Dry Media or Media That Cannot Be Identified

GUIDELINE Identify other dry media when known, or use “unidentified [color] [medium description].”

Identify other, less common dry materials if the artist is documented as using them (e.g., gunpowder, used by Ed Ruscha) or if other distinctive identifying characteristics are observed. If a medium cannot be confirmed, use unidentified [color] followed by a generic category descriptor (e.g., pigment, powder).

Examples

- Gunpowder with erasing on paper (*See fig. 58, Ruscha.*)
- Unidentified gray pigment or powder on paper

J. Dry Drawing Media: Manipulations, Reductive Techniques, and Fixatives

Manipulations are actions carried out on the support before media application, to resist media deposition, or on the support and/or media after application. They include:

- Manipulations used to *mask* or *block* the deposition of media.
- Manipulations used to *move* dry media, such as stumping and blending.
- Manipulations used to *remove* dry media, such as erasing and scratching out.
- Manipulations of dry media using water, either discretely (*with wet brush*), or more broadly (*with [medium] wash*).

See [Drawings IV: Manipulations and Reductive Techniques, Transfer Techniques, and Coatings](#) (page 71) for syntax, usage, and detailed descriptions of specific manipulations.



Fig. 58. Gunpowder with erasing on paper. Detail from Edward Ruscha, *Pool*, 1968. PMA 1998-155-1

II. INK

A. General Issues

GUIDELINE Use “ink” to describe a liquid drawing medium without perceptible particles.

Use the term ink when the particle size of the medium is too small to perceive with low magnification (distinguishing it from watercolor or other diluted paint), or when other visual evidence such as implement or application technique suggests an ink rather than a paint. Describe the specific type of ink only if it can be confidently determined by visual examination, scientific analysis, or art historical context (e.g., the distinct visual characteristics of deteriorated iron gall ink). Include ink color(s). (See **B: Brown Inks**, page 53, and **General Syntax B: Designating and Including Color**, page 18.)

GUIDELINE Use “wash” to describe diluted ink, broadly brush-applied.

Use the term wash to describe broad applications of diluted or thinned, translucent ink. Do not include “brush” with wash since its use is implicit (see below).

Example

- Brush and black ink and blue-green wash on paper (See *fig. 59, Pousette-Dart.*)

Including Implements

GUIDELINE Include the implement(s) used to apply the ink.

Since the implement used significantly affects the appearance of the drawn line, include it in the description using the form [implement] and [color] ink. A specific pen type may be included when it can be identified based on visual characteristics of the drawn line, especially if its use is distinctive or atypical for the artist or period. Pen types include both traditional dip pens (see **E: Traditional Dip Pens**, page 55) and modern reservoir pens (see **F: Modern Ink Pens**, page 55). Identify the use of a brush when it has been used as a drawing tool, but not when it was used to apply an ink wash, since its use is considered implicit in wash application. (Note that this is consistent with guidelines for paint description, page 59.) Record other, more detailed or specific observations such as “point of brush” or “dry brush” in a TECHNICAL NOTES field.

Examples

- Brush and black ink on paper
- Pen and brown ink on paper
- Quill pen and brown ink and wash over red chalk on paper (See *fig. 60, Guardi.*)



Fig. 59. Brush and black ink and blue-green wash on paper. Richard Pousette-Dart, *Head of Antiochus*, 1930s. PMA 2012-61-1

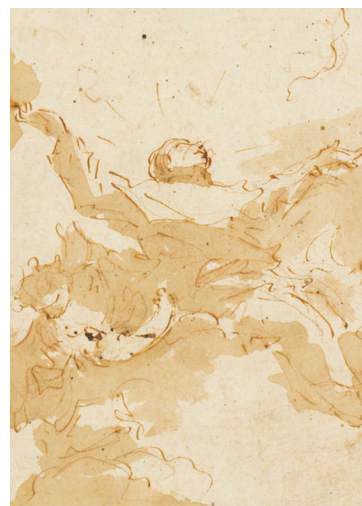


Fig. 60. Pen and brown ink and wash over red chalk on paper. Detail from Giovanni Antonio Guardi, *The Apotheosis of a Saint*, 1730. PMA 1984-56-243

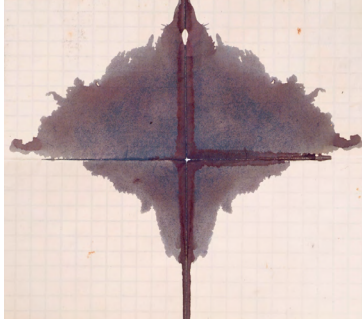


Fig. 61. Blue-black ink, poured and blotted, on printed paper (graph paper). Detail from Joseph Cornell, *Untitled*, c. 1942-53. PMA 1990-33-1(75)

GUIDELINE

List multiple implements in order of application.

If multiple implements (e.g., brush and pen) have been used, list them in the apparent order of application. If the order of application is not clear, list them in order of visual dominance.

Example

- Pen and brush and black ink on paper

Other Application Methods

GUIDELINE

List direct-application techniques after the medium using the past participle.

When describing the *direct application* of ink to a substrate (application without an implement or without an implement contacting the support), follow the ink type or ink description with the application method, using a past participle such as *poured*, *dripped*, *sprayed*, or *spattered*. When direct application methods are employed alongside traditional brush-application methods, include the term brushed along with the other methods. (See also [Drawings IV: Manipulations and Reductive Techniques, Transfer Techniques, and Coatings](#), page 71.)

Examples

- Black ink, poured and spattered, on paper
- Blue-black ink, poured and blotted, on printed paper (graph paper) *See fig. 61, Cornell.*
- Black ink, brushed, spattered, and dripped, on paper

GUIDELINE

Describe the use of atypical implements or techniques.

If an atypical implement or technique such as a sponge or stick was used to apply an ink or wash, include it in the description after the ink using the format [implement]-applied (e.g., stick-applied or sponge-applied). If the exact implement used is not discernable, describe the application technique as an action (e.g., wiped).

Examples

- Blue ink, stick- and sponge-applied, on paper
- Black ink, stick-applied and wiped, on paper

Color and Tone of Diluted Ink (Wash)

GUIDELINE

If an ink is present in undiluted and diluted form (generally as a wash), do not identify the latter by a separate color name.

When it appears that the same ink was applied in both undiluted and diluted form (a wash), do not identify the wash by a distinct color name even if dilution has changed its tonality. Generally, do not use the word *ink* before the term *wash*, since ink is implicit. However, if an ink is applied only as a wash, do use the term ink wash to identify the material. (See also [General Syntax B: Designating and Including Color](#), page 18.)

Examples

- Pen and black ink and wash on paper
- Brown ink wash on paper
- Pen and brush and black ink and wash, with watercolor and graphite, on paper (The diluted ink looks gray but is judged to be the same black ink that was used in the lines.) See fig. 62, Blake.

GUIDELINE Only identify the color of a diluted ink, if it is judged to be different from undiluted ink in the same work.

Only describe the color of a diluted ink (generally a wash) if it is judged to be different from the ink used in undiluted form. Even in such cases, describe a dilute ink or wash by its undiluted color rather than its diluted color (e.g., *black* rather than *gray*). Since ink concentration can affect color or tonality, such visual distinctions can be very difficult.

Example

- Pen and black ink and brown wash on paper (The wash is clearly a different ink.)

GUIDELINE Use hyphenated compound colors to identify complex colors.

For a more nuanced description of an ink or wash, use hyphenated compound colors (e.g., blue-black) to convey tone or color. Avoid the terms *warm* and *cool*.

Example

- Pen and brown ink and blue-gray wash on paper

GUIDELINE Use the modifiers “light” and “dark” to describe color value or intensity.

Use either light or dark to describe color value or intensity. The absence of a modifier indicates an ink of medium value or intensity.

Example

- Pen and light brown ink on paper

B. Brown Inks

GUIDELINE Use the term “brown ink” without identifying the specific ink type.

Use the term brown ink to describe any ink that appears brown in color; in most cases do not identify the type of ink. However, if the brown ink displays distinct visual characteristics specific to iron gall ink (such as typical degradation from aging), it may be identified as such. Alternatively, include est. iron gall in parentheses following brown ink.

Avoid using the terms *sepia* or *bister*; if an ink is believed to be one of these, record the information in a TECHNICAL NOTES field.



Fig. 62. Pen and brush and black ink and wash, with watercolor and graphite, on paper. Detail from William Blake, *A Destroying Deity*, c. 1820-25. PMA 1964-110-7



Fig. 63. Pen and brown ink (est. iron gall) over traces of black chalk on paper. Detail from Luigi Sabatelli, *The Madness of Orlando*, c. 1795. PMA 1999-3-1

Bister (sometimes spelled bistre) can vary widely in tonality, luminosity, etc., making accurate identification extremely difficult. Historically, the term *sepia* has been used to describe a range of cool brown inks and has been routinely misapplied. Furthermore, true sepia (ink from a cuttlefish) can vary in color, and—like many inks—was often mixed with other inks or dyes to alter its tonality or working properties, making its accurate identification difficult or even impossible.

Reserve other descriptive details, such as indications of deterioration or alteration of color, for a TECHNICAL NOTES field entry.

Examples

- Pen and brown ink on paper
- Reed pen and iron gall ink on paper
- Pen and brown ink (est. iron gall) over traces of black chalk on paper (See fig. 63, Sabatelli.)

C. Black Inks

GUIDELINE Use the term “black ink” without identifying the specific ink type.

Use the term black ink to describe any of a variety of inks that appear black in color; in most cases do not identify the ink type (see fig. 64, Kent, and fig. 65, Calder). Black inks include traditional carbon black inks, which may incorporate different binders (gum, glue, shellac, etc.), as well as commercial writing or manuscript inks, which may contain other color additives or dyes.

Include other, more detailed or specific information about ink composition, manner of use, or visual characteristics (related to perceived composition, alteration due to aging, etc.) in a TECHNICAL NOTES field. For example, India ink may be used to indicate a black ink containing a shellac binder, or sumi ink for an ink used in a specific Japanese cultural tradition (e.g., brush calligraphy).

Example

- Brush and pen and black ink on paper

D. Multiple Inks, Ink Colors, or Implements

GUIDELINE List multiple inks, ink colors, or implements.

If different inks are present (e.g., black and brown), include the color for each and group them by implement(s) used, listing implement(s) first.

Examples

- Pen and black ink, and brush and brown ink on paper
- Pen and black and brown inks, and brown wash on paper (Only the brown ink is present as a wash.)
- Pen and black and brown inks and washes on paper (Both inks are present as washes.)



Fig. 64. Brush and pen and black ink and black lithographic crayon over graphite, with corrections by the artist in white opaque paint, on paper. Detail from Rockwell Kent, *Untitled*, c. 1943. PMA 1971-2-125

Colored Inks

GUIDELINE Include the ink color if one or two colors are present; omit colors for three or more inks.

For colored inks (i.e., other than brown or black), list individual colors if only one or two inks are present. (See **General Syntax B: Designating and Including Color**, page 18.) If three or more ink colors have been used, omit individual color names and use the term colored inks. Use the plural form inks whether or not colors are listed.

Examples

- Brush and red and green inks on paper
- Pen and red and green inks and washes on paper
- Brush and colored inks on paper

E. Traditional Dip Pens

Traditional dip pens include *reed*, *quill*, and *metal-nib* pens. Dip pens do not incorporate an ink reservoir, and must be *dipped* into an ink container periodically to refill or “re-charge” them during use. Before the 19th century, quill and reed pens were used exclusively; shortly after 1800, metal-nib pens were introduced and began to replace the other pen types in Western writing and art-making traditions. Reed pens have remained in wider use in East Asian traditions.

F. Modern Ink Pens

Modern pens, in which the ink and the delivery mechanism are integrated (in contrast to traditional dip pens), can be categorized as reservoir pens. They include a range of commercially manufactured pens, from fountain pens and refillable technical or drafting pens to ballpoint and porous-point pens (commonly referred to as *fiber-tip pens* or *markers*).

Pen Types

Ballpoint pens may be identified by certain physical characteristics of the line. In traditional ballpoint pens, which employ a rolling metal ball, these features may include parallel striations within the line, globs of ink along or at the ends of lines, or a slight iridescent sheen (see fig. 66, Kiesler). The pressure required to deposit the viscous ink often causes the round, rolling pen point to indent the support. To maintain fluid ink delivery, the inks used in ballpoint pens have historically been oil based and somewhat slow to dry, making them prone to smudging.

Roller-ball pens are a type of ballpoint pen that uses a more free-flowing, water-based ink—more like that used in fountain pens—and thus their mark falls somewhere between that of the ballpoint and fountain pen.

Gel pens are a subset of roller-ball pens, and their ink composition includes natural and synthetic water-based gels. The viscous gel

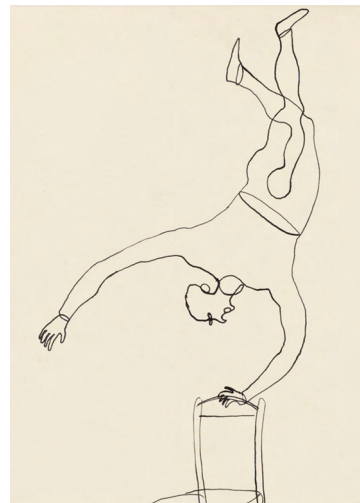


Fig. 65. Pen and black ink on paper. Detail from Alexander Calder, *Acrobat*, 1932. PMA 1941-53-127



Fig. 66. Blue ballpoint pen on paper (from spiral-bound note pad). Detail from Frederick Kiesler, *Shrine of the Book: Conceptual Drawing*, 1958. PMA 2010-221-3

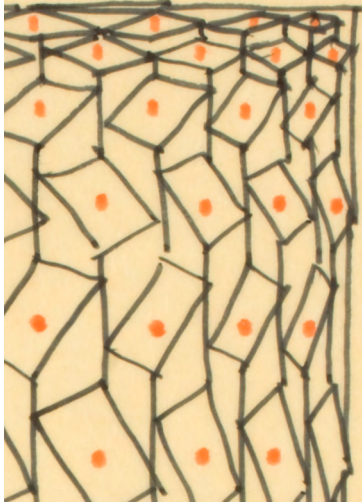


Fig. 67. Black and red porous point pens on paper (tracing paper). Detail from Edna Andrade, *Study*, 1964. PMA 2008-100-12

formulations allow for the incorporation of opaque pigments, and gel pens are thus available in a wide range of ink types (glitter, opalescent, metallic, etc.).

Fountain pens are characterized by an ink line with relatively continuous intensity or application, a result of unimpeded ink flow; by contrast, dip-pen lines vary in character as the ink is depleted and replenished during use.

Stylographic pens are a type of fountain pen in which the tip consists of a narrow cylinder with a tiny needle-like plunger; the plunger is pushed back into the cylinder when the tip is pressed to the paper, releasing the ink. A stylographic pen is similar in design to a technical or drafting pen.

Technical or drafting pens are a type of fountain pen in which the tip consists of a narrow cylinder through which ink flows from the reservoir. Technical pen designs can allow for delivery of conventional inks or other fluid drawing media such as custom-made inks or watercolors.

Porous-point pens may be identified by visual features of the line that result from the means of ink delivery and use, including a somewhat dry, sunken appearance with areas of greater ink concentration or penetration wherever the pen rested. Also referred to as *porous-tip pens*, *fiber-tip pens*, and *markers*, porous-point pens deliver ink through a nib or tip composed of a fibrous or porous material, and the ink supply is contained either in a cartridge or a saturated wick. The absorbent or spongy wick material controls ink flow by capillary action.

GUIDELINE **Include the type of reservoir pen when it can be confidently identified.**

When the type of reservoir pen can be confidently identified based on visual characteristics, period of use, and/or historical context, list the specific pen type, such as ballpoint pen. Do not include the term “ink” after these pen types, as it is considered implicit. Describe the ink color as recommended in **General Syntax B: Designating and Including Color** (page 18) and **Drawings II: Ink, A: General Issues** (page 51). When the type of pen cannot be identified with confidence, use the default phrase pen and [color] ink.

Examples

- Blue ballpoint pen and graphite on paper
- Black and red porous-point pens on paper (tracing paper)
See fig. 67, Andrade.

GUIDELINE Describe distinctive ink colors or characteristics.

Include appropriate modifiers (e.g., fluorescent, iridescent) or descriptive terms to describe distinct ink characteristics, avoiding trade names. Include the common pen name or other information in parentheses after the pen type only if it contributes significantly to the description. Record additional information on specific brands or types of pens (e.g., Sharpie permanent pen, Magic Marker, etc.) in a TECHNICAL NOTES field.

Examples

- Yellow fluorescent porous-point pen (highlighter) on paper
- Blue metallic ballpoint pen (glitter pen) on paper

Multiple Pen Types or Colors in a Single Work**GUIDELINE Identify the pen types; include colors if fewer than three are used.**

For works executed with multiple pens using the same color ink, include the ink color and use the plural form pens after identifying the pen types. If a work is executed in one or two colors, list them; if three or more colors are present, use colored [pen type(s)] pens.

Examples

- Reed and quill pens and brown ink over graphite on paper (See *fig. 68, van Gogh*.)
- Blue and red ballpoint pens, orange colored pencil, and graphite on paper
- Colored porous-point and ballpoint pens on paper

G. White Highlights

(See *Drawing-Specific Syntax B: Word Choice for Underdrawings, Less Abundant Media, and Highlights*, page 25.)

H. White Corrections by the Artist**GUIDELINE Use “with corrections by the artist in [medium]” to identify white corrections.**

To describe white paint corrections added by the artist to cover existing compositional elements, list the media, then a comma, then the phrase with corrections by the artist in [paint type].

See *Drawings III: Paint* (page 59) for guidelines for describing paints in terms of their visual characteristics. (For example, “white opaque paint” is more general; “white opaque watercolor” is more specific.) Avoid the term *lead white*; if characteristic darkening of the paint makes this identification possible, or the extent of



Fig. 68. Reed and quill pens and brown ink over graphite on paper. Detail from Vincent Willem van Gogh, *Haystacks*, 1888. PMA 1962-229-1



Fig. 69. Pen and brush and black ink over graphite, with corrections by the artist in white opaque watercolor, on paper. Detail from Rockwell Kent, *The Comfortable Purists*, c. 1909. PMA 1971-2-140

the darkening is notable, record this information in a TECHNICAL NOTES field. Use the phrase with white correction fluid if its use can be determined with confidence, but avoid the trade names “white out” or “Wite-out.” Record any observations about later additions or alterations made by someone other than the artist in a TECHNICAL NOTES field.

Examples

- Black chalk and pen and brown ink, with corrections by the artist in white opaque paint, on paper
- Pen and brush and black ink over graphite, with corrections by the artist in white opaque watercolor, on paper (*See fig. 69, Kent.*)
- Pen and black ink, with corrections by the artist in white correction fluid, on paper

III. PAINT

This section provides information and guidance on paint nomenclature and the nature and relationship of paint materials, emphasizing their characterization and description as encountered in works of art on paper. While paints historically found in this realm are often limited to watercolor and occasionally oil paint, the range of paint types used across art-making traditions has, since the early 20th century, become extensive. In addition, within a single composition, the appearance of any given paint may vary greatly depending on its preparation and manner of application, further complicating characterization.

It is also important to recognize the differences in approach and terminology that exist between the description of “easel” paintings and works of art on paper; for example, while the term *tempera* has an established use in easel paintings as a general description for any paint with a proteinaceous binder, its use has been discouraged for works of art on paper due to the term’s widespread misuse in the area of commercial poster paints.

These guidelines present a framework for describing paints in a consistent manner. They provide options from the more specific to the more general, depending on the degree of certainty, from listing the paint type (when known) to using modifiers to describe the visual qualities of a paint (when the type is not known) or, in some circumstances, simply using the general term *paint*.

A. General Issues

Paint refers to a liquid dispersion or emulsion composed of pigments and a binder, which upon drying adheres the colorant(s) to a substrate. Pigments are described as organic (vegetable, animal, or synthetic in origin) or inorganic (mineral, metallic, and/or synthetic in origin). Pigment particles do not dissolve, but remain dispersed in the binder. The visual appearance of a paint depends on pigment particle size, binder type, pigment to binder ratio, and paint preparation.

GUIDELINE **Include the specific paint type when possible.**
 Include the specific paint type when it can be determined with a degree of confidence by analysis, reliable attribution, or art-historical context. If this is not possible, describe the appearance of the paint using modifiers for surface reflectance and light transmittance (see below) followed by the term paint. If the paint type can be identified with some level of confidence, but uncertainty remains, follow the visual description with est. [paint type] in parentheses.

Examples

- Oil paint on paper (*See fig. 71, Corvi.*)
- Matte opaque paint on paper
- Glossy opaque paint (est. acrylic) on paper



Fig. 70. Watercolor and graphite pencil on paper. Charles Demuth, *In Vaudeville (Dancer with Chorus)*, 1918. PMA 1952-61-18

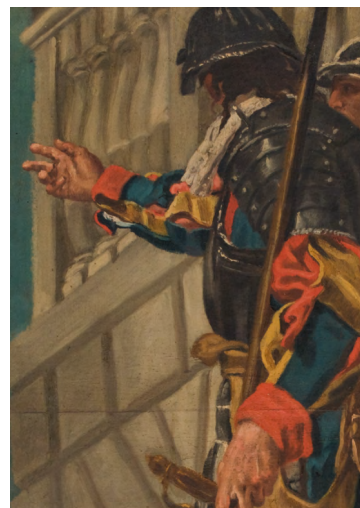


Fig. 71. Oil paint on paper. Detail from Domenico Corvi, *Two Swiss Guards*, late 1760s. PMA 2008-196-2

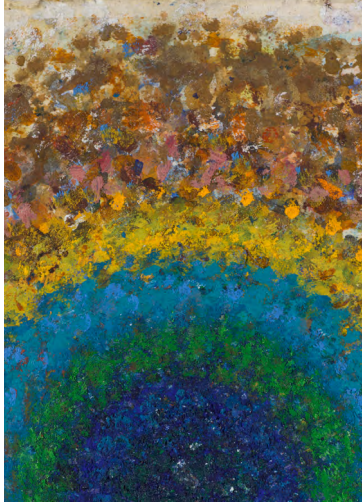


Fig. 72. Semi-gloss opaque paint (est. oil) over opaque watercolor with glitter paint on paper. Detail from Richard Pousette-Dart, *Center of Remembering*, 1960s. PMA 2014-37-5

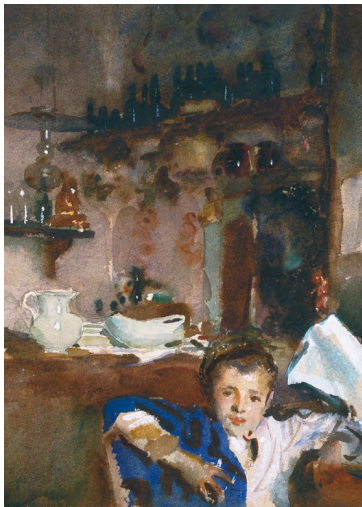


Fig. 73. Watercolor with white opaque watercolor over graphite on paper. Detail from John Singer Sargent, *Venetian Interior*, Before 1904. PMA Cat. 1079

GUIDELINE When the specific paint type is not known, describe the paint's surface reflectance and transmittance of light.

When confident identification of the paint type is not possible, use the terms matte, semi-gloss, or glossy to describe surface reflectance, then the terms transparent or opaque to describe light transmittance. Paints are described as *transparent* if light largely passes through them (revealing underlying media or reflecting off of the substrate), or *opaque* if the paints substantially block the light and obscure underlying materials. The modifiers for light transmittance are limited so that general descriptions will be focused on inherent paint characteristics rather than on variable effects of paint application, such as wash or impasto. (See **C: Water-Based Paints**, page 62.)

Examples

- Matte opaque paint and graphite on board
- Semi-gloss opaque paint (est. oil) over opaque watercolor with glitter paint on paper (See fig. 72, *Pousette-Dart*.)

GUIDELINE List colors only when fewer than three are used.

Do not include colors except when one or two are used in isolation. (See also **General Syntax B: Designating and Including Color**, page 18.) Use white when white paint is used to “heighten” a drawing or print. (See **Drawing-Specific Syntax B: Word Choice for Underdrawings, Less Abundant Media, and Highlights**, page 25.)

Examples

- Red and blue acrylic paint on paper
- Watercolor with white opaque watercolor over graphite on paper (More than two colors of watercolor are present; the single opaque watercolor, white, is used to heighten the painting.) See fig. 73, *Sargent*.

GUIDELINE Use appropriate descriptors for distinctive paint subsets.

Use appropriate descriptors such as lustrous, fluorescent, or phosphorescent for distinctive paint subsets. (See **G: Luminescent and Lustrous Colors**, page 68.)

Varnishes and Coatings

The specific use and meaning of terms such as *glaze* and *varnish* depend on art-historical tradition and on the specific paint and coating material. See **Drawings IV: Manipulations and Reductive Techniques, Transfer Techniques, and Coatings, C: Coatings, Glazes, Varnishes, and Fixatives page 117**(page 79). for detailed descriptions of syntax and usage. These guidelines are intended to aid in the description of varnishes and coatings as typically found in works of art on paper as opposed to easel paintings.

GUIDELINE

Use “with selectively applied glaze” to describe a colorless, glossy coating used to saturate underlying media.

When an artist has selectively applied a colorless, glossy material to saturate the appearance of an underlying medium (as in the watercolor painting tradition), include the phrase with selectively applied [type] glaze after the medium.

Examples

- Watercolor with selectively applied glaze over traces of graphite on paper (See fig. 74, Glover.)
- Watercolor with selectively applied gum glaze on board

GUIDELINE

Use “varnish” to describe a colorless, glossy material used as a standalone design medium.

When an artist has used a transparent, colorless, glossy material as a standalone design medium, either in conjunction with other drawing media or independently, use the term varnish. Record any overall coating or varnish applied to saturate or protect the entire design in a TECHNICAL NOTES field.

Examples

- Watercolor, opaque watercolor, graphite, black chalk, and varnish on paper (See fig. 75, Gris.)

B. Application Tools and Techniques

GUIDELINE

Only list implements other than brushes, unless a brush was used along with other implements.

If a brush is the only implement, do not include it in the description, since its use is implicit for conventional paint application. If other implements were used to apply paint, such as a palette knife or roller, include these in the description using the format [implement]-applied [paint type]. Include *brush* in the description if it was used along with other implements. (See also **Drawings IV: Manipulations and Reductive Techniques, Transfer Techniques, and Coatings**, page 71.)

Examples

- Acrylic paint on paper
- Brush-, spatula-, and sponge-applied acrylic paint on paper

GUIDELINE

Describe direct application methods using the past participle.

When describing the *direct application* of paint to a substrate (application without an implement or without the implement contacting the support), follow the paint type or paint description with the application method using the past participle form of the verb, such as poured, dripped, sprayed, or spattered. When direct application methods are employed alongside traditional

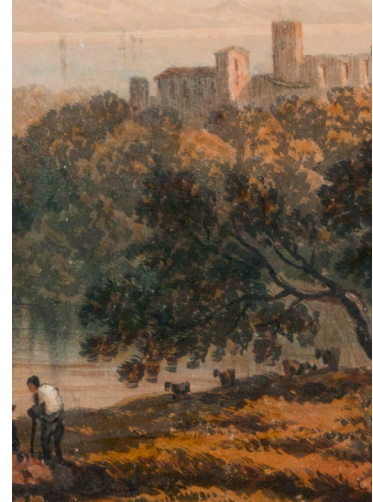


Fig. 74. Watercolor with selectively applied glaze over traces of graphite on paper. Detail from John Glover, *Pastoral Landscape with Herdsmen and Cow*, 1805. PMA 1930-39-32

TECHNICAL NOTE: Glazes applied in areas of heavily massed foliage in foreground

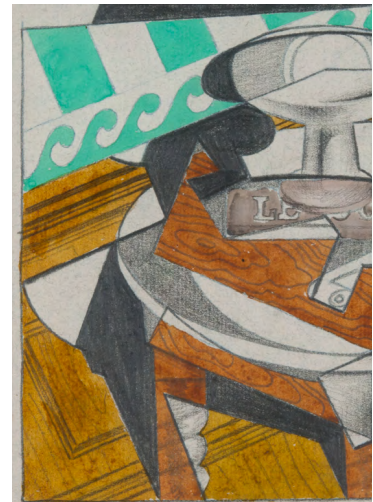


Fig. 75. Watercolor, opaque watercolor, graphite, black chalk, and varnish on paper. Detail from Juan Gris, *The Table*, 1916. PMA 1952-61-37

TECHNICAL NOTE: Varnish with yellow-brown discoloration (e.g., in lower left corner of the composition) is distinguished from other media by a lack of discernible pigmentation and relatively high gloss.



Fig. 76. Watercolor and opaque watercolor, sprayed through stencils and brushed, on paper mounted on board inscribed by the artist. Detail from Paul Klee, *Glance of a Landscape (Blick einer Landschaft)*, 1926. PMA 1950-134-120



Fig. 77. Opaque watercolor, brushed and spattered, on paper. Detail from Sam Francis, *Untitled*, c. 1962-1965. PMA 1967-287-2

brush-application methods, include the term brushed as well. (See also [Drawings IV: Manipulations and Reductive Techniques, Transfer Techniques, and Coatings](#), page 71.)

Examples

- Watercolor, sprayed through stencils and brushed, on paper mounted on board inscribed by the artist (See *fig. 76, Klee.*)
- Opaque watercolor, brushed and spattered, on paper (See *fig. 77, Francis.*)

C. Water-Based Paints

The use of the term *water-based paint* to describe paints that use water as a diluent has persisted, even though this classification includes paints with various binders that may have very different solubility properties upon drying, such as watercolors and acrylic dispersions. While this publication does not recommend using *water-based paint* to describe specific paint types, the term has been retained here as a general category with subcategories organized by type of binder. (See [A: General Issues](#), page 59.)

Water-Based Paints with Carbohydrate Binders

Watercolor paints consist of pigments dispersed in a carbohydrate binder, typically gum arabic, which remains resoluble in water. Composition and working properties may vary among manufacturers, or between tube and pan colors.

Pigments traditionally used in the manufacture of watercolor paints are finely ground or prepared from organic colorants and often appear transparent when the paint is diluted with water. This characteristic transparency allows artists to achieve a range of tonal values by varying dilution and application techniques or by layering color washes. The reflectance of a watercolor paint can vary from relatively matte to glossy.

The distinction between watercolor and opaque watercolor can be subtle. Traditionally, watercolor is a transparent paint with a gum binder, and opaque watercolor is watercolor made opaque by the addition of chalk or other white fillers and pigments. However, the traditional watercolor palette may include colors or pigments that are inherently opaque due to their physical properties. The amount of dilution also significantly affects the degree of opacity. The apparent transparency or opacity of a watercolor, therefore, greatly depends on the pigment(s) used as well as the manner and thickness of application. As a result, watercolor and opaque watercolor may best be described by their visual appearance.

Historically, the terms *opaque watercolor* and *gouache* have been used to refer to watercolor paints with white pigments added to make them opaque rather than translucent. However, modern paints marketed as gouache may have a variety of additives—including white mineral fillers with low tinting strength, thickening agents, hydrolyzed

starches, cellulose ethers, and acrylic resins—incorporated to produce colors with uniform consistency and opacity. Since these paints can be visually indistinguishable from other modern or historic opaque watercolor paints, the more general descriptive term is preferred.

Watercolors may be manipulated using various techniques, including sponging, wet-in-wet blending, wet lifting, blotting, rubbing, and scraping or scratching. (See also [Drawings IV: Manipulations and Reductive Techniques, Transfer Techniques, and Coatings](#), page 71.)

GUIDELINE Use “watercolor” for transparent paints and “opaque watercolor” for opaque paints.

If only transparent watercolor is present, use watercolor. If only opaque watercolor is present, use opaque watercolor. If both transparent and opaque watercolors are present, use watercolor and opaque watercolor. This avoids the confusion of calling the former *watercolor* when it is used alone and *transparent watercolor* when it is used in combination with opaque watercolor.

Examples

- Watercolor over graphite on vellum (See *fig. 78, Redouté*.)
- Opaque watercolor and graphite on board (See *fig. 79, Traylor*.)
- Watercolor and opaque watercolor on paper

Water-Based Paints with Proteinaceous Binders

Traditional tempera paints are proteinaceous emulsions that dry to form opaque, water-resistant films. The most common types are egg tempera, which is prepared with egg yolk and/or egg white, and glue tempera, which is generally made with animal glue. Both paints dry by evaporation of water to form a matte or semi-gloss film. Admixtures of oils, resins, and gums may alter surface gloss and light transmittance. The gelatin binder of glue tempera is strong but forms a relatively inflexible film that is prone to severe cracking and discoloration over time.

Because the term *tempera* has long been associated with a range of unrelated commercial paints (see [Other Water-Based Paints: Poster paint](#), page 64), its use in the description of works of art on paper can be ambiguous without additional classification. In descriptions of easel paintings, however, *tempera* is commonly used to describe any paint with a proteinaceous binder, and its use in such cases, when supported by reliable attribution or analysis, may be dictated by institutional preference.

The term *distemper* is commonly used to describe traditional tempera paints, most specifically those with a glue binder, as well as commercial paints of varying composition. This term is not recommended when describing works of art on paper, since its meaning can be unclear and its usage inconsistent.



Fig. 78. Watercolor over graphite on vellum. Detail from Pierre Joseph Redouté, *Joséphine's March Lily, Amaryllis josephinae*, 1802-5. PMA 2012-159-2



Fig. 79. Opaque watercolor and graphite on board. Detail from Bill Traylor, *Man with Blue Pants*, c. 1939-42. PMA 2004-203-6



Fig. 80. Egg tempera over graphite, with scratching out, on coated board (scratchboard). Detail from Julio Castellanos, *Landscape with Animals (Study for a Mural)*, 1932. PMA 2008-98-1



Fig. 81. Opaque watercolor and semi-gloss opaque paint (est. egg tempera) over graphite on board. Detail from Charles Demuth, *Lan-caster (In the Province No. 2)*, 1920. PMA 1950-134-45

GUIDELINE Identify paint as “tempera” if a proteinaceous binder is present; include the binder type if known.

If a proteinaceous binder has been identified by analysis, or determined by reliable attribution or art-historical context, the paint may be described as tempera. Include the binder type (egg tempera, glue tempera, etc.) if known. If not, describe the appearance of the paint using appropriate modifiers for surface reflectance and light transmittance (See A: *General Issues*, page 59). If the paint type can be identified with a degree of confidence, but some uncertainty remains, follow the visual description with est. [paint type] in parenthesis.

Examples

- Tempera on board
- Egg tempera over graphite, with scratching out, on coated board (scratchboard) *See fig. 80. Castellanos.*
- Opaque watercolor and semi-gloss opaque paint (est. egg tempera) over graphite on board (*See fig. 81, Demuth.*)

Casein is a traditional tempera paint made from the milk protein casein that forms an emulsion in water after hydrolyzation with a dilute alkalai (e.g., lime water, borax, or ammonium). Like egg and glue temperas, the casein emulsion can be thinned with water but forms a water-insoluble film when dry. The dried paint film may appear matte or slightly glossy and is relatively brittle. Casein may be mixed with gums, oils, or acrylic dispersions to improve the suspension of larger pigment particles as well as adhesion to the support. While casein can be described as *casein tempera*, it is more commonly referred to simply as “casein.”

GUIDELINE Use “casein” only if the binder is known.

Use casein if the binder has been determined by analysis, reliable attribution, or art-historical context. If the paint can be identified with a degree of confidence, but some uncertainty remains, follow matte opaque paint with est. casein in parentheses.

Examples

- Casein on board
- Matte opaque paint on paper
- Matte opaque paint (est. casein) on paper

Other Water-Based Paints

Poster paint is a commercial water-based paint that originally consisted of pigments in a gum or glue binder. However, the term has been broadly used to designate any opaque aqueous paint, and products labeled today as poster paint may be formulated with various binders including acrylic dispersions, cellulose ethers, or starches. Poster paints are usually packaged in jars or bottles rather than in tubes.

GUIDELINE Do not use “poster paint”; describe such paint as “matte opaque paint.”

Use matte opaque paint to describe a paint exhibiting visual characteristics consistent with commercial poster paints. Do not use *poster paint*.

D. Synthetic Polymer Paints

Synthetic polymers have been used since the 1930s to produce a wide range of paints for artistic, commercial, and industrial use. These paints may be formulated with drying oils, alkyds, or one or more synthetic polymers (e.g., acrylic, vinyl acrylic, styrene, polyurethane) to impart a range of film-forming properties.

Synthetic polymer paints generally form smooth, flexible films with good cohesive properties that are retained over time. However, varying formulations and the ability to adhere to a substrate as a very dilute wash can make these paints look similar to traditional artists’ paints such as oil or watercolor. The term synthetic polymer paint may be used to describe various paint media, including media not manufactured for fine art use, such as commercial house paints.

Acrylic Paint

Acrylic paints are composed of pigments in synthetic polymers or copolymers derived from acrylic and methacrylic acids. Acrylic paints can be manufactured as colloidal dispersions (acrylic dispersion paints) or as solutions (acrylic resin paints). Both paints dry by evaporation to form a water-resistant film (see fig. 82, Thek).

Acrylic dispersion paints are composed of pigments in aqueous acrylic polymer or copolymer dispersions. Acrylic dispersion paints usually contain additives including surfactants, plasticizers, anti-foaming agents, thickeners, and fungicides. Undiluted paint may appear opaque and glossy, though the surface reflectance and transmittance of acrylic dispersion paints are frequently modified with additives such as matting agents, which dull the surface, or unpigmented acrylic “extenders,” which increase transparency. These paints can also be thinned with water and may be indistinguishable from watercolor.

Acrylic resin paints contain pigments in solvent solutions of acrylic resin(s), and tend to remain soluble in organic solvents after drying.

GUIDELINE Use “acrylic paint” only if the binder has been determined by analysis or art-historical context.

Use acrylic paint only if the binder has been determined by analysis or art-historical context. If the binder cannot be identified with a degree of confidence, describe the appearance of the paint using appropriate modifiers for reflectance and transmittance. If the paint can be identified with some level of confidence, but

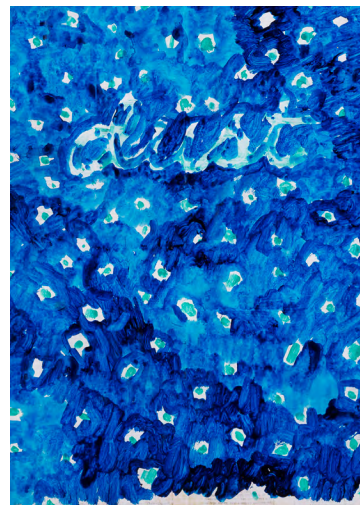


Fig. 82. Acrylic paint and gesso on printed newspaper. Detail from Paul Thek, *Dust*, 1988. PMA 1992-128-1



Fig. 83. Acrylic paint on paper. Detail from Jane Piper, *Zahir*, 1977. PMA 1977-50-1

uncertainty remains, follow the visual description with est. acrylic in parentheses. (See [A: General Issues](#), page 59.)

Examples

- Acrylic paint on paper (See *fig. 83, Piper.*)
- Red and orange glossy opaque paint (est. acrylic) on paper
- Red and orange glossy opaque paint on paper

Commercial and Industrial Paints

Commercial and industrial paints are generally manufactured for broad application on interior or exterior surfaces. These paints are often complex formulations of various synthetic polymers, including vinyl resins, styrene, polyurethane, etc. Drying oils or alkyds may also be used to achieve desired working and film-forming properties.

House paints are commercial paints intended for broad application on interior surfaces. These paints dry to form an opaque, matte, or semi-gloss film. House paints are typically mixtures of acrylic resins with cheaper vinyl acrylic.

Though they contain no natural rubber, acrylic dispersions (including house paints) have been inaccurately marketed as *latex* paints because both natural latex and synthetic polymers tend to look milky in solution and form clear, flexible films when dry. (Note that natural rubber is sold, pre-polymerized, as a liquid binder in ammonia. It is marketed as *latex milk* and is infrequently used.)

Synthetic lacquers or enamels are usually solvent-soluble, fast-drying paints that form very hard, glossy films. (See *fig. 84, Pry.*) Lacquers are low in volume solids compared with enamel paints, which may contain glass powder or tiny metal flakes to increase film hardness and durability. These paints are most commonly used for exterior coatings and surfaces.

Commercial spray paints are synthetic polymer paints, usually with a solvent diluent, that have been pressurized with highly volatile hydrocarbon propellants in portable sealed containers. The propellant(s) are employed to atomize and direct the paint when a valve is opened.

GUIDELINE Use “synthetic polymer paint” with appropriate modifiers unless the binder has been identified.

When the specific paint cannot be confidently identified, describe the appearance of the paint using appropriate modifiers for reflectance and transmittance, followed by the term synthetic polymer paint. Use the specific paint description if the binder has been determined by analysis, reliable attribution, or art-historical context. If the paint can be identified with a degree of confidence,



Fig. 84. Opaque watercolor, enamel paint, and silver metallic porous point pen over ballpoint pen on corrugated cardboard. Detail from Lamont Alfred “Old Ironsides” Pry, *Big Chief Blue Clouds*, 20th century. PMA 2011-160-9

but some uncertainty remains, follow the visual description with est. [paint type] in parenthesis. (See **A: General Issues**, page 59.)

Examples

- Glossy, opaque synthetic polymer paint on paper
- Glossy, opaque synthetic polymer paint (est. alkyd) on paper
- Synthetic polymer paint (house paint) on board (See *fig. 85, Besharo.*)

E. Oil Paint

Oil paint is a slow-drying paint consisting of pigment particles suspended in linseed oil or another drying oil. Commercial artists' paints may include fillers or other additives—such as alumina hydrate, aluminum stearate, wax, etc.—to plasticize and stabilize the paint. Oil paint typically dries to form a slightly glossy film, but its appearance is frequently modified by dilution or admixtures of resins or other materials. (See also **Drawings IV: Manipulations and Reductive Techniques, Transfer Techniques, and Coatings**, page 71.)

GUIDELINE Use “oil paint” only if the binder has been determined by analysis or art-historical context.

Use oil paint if the binder has been determined by analysis or art-historical context. If the binder is uncertain or unknown, describe the appearance of the paint using appropriate modifiers for reflectance and transmittance. (See **A: General Issues**, page 59.) If the paint can be identified with some level of confidence, but uncertainty remains, follow the visual description with est. oil in parenthesis.

Examples

- Oil paint on brown paper (See *fig. 86, Degas.*)
- Oil paint on paper (See *fig. 87, Dove.*)
- Orange glossy opaque paint on paper
- Orange glossy opaque paint (est. oil) on paper

F. Wax

Encaustic

Encaustic is a wax-based paint traditionally composed of pigments in beeswax; it is applied molten to a support. After cooling, the paint surface is reheated, bonding the paint to the substrate and underlying wax layers to create a uniform surface layer with a dull sheen. Encaustic may be modified with other waxes or additives such as resin or oil.

Interest in encaustic medium and technique was revived in the 20th century when a variety of portable heating devices became available, turning encaustic into a cross-disciplinary medium and extending its

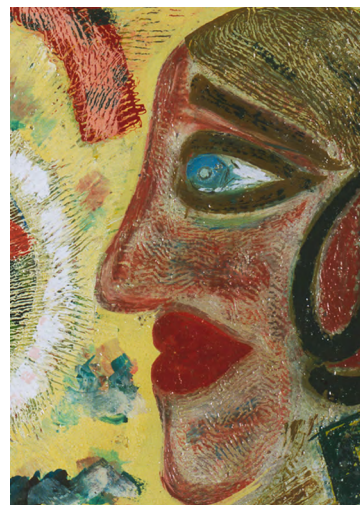


Fig. 85. Synthetic polymer paint (house paint) on board. Detail from Peter Attie Besharo, *Face of Our Old Time Earth Moon*, 1950s. PMA 1998-19-30

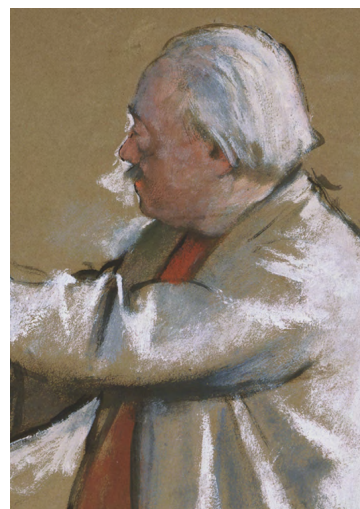


Fig. 86. Oil paint on brown paper. Detail from Hilaire-Germain-Edgar Degas, *The Ballet Master, Jules Perrot*, 1875. PMA 1986-26-15



Fig. 87. Oil paint on paper. Detail from Arthur Garfield Dove, *Abstract Study with a Yellow Spot on a Wavy Brown Stripe*, 1943-1944. PMA 1986-4-6



Fig. 88. Colored wax emulsion on paper. Detail from Arthur Garfield Dove, *Abstract Study with Orange, Yellow, Green, and Purple Curving Lines*, 1943-44. PMA 1986-4-14

TECHNICAL NOTE: FTIR analysis identified wax as primary medium; other media may be present

use from painting to collage, assemblage, and printmaking. However, it is difficult to distinguish traditional encaustic technique from the many other ways in which molten wax can be applied to a paper substrate without reheating.

Wax

Molten waxes, wax-resin pastes, and wax soaps may be applied to paper in many ways. Waxes that are not reheated will retain the surface quality imparted by the application implement or other manipulation. Waxes may be colored with pigments or dyes. Waxes may also resist other media applied over them.

GUIDELINE Use “wax” or “colored wax” to describe any wax medium.

Use colored wax (encaustic) to describe paint that is made by mixing dry colors with molten wax, and is fused to the support after application using heat. Use wax or colored wax to describe any wax that has been softened or melted and then applied to the paper as a paste or fluid; wax may also be brushed on, dripped, dipped, poured, cast, or burnished. When wax has been selectively applied to prevent or “resist” the deposition of overlaying media, it can be described as *wax resist*. (See **Drawings IV: Manipulations and Reductive Techniques, Transfer Techniques, and Coatings**, page 71.) *Colored wax* is used instead of *pigmented wax* because dyes may be used as colorants. If additional materials mixed with wax are determined by analysis, reliable attribution, or art-historical context (e.g., wax emulsion with oil and egg yolk), this may be recorded or described in a TECHNICAL NOTES field.

Examples

- Colored wax emulsion on paper (See fig. 88, Dove.)
- Colored wax (encaustic) on paper
- Colored wax, graphite, and orange wax crayon on paper (Wax crayon is listed separately as a dry drawing medium.)
- Wax resist, opaque watercolor, and pen and brush and black ink on paper (See fig. 89, Ossorio.)

G. Luminescent and Lustrous Colors

Descriptions of fluorescent, phosphorescent, and lustrous pigments are included here to help identify and distinguish their use in paints as well as dry media.

Luminescent Colors

Luminescent paints produce light using light energy. Fluorescence and phosphorescence, two forms of photoluminescence, are defined by the length of time the emitted light continues to glow.

Fluorescent pigments, known by the trade name “Day-Glo,” are found in silk screens and other prints from the 1960s to the present.

Available in approximately ten colors, these pigments contain dyes that absorb invisible and near-visible ultraviolet light, giving off a glowing emission of a longer wavelength than that absorbed. Light is emitted within a fraction of a second after excitation, so these colors need a continuous source of light energy. With age, these pigments lose their fluorescent properties, and the dye component may fade as well.

Phosphorescent pigments are marketed as “glow-in-the-dark” pigments. These pigments emit light for seconds or even hours after excitation. The raw pigment is usually white or weakly colored and is translucent in most binding media. Production originated in the late 1960s with a green phosphorescent pigment. Brighter, more lightfast glow colors were developed in the 1990s based on alkaline earth metal aluminates. Glow colors from red to orange, all based on zinc sulfide, were developed in the 2000s. More recently, a blue pigment was produced from an alkaline earth silicate.

GUIDELINE After listing the color, identify luminescent paints as “fluorescent” or “phosphorescent.”

When naming luminescent colors use [color] fluorescent paint or [color] phosphorescent paint. Mixtures of fluorescent and phosphorescent pigments may be used to create a paint that appears to be one color in daylight and another in the dark. In this case list [color] fluorescent paint with [color] phosphorescent paint.

Examples

- Yellow fluorescent paint on paper
- Green phosphorescent paint on paper

Lustrous Colors

This category includes a wide variety of paints made with pigments that produce lustrous color effects, including paints made with true metal pigments and nacreous pigments that emulate the appearance of metals.

Metallic pigments are powdered or flaked pigments derived from metals or metallic minerals. Before the late 19th century, the pigments were made by pulverizing thin metal leaf or foil, which produced powders of a larger particle size and range than those made using the modern process, in which the particles are stamped from sheet metal. A range of tones could be achieved by using different alloys or oxidizing the metal(s). *Glimmer pigments* are made by pulverizing and levigating metallic minerals such as hematite, typically producing less lustrous powders than those derived from metals.

Pearlescent pigments are nacreous pigments that were traditionally produced from ground mother-of-pearl or mica. Modern pearlescent pigments are made by coating fine particles of mica with a very thin layer of white pigment(s), typically titanium dioxide and/or silicon



Fig. 89. Wax resist, opaque watercolor, and pen and brush and black ink on paper. Detail from Alfonso Ossorio, *Family Size*, 1950. PMA 1969-294-2



Fig. 90. Opaque watercolor with metallic gold paint and gold leaf over a lithograph on paper. Detail of a Spanish folding fan, 1850-1860. PMA 1973-165-8



Fig. 91. Photomicrograph showing the metallic appearance and iridescent shimmer of lustrous pigments made by coating mica platelets with metal oxides or dyes. Field of view is approximately 7 x 12mm.

dioxide. Colored lustrous pigments that appear silver-white when viewed at an angle may also be described as pearlescent to distinguish them from brightly colored iridescent pigments.

Opalescent pigments are the same as *pearlescent pigments*, and the two terms may be used interchangeably. (Some manufacturers, such as Golden, prefer the term *opalescent*.)

Iridescent pigments are modern pigments made by coating mica platelets with metal oxides (e.g., iron or tin oxide) or dyes—in addition to or instead of titanium white—to achieve gold, copper, or other colors. They are less transparent than pearlescent pigments due to their thicker coatings.

Interference pigments are made by coating mica particles with a specific thickness of titanium white, which allows only a narrow band of light, or a single spectral color, to be reflected from the paint when it is viewed at 90 degrees (normal direct viewing). This color shifts as the viewing angle is decreased, eventually becoming the color complementary to the initial color. Manufacturers usually label these paints as *interference [color] paints*; the color listed is the color visible when the paint is viewed at a 90-degree angle.

GUIDELINE List the color and the appropriate modifier when describing a lustrous paint.

When naming non-metallic colors that have a metallic appearance (e.g., silver, gold, copper, etc.), use [color] metallic paint rather than *metallic [color] paint*, which suggests a metal composition rather than a metallic luster. Use pearlescent or opalescent to describe a transparent or semi-opaque paint with a silver or silver-white luster. Use iridescent to describe a semi-opaque paint with a gold or colored luster. For interference paints, list the color seen at 90 degrees (normal direct viewing) followed by interference paint. In a TECHNICAL NOTES field, list the two complementary colors in parentheses after the paint, first listing the color seen at 90 degrees (normal direct viewing), and hyphenate the terms.

Examples

- Gold metallic paint on paper
- Opaque watercolor with metallic gold paint and gold leaf over lithograph on paper (The paint and leaf are made using true metallic gold.) See *fig. 90, folding fan*.
- Opaque watercolor, acrylic paint, metallic and pearlescent paints, glue, and glitter on paper (See *fig. 91, Holley*.)
- Red interference paint on paper

IV. MANIPULATIONS AND REDUCTIVE TECHNIQUES, TRANSFER TECHNIQUES, AND COATINGS

A. Manipulations

Manipulations are actions carried out on the media or support in addition to direct application of the media.

GUIDELINE Use the form “[medium] with [gerund]” to describe the manipulation, not the implement.

Include a manipulation in the medium description if it is a significant aspect of the artist’s technique. List the medium first, followed by the word “with” and the gerund form of the manipulation (verb ending in *-ing*). This indicates the action, not the implement (for example, charcoal with stumping or with erasing, not *with stump* or *with eraser*). If more than one medium is present, list the manipulation immediately following the medium that was manipulated. Record other detailed observations about techniques in the TECHNICAL NOTES field. (See also **Drawings I: Dry Drawing Media**, page 39; **Drawings II: Ink**, page 51, and **Drawings III: Paint**, page 59.)

Examples

- Watercolor with blotting and scraping on paper
- Red conte crayon with smudging and wet brush, black conte crayon, oil pastel with blending, and black glossy opaque paint (est. acrylic) See *fig. 93, Arneson*.

Manipulations Used to Move the Media: Stumping, Smudging, Blending

These manipulations are used to move (rather than remove) media, typically in order to soften or blur hard edges or lines.

GUIDELINE Use “with stumping” to describe the use of a stump to soften lines.

When an implement such as a *stump* (a stick of tightly rolled paper, felt, soft leather, suede, or a similar material) appears to have been used to manipulate a *single* material, use the term with stumping.

GUIDELINE Use “with smudging” to describe the use of fingers or softer materials to soften lines.

If the artist appears to have used his or her fingertips or softer materials to manipulate a single medium, use the term with smudging.



Fig. 92. Conte crayon and charcoal with stumping on paper. Ford Madox Brown, *Portrait of Emma Madox Brown*, c. 1867. PMA 1987-34-1



Fig. 93. Red conte crayon with smudging and wet brush, black conte crayon, oil pastel with blending, and black glossy opaque paint (est. acrylic) on paper. Detail from Robert Arneson, *Rats*, 1981. PMA 1982-111-1



Fig. 94. Conte crayon and charcoal with stumping on paper. Detail from Ford Madox Brown, *Portrait of Emma Madox Brown*, c. 1867. PMA 1987-34-1

GUIDELINE Use “with blending” to describe the blending of two or more media.

When the artist has manipulated two or more media in order to merge or blend them together, use the term with blending.

Examples

- Crayon and charcoal with stumping on paper (See fig. 94, *Brown*.)
- Charcoal with smudging on paper
- Red and black chinks with blending on paper

Reductive or Subtractive Techniques: Scraping, Scratching Out, Blotting, Erasing

Reductive or subtractive manipulations physically remove or substantially reduce discrete areas of media or the underlying support. Scraping, which involves removing media and (often) the surface of the support with a sharp instrument, and blotting are the reductive techniques most commonly used with watercolor and ink. Other techniques such as sanding and gouging may be encountered. Erasing is the subtractive technique most typically associated with dry media.

GUIDELINE Use “with [reductive manipulation technique]” as appropriate to describe the removal of media.

Use with scraping, scratching out, sanding, blotting, erasing, etc. to describe reductive manipulations. In general, do not precede the manipulation with the word *selective*, since manipulations are typically carried out in discrete areas.

Examples

- Watercolor with scraping and blotting on paper
- Charcoal with erasing and black conte crayon on paper (See fig. 95, *Bomberg*.)

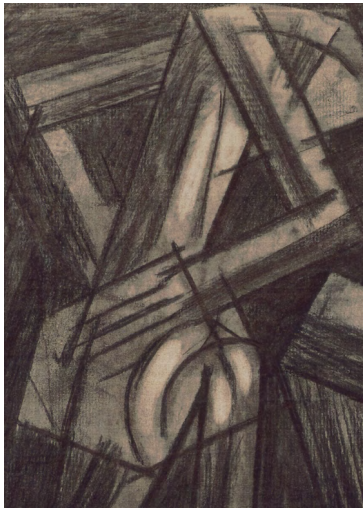


Fig. 95. Charcoal with erasing and black conte crayon on paper. Detail from David Bomberg, *Acrobats*, 1913–14. PMA 1981-21-1

Masking Out

Masking out (sometimes called *blocking out*) is a technique in which the artist protects or covers a discrete area of the support prior to applying media (generally watercolor) in order to create a deliberate void in the final image. Often the masking agent (e.g., frisket, Misket, tape, paper) is removed from the finished work and only the evidence of its use remains. An exception is *wax resist*, in which some wax will invariably remain, even if it has been largely scraped away. (See also *Drawings III: Paint, F: Wax*, page 67.)

GUIDELINE Use “with masking out” to describe masking out of media.

When a masking-out technique is judged to be visually significant, include it in the medium description: Follow the medium with the phrase with masking out. If multiple media are present, list the manipulation immediately after the medium that was masked out. Record any more detailed observations about the artist’s

technique (e.g., the masking material that may have been used) in a TECHNICAL NOTES field.

Example

- Watercolor with masking out and scratching out on paper (See fig. 96, Martin.)

Dry Media Manipulated with Water

Dry drawing media can be selectively manipulated with water and a brush after being applied to the support, which is similar to other forms of manipulation such as stumping and blending. Water and a brush may also be used for more extensive manipulation of dry media, to create broad areas of pigmented wash.

GUIDELINE Use “with wet brush” to describe discrete areas of manipulation.

For a dry drawing medium that has been manipulated in discrete areas with a wet brush after being applied to the support, list the medium followed by the phrase with wet brush.

Example

- Red conte crayon with smudging and wet brush on paper
- Red chalk and charcoal with wet brush on paper (tracing paper) (See fig. 97, Degas.)

GUIDELINE Use “wash” to describe broad or overall manipulation.

For a dry drawing medium that has been manipulated extensively with water after application to the support, or mixed with water and then applied directly to the support using a brush, effectively creating broad areas of wash, list the medium followed by the term wash.

Examples

- Charcoal wash on paper
- Graphite and red chalk wash on paper

White Corrections by the Artist

GUIDELINE Use “with corrections by the artist in [medium]” to identify white corrections.

To describe white paint corrections added by the artist to cover existing compositional elements, list the media, then a comma, then the phrase with corrections by the artist in [paint type].

See *Drawings III: Paint* (page 59) for guidelines for describing paints in terms of their visual characteristics. (For example, “white opaque paint” is more general; “white opaque watercolor” is more specific.) Avoid the term lead white; if characteristic darkening of the paint makes such identification possible, or the extent of the darkening is notable, record this information in a TECHNICAL NOTES field. Use the phrase with white correction fluid if its use



Fig. 96. Watercolor with masking out and scratching out on paper. Detail from John Martin, *The Expulsion of Adam and Eve from Paradise*, 1843. PMA 1971-108-1

TECHNICAL NOTE: Masking out was used to create the lightening bolts, scratching out to create highlights in figures.



Fig. 97. Red chalk and charcoal with wet brush on paper (tracing paper). Detail from Hilaire-Germain-Edgar Degas, *Two Dancers Resting*, c. 1890–1900. PMA 1967-30-20

TECHNICAL NOTE: Wet brush was selectively applied to the charcoal in this work, for example in the stroke along the top of the head of the dancer at the right.



Fig. 98. Pen and brush and black ink over graphite, with corrections by the artist in white opaque watercolor, on paper. Detail from Rockwell Kent, *The Comfortable Purists*, c. 1909. PMA 1971-2-140



Fig. 99. Pen and brown ink and brown and pale blue washes, incised for transfer, on light brown paper. Raking light detail from Benjamin West, *The Blind Belisarius*, 1784. PMA 1966-9-1

can be determined with confidence, but avoid the trade names “white out” or “Wite-out.” Record any observations about later additions or alterations made by someone other than the artist in a TECHNICAL NOTES field.

Examples

- Black chalk and pen and brown ink, with corrections by the artist in white opaque paint, on paper
- Pen and brush and black ink over graphite, with corrections by the artist in white opaque watercolor, on paper (See fig. 98, Kent.)
- Pen and black ink, with corrections by the artist in white correction fluid, on paper

B. Transfer Techniques

Transfer techniques are techniques used in a drawing or print to facilitate its transfer to another support. Some transfer techniques, such as incising and pricking, physically alter the original support. Other techniques, such as the application of grid lines for the purpose of transferring or resizing a design, leave additional media on the original. Note that the transferring medium used with incising and pricking, such as chalk or charcoal applied to the back of the initial support, may also be evident.

Incising

Incising creates fine grooves or indentations in the support through the use of a pointed implement such as a stylus or compass point, and is typically used to transfer a design from one paper support to another. Traditionally the back of a drawing is covered with a powdery medium, a second support is placed beneath the drawing, and the design lines are traced with a stylus to transfer them to the new support. The technique can also be done “blind,” or without a powdery medium on the verso of the drawing, which creates indented lines in both supports but causes no transfer of media.

GUIDELINE Use “incised for transfer” following the support to describe this technique.

Describe the presence of incised lines used to transfer the design to another support by listing the media and support, followed by a comma and the phrase incised for transfer. Record other specific observations related to the technique—such as the presence of transfer media or other visual evidence identifying the drawing as either the original or “transferred” drawing—in a TECHNICAL NOTES field.

Examples

- Black chalk with white opaque watercolor on blue paper, incised for transfer
- Pen and brown ink and brown and pale blue washes on light brown paper, incised for transfer (See fig. 99, West.)

Pricking

Pricking involves pricking holes along the lines of a study drawing or cartoon, then pouncing or dusting charcoal or dry pigment through the holes to an underlying sheet to transfer the design.

GUIDELINE Use “pricked for transfer” following the support to describe this technique.

Describe the presence of pricked holes used to transfer the design to another support by listing the support followed by a comma and the phrase pricked for transfer. Do not include the terms *selective* or *selectively*, since the limited use of pricking is implicit. If any of the dry medium used to transfer the design is visible, indicate it in the description using the phrase pricked for transfer and pounced with [medium]. Record any more specific observations about technique—such as the presence of media on the verso, other visual evidence, or discussion of historical use—in a TECHNICAL NOTES field.

Examples

- Red chalk and graphite on paper, pricked for transfer
- Red chalk on paper, pricked for transfer and pounced with charcoal
- Pen and brown ink and wash and black and white chalks on paper, scored, pricked for transfer and pounced with red chalk (See fig. 100, Campi.)

Squaring

GUIDELINE Use “squared in [medium]” to describe a grid used to transfer or resize a design.

Describe grids or regular lines applied for the purpose of transferring or resizing a design by inserting the phrase squared in [medium] after the media listing and before the support. Set off the phrase with commas.

Examples

- Red chalk with touches of white chalk, squared in red chalk, on paper toned with yellow wash (See fig. 101, Batoni.)
- Pen and black ink with brown wash, squared in red chalk, on paper

C. Coatings: Glazes, Varnishes, and Fixatives

The specific uses and meanings of the terms glaze and varnish depend on art-historical traditions and on the specific paint and coating materials described. For instance, in easel paintings *glaze* typically refers to a thin, pigmented oil paint film. In watercolor paintings and hand-colored prints, *glaze* generally refers to a transparent, glossy gum material used to saturate or intensify the appearance of an underlying paint passage. A modern or contemporary artist may apply

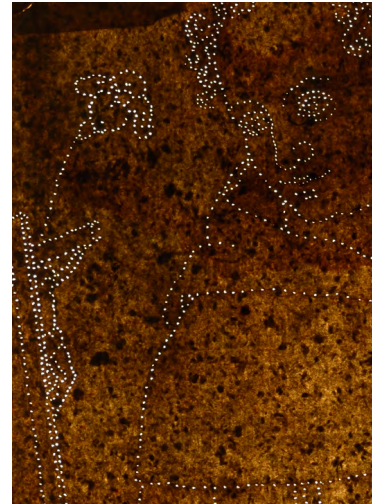


Fig. 100. Pen and brown ink and wash and black and white chalks on paper, scored, pricked and pounced for transfer with red chalk. Detail in transmitted light, attributed to Giulio Campi, *St. Aloysius Gonzaga*, 16th century. PMA 1984-56-225

TECHNICAL NOTE: Traces of red chalk used to transfer the drawing remain visible on the verso.

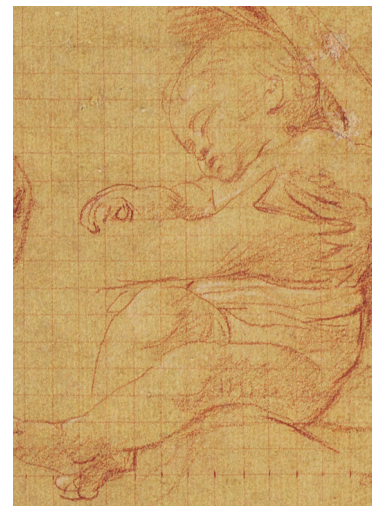


Fig. 101. Red chalk with touches of white chalk, squared in red chalk, on paper toned with yellow wash. Detail from Pompeo Girolamo Batoni, *Studies for the Merenda Holy Family*, c. 1740. PMA 1978-70-165



Fig. 102. Watercolor with selectively applied glaze over traces of graphite on paper. Detail from John Glover, *Pastoral Landscape with Herdsmen and Cow*, 1805. PMA 1930-39-32

TECHNICAL NOTE: Glazes applied in areas of heavily massed foliage in foreground



Fig. 103. Collage of cut papers with red-brown and blue conte crayons and varnish on paper. Detail from Alexander Porfirevich Archipenko, *Figure in Movement*, 1913. PMA 2011-171-2

a glossy resinous varnish or *glaze* as a standalone design medium. The following guidelines recognize this disparity and are intended to guide the description of these materials as found in works on paper.

Fixatives are frequently used to secure dry drawing media to a surface. Historically, fixatives were composed of diluted natural adhesives such as skimmed milk, egg white, fruit juice, gums, and shellac. These were quickly brushed out over the drawing, or the drawing was laid face down on a bath of thin size or gum-water. Today, commercial fixatives are generally made from synthetic resins dissolved in organic solvents and pressurized, to be applied as a fine spray. Fixatives can alter the appearance of drawing media and paper, causing the composition to appear softer or more “flat” as well as changing or darkening colors.

GUIDELINE Identify coatings only when used selectively, for artistic effect.

Include a relatively colorless, unpigmented, glossy coating in the media description only when it has been applied selectively, as a design element. The presence of an overall coating applied to saturate or protect the entire design may be recorded or described in a TECHNICAL NOTES field.

Glazes and Varnishes

GUIDELINE Use “with selectively applied glaze” to describe a colorless, glossy coating used to saturate underlying media.

When an artist has selectively applied a colorless, unpigmented, glossy material to saturate or otherwise alter the appearance of an underlying medium, include the phrase with selectively applied glaze after the medium. Include the specific glaze type (e.g., a natural plant-derived gum used in traditional watercolor painting) before the word *glaze* if it can be confidently identified.

Examples

- Watercolor with selectively applied glaze over traces of graphite on paper (See fig. 102, Glover.)
- Watercolor with selectively applied gum glaze

GUIDELINE Use “varnish” to describe a colorless, glossy coating used as a standalone design medium.

When an artist has selectively applied a colorless, unpigmented, glossy material as a standalone design medium, describe the material using the term varnish. Follow the rules of syntax used for other drawing materials. (See *Drawing-Specific Syntax*, page 25.)

Examples

- Watercolor with graphite, red ballpoint pen, and varnish on paper
- Oil paint, opaque watercolor, and varnish on paper
- Collage of cut papers with red-brown and blue conte crayons and varnish on paper (See fig. 103, Archipenko.)

Fixatives**GUIDELINE**

Use “with selectively applied fixative” to identify the presence of a fixative used only for artistic effect.

Record the use of a fixative in the medium description only if a fixative has been applied selectively and distinctly, either as a design element or to manipulate the appearance of the media (as in the work of Odilon Redon). In such cases, use the phrase with selectively applied fixative after the medium listing.

In all other cases, record information about the presence of a fixative in a TECHNICAL NOTES field. Such notes might include spatter features (suggesting application using an atomizer), visible changes to the surface of the media (e.g., a distinctive surface sheen), local or overall darkening of the fixative or paper upon aging (unintentional alteration), etc.

Examples

- Pastel with selectively applied fixative
- Charcoal with erasing and stumping on paper (The overall application of fixative is recorded in a TECHNICAL NOTE.) See *fig. 104, de Chirico*.



Fig. 104. Charcoal with erasing and stumping on paper. Detail from Giorgio de Chirico, *Victorious Love*, c. 1918–25. PMA 1950-134-37

TECHNICAL NOTE: Unevenly fixed; fixative has darkened somewhat.

V. SELECT DRAWINGS BIBLIOGRAPHY

The Drawings section of this publication relied heavily on a small group of references on artists' drawing and paint materials. A more detailed bibliography is forthcoming.

Ambers, J., C. Higgitt and D. Saunders. 2010. *Italian renaissance drawings: Technical examination and analysis*. London: Archetype.

Boston Museum of Fine Art. CAMEO: Conservation and Art Materials Encyclopedia Online. http://cameo.mfa.org/wiki/Main_Page

Burns, T. 1994. Chalk or pastel? The use of coloured media in early drawings. *The Paper Conservator* 18: 49-56.

Burns, T. 2007. *The invention of pastel painting*. London: Archetype.

Burns, T. 2012. *Luminous trace: Drawing and writing in metalpoint*. London: Archetype.

Cohn, M. 1977. *Wash and gouache: A study of the development of the materials of watercolor*. Cambridge, Mass.: Fogg Art Museum and Foundation of the American Institute for Conservation of Artistic and Historic Works.

Dube, L. 1998. The copying pencil: Composition, history, and conservation implications. *AIC Book and Paper Group Annual* 17:45-52.

Ellis, M. H. 1994. Drawings in fibre-tipped pen: New conservation challenges. In *Modern works, modern problems?* London: The Institute of Paper Conservation. 114–121.

Ellis, M. H. 1998. The history, use, and characteristics of wax-based drawing media. *The Paper Conservator* 22: 48-55.

Gettens, R. J. and G. L. Stout. 1965 (1942). *Painting materials: A short encyclopedia*. New York: Dover.

Getty Research Institute. AAT: Art and Architecture Thesaurus online. www.getty.edu/research/tools/vocabularies/aat/

Goldman, P. 1998. *Looking at prints, drawings and watercolours: A guide to technical terms*. London: British Museum Publications.

Gottsegen, M. 1993. *The painter's handbook*. New York: Watson-Guption.

James, C. 2010. *Visual identification and analysis of Old Master drawing techniques*. Florence: Olschki.

James, C., Corrigan, M. C., Enshaian, and M. R. Greca. 1997. *Old Master prints and drawings: A guide to preservation and conservation*, ed. and trans. by M. B. Cohn. Amsterdam: Amsterdam University Press.

Maheux, A. 1988. *Degas pastels*. Ottawa: National Gallery of Art.

Mayhew, T. D., M. Ellis, and S. Seraphin. 2012. Steatite and calcite natural white chalks in traditional Old Master drawings. *Journal of the American Institute for Conservation* 51(2):175–198.

Mayhew, T. D., M. Ellis, and S. Seraphin. 2014. Natural yellow chalk in traditional Old Master drawings. *Journal of the American Institute for Conservation* 53(1): 1–18.

Mayhew, T. D., S. Hernandez, P. L. Anderson, and S. Seraphin. 2014. Natural red chalk in traditional Old Master drawings. *Journal of the American Institute for Conservation* 53(2):89–115.

Nickell, J. 2000. *Pen, ink, and evidence: A study of writing and writing materials for the penman, collector, and document detective*. New Castle, Dela.: Oak Knoll.

Oxford University Press. Oxford Art Online. www.oxfordartonline.com/subscriber/

Petroski, H. 1992. *The Pencil: A History of Design and Circumstance*. New York: Knopf, 1993.

Seymour, P. 2003. *The artist's handbook*. London: Arcturus Publishing Ltd.

Watrous, J. 1967. *The craft of Old-Master drawings*. Madison, Wisc.: The University of Wisconsin Press.

Wehlte, K. 1975. *The materials of painting*, English ed. New York: Van Nostrand Reinhold.

COLLAGE AND MATERIAL ADDITIONS: IDENTIFICATION AND CHARACTERIZATION OF MATERIALS AND TECHNIQUES

Collage encompasses both the art form consisting of materials or objects attached to a primary support (such as paper, plastic, board, etc.) and the specific technique used to create such artworks. Collage typically refers to compositions that are two dimensional (historically, cut paper) or constructed in very low relief. The term *assemblage* is reserved for more three-dimensional or sculptural compositions, although the distinction can be somewhat subjective. While many collage elements are “found” materials (often with pre-existing imagery), artist-generated materials with artist-conceived imagery may also be incorporated (e.g., an artist may cut up drawings or prints to use in a collage).

For the purposes of this publication, there are four overlapping categories of collage that are determined by the types of materials present and their relative abundance (see chart below). To describe any collage, first identify the materials and their relationship, then determine the predominant collage type and follow the guidelines associated with it, listing the materials in order of visual dominance. Use *and* to link visually important materials and *with* to introduce those with a relatively minor visual role. (See **General Syntax A: General Listing Format**, page 17.) This publication recommends using the term *collage of* only to describe paper-based additions.



Fig. 105. Collage of cut printed and painted papers, paper, and corrugated cardboard, with charcoal and traces of graphite, on painted board. Georges Braque, *Musical Forms*, 1918. PMA 1950-134-28

Collage Categories Chart

COLLAGE TYPE	A. Collage of Paper	B. Drawing, print, or painting with collage of paper and/or material additions	C. Collage of paper and/or material additions with drawn, painted, or printed media	D. Material additions
DESCRIPTION FORMULA	Collage of [description] ¹ [paper type(s)] ² on [support] ³	[Media] ⁴ with/and “collage of [description] ¹ [paper type(s)] ² ” or “[material additions] ⁵ ” on [support] ³	“Collage of [description] ¹ [paper type(s)] ² ” or “[Material additions] ⁵ ” with/and [media] ¹ on [support] ³	[Material additions] ⁵ on [support] ³
EXAMPLE	Collage of cut printed paper on board	Watercolor with collage of cut printed paper on board	Collage of cut printed paper and watercolor on board	Sequins and string on board
KEY TO DESCRIPTION FORMULA	1. [description] = method of shaping paper, e.g., cut, torn, machine-cut, laser-cut, punched 2. [paper type(s)] = paper, colored paper, printed paper, coated paper, embossed paper, flocked paper, sandpaper 3. [support] = paper, board, etc. (See General Syntax C: Including Supports , page 19.) 4. [media] = graphite, paint, ink, etc. (See Drawings , page 39, and Prints , page 85.) 5. [material additions] = any non-paper materials found adhered to the support (e.g., rose, hair, glitter, etc.)			

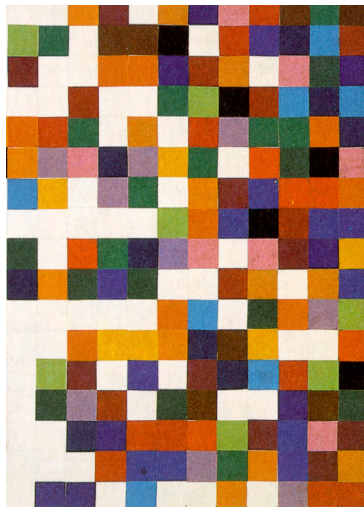


Fig. 106. Collage of cut coated and uncoated colored papers over graphite grid on two joined sheets of paper. Detail from Ellsworth Kelly, *Spectrum Colors Arranged by Chance I*, 1951. PMA 2007-30-3

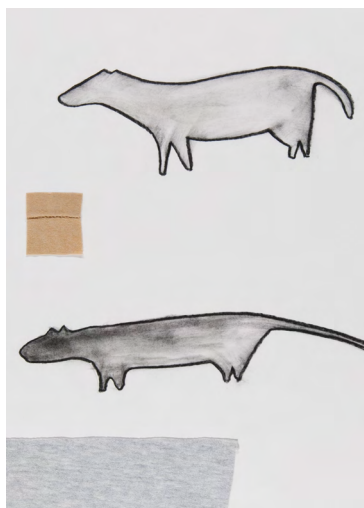


Fig. 107. Compressed charcoal over traces of graphite, with fabric swatches, on paper. Detail from Bill Walton, *Sightings Creek #1*, Undated. PMA 2012-34-15

A. Collage of Paper

Cut or torn paper elements are attached to the primary support.

GUIDELINE Use “collage of” when describing paper additions; list in order of visual dominance.

Begin the description with collage of, followed by the paper additions. Describe the paper additions and whether they were cut or torn, following the format and terminology provided in the chart above. If the collage elements are of a single paper type, or there is only one collage element, use the singular form paper; if multiple paper types are present use the plural form papers.

Form: Collage of [description/method of shaping paper additions]¹ [paper type(s)]² on [support]³ (See [Collage Categories Chart](#), page 79.)

Examples

- Collage of cut printed papers on board
- Collage of torn and cut colored paper on paper (Only one type of colored paper is present.)
- Collage of torn and cut colored papers on board (More than one type of colored paper is present.)
- Collage of cut coated and uncoated colored papers over graphite grid on two joined sheets of paper (See *fig. 106, Kelly*.)

B. Drawing, Painting, or Print with Paper and/or Material Additions

This type of collage includes drawn, painted, or printed media as well as adhered paper and/or other material additions, but the overall visual effect is that of a drawing, painting, or print. The media may be over or under the adhered elements.

GUIDELINE Where applied media outweigh the collage elements, list the media or print processes first.

If the work is predominantly a drawing, print, or painting, first list the medium or the print process, then with or and, then either collage of [description] [paper(s)] or [material addition(s)], then on [support]. Note that the phrase *collage of* is used only to introduce adhered papers, not other material additions.

Form: [Media]⁴ with/and “collage of [description/method of shaping]¹ [paper type(s)]²” and/or “[material additions]⁵” on [support]³ (See [Collage Categories Chart](#), page 79.)

Examples

- Graphite, colored pencil, and collage of cut embossed papers on paper
- Compressed charcoal over traces of graphite, with fabric swatches, on paper (See *fig. 107, Walton*.)

C. Collage of Paper and/or Material Additions with Drawn, Printed, or Painted Media

This type of collage includes adhered paper or other material additions as well as drawn, printed, or painted media, but the overall visual effect is that of a collage. The media may be over or under the adhered elements.

GUIDELINE Where collage elements outweigh the applied media, list the paper and/or material additions first.

If the work is predominantly a collage with paper and/or material additions, begin with either collage of [description/method of shaping] [paper type(s)] or [material addition(s)], then use with or and, then list the [medium] or the [print process], then close with on [support]. Note that the phrase *collage of* is used only to introduce adhered papers, not other material additions.

Form: Collage of [description/method of shaping]¹ [paper type(s)]² and/or “[Material additions]⁵” with/and [media]⁴ on [support]³

Examples

- Collage of cut printed and painted papers, paper, and corrugated cardboard, with charcoal and traces of graphite, on painted board (See fig. 105, Braque.)
- Collage of torn colored paper with brush and black ink and graphite on paper (See fig. 108, Arp.)
- Collage of printed papers with paint, graphite, porous-point pen, and surface abrasion (sanding) on board with prepared ground (See fig. 109, Bearden.)
- Glitter, chicken bones, and flower petals, with brush and black ink and graphite, on paper

GUIDELINE For collages made from cut or torn works of art on paper, include the type of artwork.

For a collage that includes artist-generated materials, such as prints or drawings that have been cut into pieces, or other papers with pre-existing imagery, list the type of artwork (e.g. torn lithograph or torn pen and ink drawing) instead of the generic paper type. Alternatively, the specific type of artwork may follow the paper type in parentheses.

Examples

- Collage of torn color lithograph and screenprint on paper
- Collage of cut printed papers (color lithographs) on paper, with window-shade pull (See fig. 110, Jess.)
- Collage of cut colored paper and torn pen and ink drawing on board

D. Material Additions

Material additions are non-paper materials adhered to the primary support.



Fig. 108. Collage of torn colored paper with brush and black ink and graphite on paper. Detail from Jean (Hans) Arp, *Composition*, 1937. PMA 1947-88-4

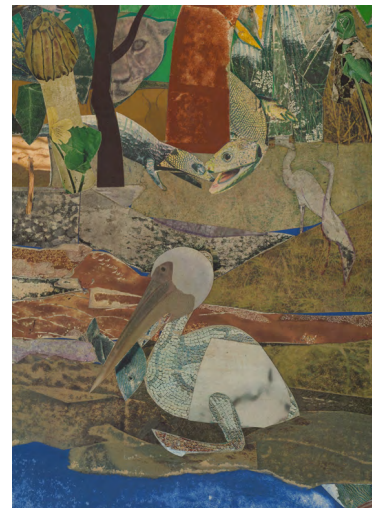


Fig. 109. Collage of printed papers with paint, graphite, porous-point pen, and surface abrasion (sanding) on board with prepared ground. Detail from Romare Bearden, *Blue Snake*, 1971. PMA 2003-226-1



Fig. 110. Collage of cut printed papers (color lithographs) on paper, with window-shade pull. Detail from Jess, *The Sun: Tarot XIX*, 1960. PMA 1984-78-1

GUIDELINE List non-paper elements separated by commas, without the phrase “collage of.”

When an artwork is composed entirely or almost entirely of non-paper materials attached to paper or another support, omit the words *collage of* and simply list the material additions separated by serial commas. Note that due to the virtually infinite variety of materials additions possible, including printed or paper-based objects, some degree of interpretation may be required when making a distinction between “collage elements” and “material additions.”

Form: [Material additions]⁵ on [support]³

Examples

- Glitter, chicken bones, and flower petals on paper
- Postcard (color offset lithograph), thread, sequins, pen and black ink, and silver metallic paint on paper. (See fig. 111, Breton.)

E. Methods of Attachment

Specific observations or estimates of the method of attachment, the extent of attachment, or the adhesives used may be recorded in a TECHNICAL NOTES field.

GUIDELINE When the form of attachment is not visible, do not include it in the media description.

Exclude hidden or invisible forms of attachment from the media description, since the use of the word *collage* implies the local or overall adhesion of paper elements. However, hidden forms of attachment may also include tapes or hinges, etc.

Example

- Collage of cut printed papers on board

GUIDELINE When specific forms of attachment are visible, describe them using the past participle.

Describe specific, visible methods of attachment (stitching, tape, pins, staples, etc.) by inserting the past participle of the verb for attachment (e.g., stitched, taped, pinned, stapled) before the support.

Examples

- Collage of cut printed papers stapled on paper
- Collage of torn and cut colored papers taped on board

GUIDELINE When both visible and invisible forms of attachment are present, use “adhered” to indicate hidden forms of attachment.

When both visible and invisible methods of attachment are present in the same collage, include the word adhered to indicate hidden forms of attachment.

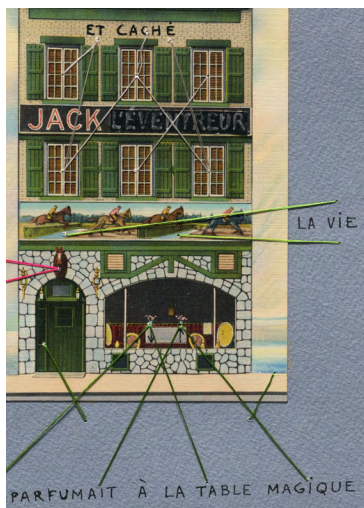


Fig. 111. Postcard (color offset lithograph), thread, sequins, pen and black ink, and silver metallic paint on paper. Detail from André Breton *Jack the Ripper*, 1942. PMA 1950-134-972

Example

- Collage of cut printed papers stapled and adhered on paper

F. Detailed Descriptions of Collage Elements and Fabrication Methods**GUIDELINE Use a TECHNICAL NOTES field to record more extensive observations regarding collage elements.**

Use a TECHNICAL NOTES field to record more extensive media descriptions, especially as they relate to the artwork's manufacture, the artist's intent, the source imagery on found or repurposed materials, and the results of technical study. For example, the "printed papers" from the media description might be further described as newspaper clippings from the *Washington Post* or as relief halftone images from a 1970 issue of *National Geographic* in the TECHNICAL NOTES field. While this information is not essential for a physical description of the material, it may inform research or enhance the understanding of an artwork.

PRINTS: IDENTIFICATION AND CHARACTERIZATION OF MATERIALS AND TECHNIQUES

I. PRINT CATEGORIES

Print classification has traditionally divided prints and print processes into three general categories: relief, intaglio, and planographic; more recently a fourth category, stencil, has been adopted to incorporate screen printing and other stencil techniques. (Stencil prints were historically grouped within the planographic category.) Within each print category, a broad range of techniques and photomechanical processes also exist.

Artists frequently combine multiple print techniques and processes in a single print (see fig. 113, Mangold). This presents special challenges both when identifying print processes and when striving to describe prints accurately and consistently. Also, a given printing matrix, or the material or substrate from which ink is transferred or through which it is passed to produce a print, may be inked and printed in different ways; some of these may be atypical or uncharacteristic for a given process. For example, an etched plate may be surface inked and printed relief, with ink transferring only from the raised surface rather than from the recesses. Similarly, an etched plate may be printed simultaneously relief and intaglio (with ink transferring from both the interstices and the surface of the plate). Finally, artists can employ unique (non-repeatable) inking techniques, further complicating accurate characterization. One such technique can be described as “monotype” inking, in which ink is selectively applied (typically using a brush, fingers, or other implement) and further manipulated on the surface of the print matrix prior to printing.

The introduction of new printmaking technologies and materials (such as hydraulic presses and light-sensitive polymer films and plates) has greatly expanded the range of technical and creative possibilities available to artists. These new techniques have also created a new visual vocabulary that must be interpreted and described. While rapid changes in technology make comprehensive coverage impossible, this publication incorporates both recent printmaking materials and technologies and “hybrid” techniques, which make use of computer-driven tools such as lasers or routers to carve or cut a print matrix or to draw through an etching ground. These computer-driven devices are referred to in contemporary printmaking as *computer numeric control* or CNC, and are being utilized by artists with increasingly frequency.

Another area of printmaking that has emerged in recent decades is digital printing. Due to the difficulty of identifying specific technologies and their variations, as well as the wide and ever-changing array of commercial products (which often generate proprietary terms),



Fig. 112. Engraving. Israhel van Meckenem, *Self-Portrait with His Wife, Ida*, c. 1490. PMA 2002-59-1



Fig. 113. Color woodcut and soft ground etching. Detail from Robert Mangold, *Green Column/Figure*, 2003. PMA 2004-61-1

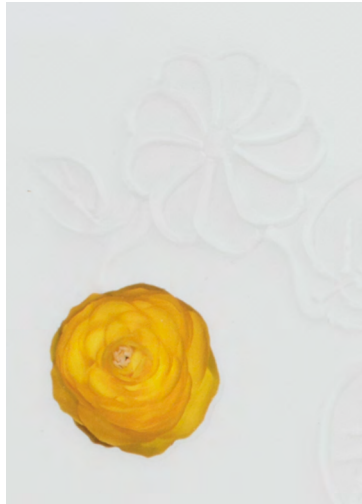


Fig. 114. Color inkjet and blind embossed print. Detail from Virgil Marti, *Untitled*, 2008. PMA 2011-62-1

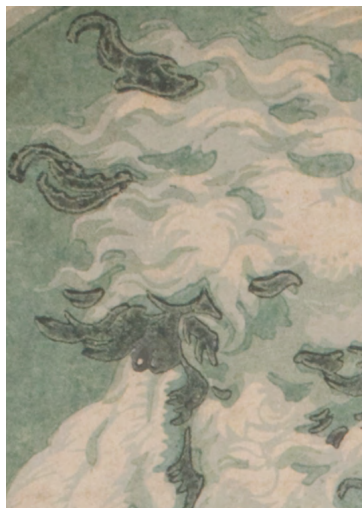


Fig. 115. Chiaroscuro woodcut printed in four green inks from four blocks. Detail from Ugo da Carpi, *Diogenes*, 1527-30. PMA 1985-52-320

this publication only provides essential terminology for describing digital prints. (Martin Jürgens covers the subject comprehensively in his indispensable 2009 resource *The Digital Print: Identification and Preservation*). However, the vast majority of digital prints fall into four general categories: impact (dot matrix), inkjet (thermal or piezoelectric; see fig. 38, Marti), electrostatic (electrographic or electrophotographic), and thermographic (direct thermal transfer or dye diffusion). These general category terms (or more specific ones, when known) can be used to describe digital prints following the rules laid out in [Print-Specific Syntax](#) (page 29).

A. Relief Prints and Processes

A [relief print](#) is any print in which the image is created from ink that has been transferred under pressure from the raised surfaces of a matrix (typically a block or plate) to a support. The nonprinting elements of the design (or recessed areas) may be removed from the matrix by carving or etching, or the printing elements of the design may be built up by casting, forming, or attaching materials to a substrate. In a relief-printing matrix, the nonprinting areas remain below the inked surface, which stands out in “relief.” A simple example is a rubber stamp.

Relief prints are often visually identified by the characteristic “ink squash” that results when ink is forced to the edges of design elements during printing. This appears as a darker outline or accumulation of ink with a lighter central area; the excess ink along the edges may form a slight ridge (prominently visible in fig. 115, da Carpi). Inked areas of the image may appear flush with the surface of the support or slightly impressed into it when viewed with raking light; corresponding areas on the verso may appear raised. The depth of the impression depends on the amount of pressure applied during printing, the method of printing (e.g., by hand or with a press), and the paper type (e.g., hard or soft, thin or thick).

Types of Relief Prints

Common types of relief printing include woodcut, wood engraving, linocut, and metal relief printing. Other types of relief printing include un-inked, blind embossing, and collagraphic techniques. To make a collagraph, a three-dimensional printing matrix is created by applying various materials to a substrate, which is then inked and printed. Further information about relief printing methods can be found in the [Hierarchy Chart for Relief Prints](#) (page 94), [Terms for Relief Prints](#) (page 109), and [Print Glossary A: Relief](#) (page 117).

GUIDELINE Identify the specific relief printing technique when it can be determined.

Include the specific relief technique (e.g., woodcut, linocut, photomechanical metal relief print) when it is known or can be

identified. Consult the [Hierarchy Chart for Relief Prints](#) (page 94) and [Terms for Relief Prints](#) (page 109) for guidance. See [Print-Specific Syntax](#) (page 29) for rules guiding listing order and format.

Example

- Woodcut with watercolor (hand coloring) See *fig. 116*, *Baldung Grün*.

GUIDELINE Use “relief print” if the specific relief printing technique cannot be determined.

Use the general term [relief print](#) when it is not clear which kind of relief printing technique or matrix has been used.

B. Intaglio Prints and Processes

An [intaglio print](#) is any print in which the image is created from ink that has been transferred under pressure from the recessed areas of a plate to a support. In intaglio printing, significant pressure is required to force the paper into the grooves or etched recesses of the plate, necessitating the use of a rolling printing press (commonly referred to as an etching press). The paper is often dampened before printing to improve its ability to conform to the grooves of the inked printing plate.

Types of Intaglio Prints

The tools and techniques used to create the design on the intaglio plate result in process-specific characteristics of the printed line or surface. When printing from metal plates, there are two general methods of creating a design: direct incising and chemical etching. (Direct incising can also be carried out on other materials for intaglio printing, such as Plexiglas.) The purely mechanical methods used for direct incision or texturing of the plate include engraving, drypoint, and traditional mezzotint. Other tools (roulette, mattoire, scorper, etc.) can also be used to incise or texture the plate. Chemical etching involves “biting” the plate with acids (typically nitric acid) or metal salts (e.g., ferric chloride). Chemical etching methods include a wide range of line and tonal techniques.

[Tonal etching](#) techniques include aquatint and other, less common techniques that generally fall into three categories: chemical penetration of a ground (e.g., salt/sugar grain etching), mechanical penetration of a ground (e.g., sand grain or sandpaper grain etching), and direct application of an etchant (e.g., acids, metal salts, or sulfur, in powdered form or mixed into a paste [“sulfur tint”]) to the plate without the use of a ground. The general terms *tonal etching* or *etched tone* may be used to describe tonal areas evident in an intaglio print created by chemical means beyond the primary technique(s).

For further information on intaglio printing techniques, see the [Hierarchy Chart for Intaglio Prints](#) (page 98), [Terms for Intaglio Prints](#) (page 110), and [Print Glossary B: Intaglio](#) (page 123).



Fig. 116. Woodcut with watercolor (hand coloring). Detail from Hans Baldung Grün, *Removal of the Pia Mater*, 1541. PMA 1982-40-1j

TECHNICAL NOTE: The hand coloring is thought to be contemporary with the print.



Fig. 117. Color mezzotint with engraving. Detail from Jacques-Fabien Gautier-Dagoty, *Interior Muscles of the Face and Neck*, 1745. PMA 1968-25-79b



Fig. 118. Sandpaper grain etching with flat bite, printed in blue-black ink. Detail from Robin Miller, *Bottle Rockets*, 1989. PMA 1991-16-1

GUIDELINE Identify the specific intaglio printing technique(s) when they can be determined.

Include the specific intaglio technique(s) (e.g., etching, engraving, aquatint) when they are known or can be identified. Consult the [Hierarchy Chart for Intaglio Prints](#) (page 98) and [Terms for Intaglio Prints](#) (page 110) for guidance. See [Print-Specific Syntax](#) (page 29) for rules guiding listing order and format.

Example

- Engraving (See fig. 112, van Meckenem.)
- Color mezzotint with engraving (See fig. 117, Gautier-Dagoty.)
- Sandpaper grain etching with flat bite, printed in blue-black ink (See fig. 118, Miller.)

GUIDELINE Use “intaglio print” if the specific intaglio printing technique(s) cannot be determined.

Use the general term intaglio print when it is not clear which printing technique(s) or matrix has been used.

C. Planographic Prints and Processes

A planographic print is any print in which the image is created from ink that has been transferred under pressure from a flat matrix in which the image and non-image areas are in the same plane. Lithography is the predominant technique within this category, but it also includes collotype (see [Print Glossary: Photomechanical Planographic](#), page 134) and monotype.

Types of Planographic Prints

Lithography is based on the antipathy between grease and water. Lithography typically involves creating a design with greasy or oily drawing materials (crayons) or ink (tusche) on a prepared semi-porous limestone or specially grained metal plate. This printing matrix is then treated to render the design areas receptive to an oily ink (oleophilic) while the non-design areas of the stone remain receptive to water (hydrophilic), and thus resist the ink during printing. The lithographic plate or stone is then wetted and inked using a roller, and impressions are printed on a flat-bed lithographic press. The term lithography translates as “drawing on stone.”

Because the chemical processing of the image matrix does not significantly alter its surface topography, the ink and the paper of the final print lie in the same plane. However, since a great deal of pressure is required for lithography, the edges of the stone may be impressed into the paper, or the scraper bar may compress the paper during printing. As lithography is a direct translation of a design that may be created using different media, implements, and techniques, the printed images have wide variability, and may resemble pen lines, crayon drawings, or brush or wash drawings. Lithographic methods include manual and solvent transfer techniques from drawn or printed sources, as well as photomechanical techniques.

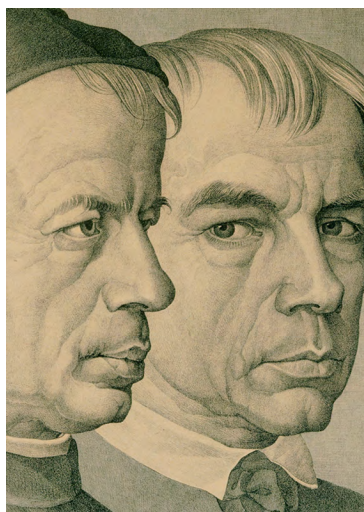


Fig. 119. Lithograph, printed in black and brown inks from two stones. Detail from Johann Anton Ramboux, *The Brothers Eberhard*, 1822. PMA 2000-119-1

A monotype is a unique print created by applying ink or paint to a flat matrix and then transferring the image to a support either by rubbing or by passing it through a printing press. One feature of monotypes is that residual paint or ink often remains on the matrix after the first printing, allowing a faint second impression (called a *ghost impression*) to be pulled. The term *monotype* derives from the fact that each print is unique.

For further information on planographic printing techniques, see the [Hierarchy Chart for Planographic Prints](#) (page 103), [Terms for Planographic Prints](#) (page 113), and [Print Glossary C: Planographic](#) (page 131).

GUIDELINE Identify the specific planographic printing technique when it can be determined.

Include the specific planographic technique (e.g., lithograph, off-set lithograph, monotype) when it is known or can be identified. Consult the [Hierarchy Chart for Planographic Prints](#) (page 103) and [Terms for Planographic Prints](#) (page 113) for guidance. See [Print-Specific Syntax](#) (page 29) for rules guiding listing order and format.

Example

- Lithograph, printed in black and brown inks from two stones (See fig. 119, *Ramboux*.)
- Color lithograph, printed in fourteen colors (See fig. 120, *Johns*.)

GUIDELINE Use “planographic print” if the specific planographic printing technique cannot be determined.

Use the general term planographic print when it is not clear which printing technique or matrix has been used.

D. Stencil Prints and Processes

In stencil printing, ink or paint is forced through openings or voids in a sheet of material to create a print. Ink or paint may be brushed, rubbed, rolled, or sprayed through the stencil to create a positive image. A negative stencil design can also be made by placing an object against a surface and depositing color around it.

Types of Stencil Prints

In Europe, stencils were used extensively to hand-color monochromatic prints made by other processes beginning in the 16th century and continuing through the 19th century. Stencil prints also exist in various forms in their own right. The French term *pochoir* is sometimes used as a loose term for any stencil printing, although it more accurately reflects a specific 20th-century Parisian technique in which inks were brush-applied through a series of intricate stencils to produce colorful print editions.

The most common form of stencil printing is screen printing. In screen printing, ink is forced with a squeegee through a framed fine mesh screen containing a design. The process is capable of producing

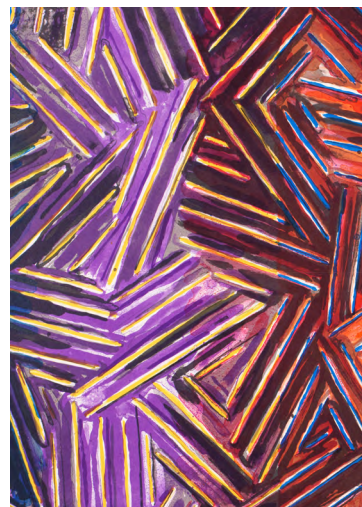


Fig. 120. Color lithograph, printed in fourteen colors. Detail from Jasper Johns, *Between the Clock and the Bed*, 1989. PMA 1989-3-3



Fig. 121. Color screenprint and photo-offset lithograph. Detail from Dieter Roth, *Untitled*, from the Series *Six Piccadillies*, 1970. PMA 2012-57-1(4a,b)

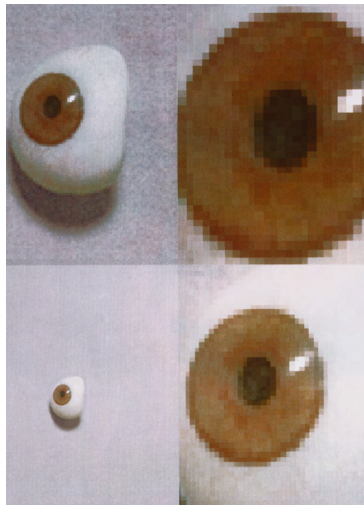


Fig. 122. Color photoscreenprint. Detail from Grenville Davey, *Untitled*, 1993. PMA 1994-61-1

heavy, opaque layers of color that are difficult or impossible to achieve with other print processes (see fig. 121, Roth). During the earliest period of screen printing, which developed in the first decade of the 20th century, the finely woven fabric screens were made from silk; today most screens are made from synthetic fibers such as nylon or polyester. Artists can use several different techniques to create the image on the screen:

Resist and wash-out involves drawing on the screen with a soluble material, applying an insoluble resist, and then washing away the original drawing material to create openings for ink to pass through.

Block-out, the most basic technique, involves selectively covering or “blocking out” parts of the screen with a resist such as glue or lacquer.

Cut stencil involves placing a design cut from paper or plastic film directly against the screen.

Photoresist involves coating the screen with a light-sensitive resist, exposing it to a light source through a film negative, positive, or manually generated transparency to selectively harden the resist, and then washing away the unhardened resist material.

For further information on stencil printing techniques, see the [Hierarchy Chart for Stencil Prints](#) (page 107), [Terms for Stencil Prints](#) (page 114), and [Print Glossary D: Stencil](#) (page 135).

GUIDELINE Identify the specific stencil printing technique when it can be determined.

Include the specific stencil technique (e.g., stencil print, screenprint, photoscreenprint) when it is known or can be identified. Consult the [Hierarchy Chart for Stencil Prints](#) (page 107) and [Terms for Stencil Prints](#) (page 114) for guidance. See [Print-Specific Syntax](#) (page 29) for rules guiding listing order and format.

Examples

- Color screenprint and photo-offset lithograph (See [fig. 121, Roth](#).)
- Color photoscreenprint (See [fig. 122, Davey](#).)

GUIDELINE Use “stencil print” if the specific stencil printing technique cannot be determined.

Use the general term stencil print when it is not clear which printing technique or matrix has been used.

E. Photomechanical Prints and Processes

A photomechanical print is any print made by a process employing a light-sensitive material or a photographic technique for transferring a source image to the printing matrix. All photomechanical processes are based on a specific principle of photographic chemistry: certain

substances harden when exposed to light. This allows a source image to be translated to the printing matrix by selectively hardening a material on its surface, creating specific ink-receiving and non-receiving areas.

Depending on the process, photomechanical techniques may or may not incorporate a halftone screen during image or plate preparation. When a halftone screen is incorporated into the process, a continuous-tone image is broken down into small discrete cells of solid tone on the printing matrix by exposing or photographing the image through either a contact screen or a ruled-line screen. This allows the final print to approximate the appearance of a continuous-tone image.

Photomechanical processes have often been overlooked or denigrated because they were frequently used to reproduce existing artworks rather than to create new ones. However, since the 19th century artists have exploited and invented myriad photomechanical methods to produce original works.

Types of Photomechanical Prints

Common types of photomechanical printing include photolithography, photogravure, photoetching, photomechanical metal relief printing, and photopolymer intaglio and relief printing. When photomechanical processes have been used, the prefix “photo” usually precedes the descriptions of both the printing method and the resulting print.

For further information on photomechanical printing techniques, see the [Print Hierarchy Charts](#) (page 93) and the [Print Glossary](#) (page 117).

GUIDELINE Identify the specific photomechanical printing technique when it can be determined.

Describe a print made using a photomechanical process with the appropriate term using the format photo[process] (e.g., photolithograph, photoetching, photogravure, photoscreenprint). Exceptions include some specific processes such as the collotype. Consult the [Print Hierarchy Charts](#) (page 93) and [Lists of Print Terms](#) (page 109) for guidance.

Examples

- Color photoscreenprint (See fig. 122, Davey.)
- Photopolymer intaglio print (See fig. 123, Burge.)
- Color etching and photogravure, inked *à la poupée* in blue, black, and red-brown inks (See fig. 124, Janschka.)

GUIDELINE Use “photomechanical print” when the specific process is not known or cannot be determined.

Describe a print made using an unknown or unidentified photomechanical process using the term photomechanical print. When the general print process is identifiable, but the specific technique is not known, include the word photomechanical before the general print category term (e.g., photomechanical *relief* print).



Fig. 123. Photopolymer intaglio print. Victoria Burge, *New Orleans*, 2010. PMA 2011-175-1



Fig. 124. Color etching and photogravure, inked *à la poupée* in blue, black, and red-brown inks. Detail from Fritz Janschka, *Portrait of Stendhal (1783-1842)*, 1985. PMA 2004-55-12



Fig. 125. Color spit bite aquatint and soft ground and hard ground etching with flat bite, printed *chine collé*. Detail from Kiki Smith, *Still*, 2006. PMA 2006-151-1

F. Variations in Technique and Associated Print Techniques

This publication attempts to differentiate between *variations in technique* (brushing or spraying tusche in lithography, for example) and *associated techniques*. Associated techniques are distinct techniques (as opposed to variations of a single one), and are encountered most frequently with intaglio techniques; they exist only in conjunction with more general processes (e.g., *hard ground* or *soft ground* etching, *spit bite* or *lift ground* aquatint). In these examples, the italicized terms are the associated techniques. (See fig. 125, Smith.)

II. PRINT HIERARCHY CHARTS

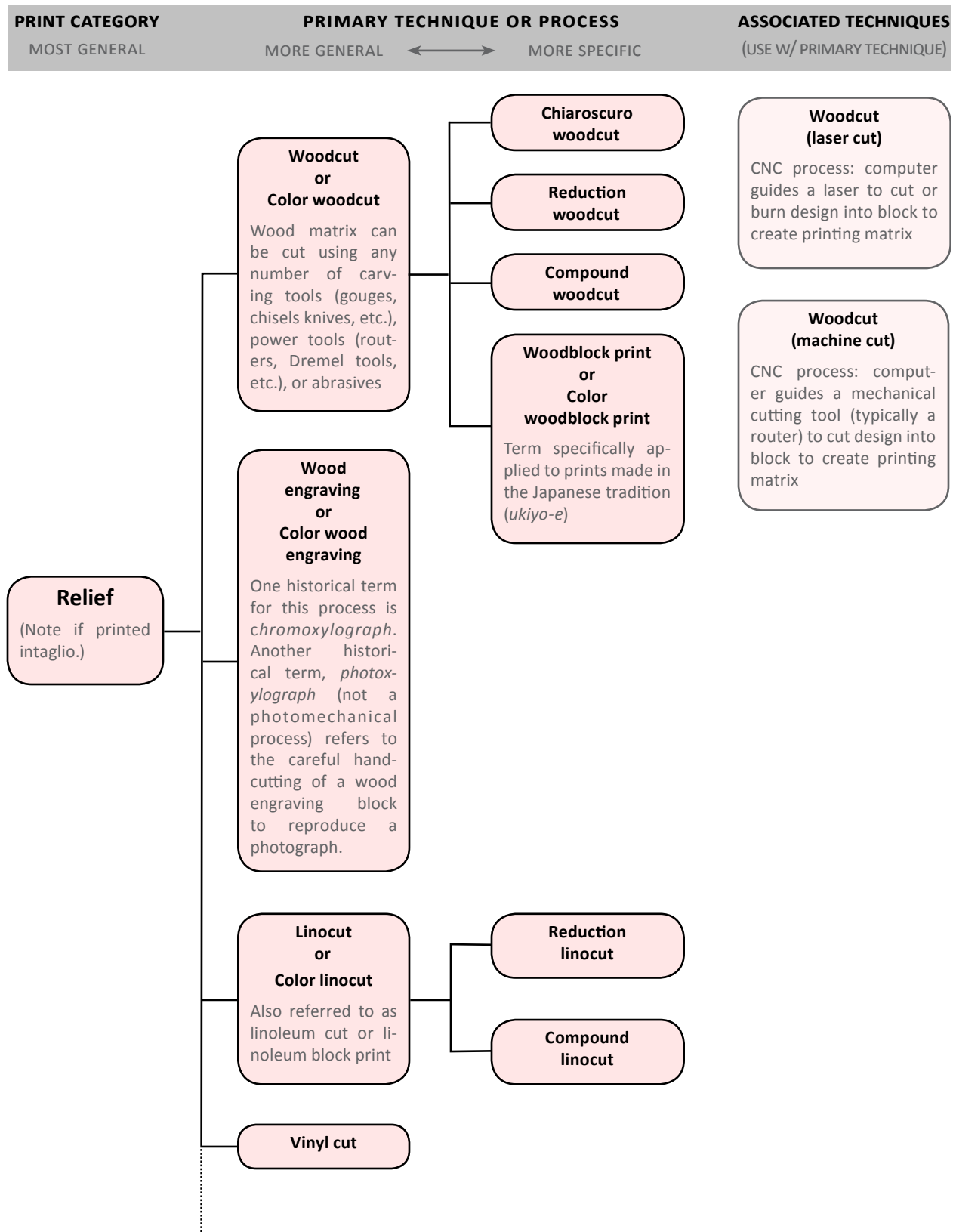
To choose appropriate terms to describe prints, consult the Print Hierarchy Charts, the [Lists of Print Terms](#) (page 109), and the [Print Glossary](#) (page 117). Each of these resources is divided into the four general print categories described above.

The Print Hierarchy Charts list the terms for printmaking processes from general to more specific, and are intended to guide the user in selecting the most specific and accurate term possible given the circumstances. A description based on direct visual examination will likely be more specific than one based on a pre-existing description. The level of specificity may also vary according to the level of expertise of the individual examining the artwork and writing the description (e.g., conservator vs. cataloger vs. college intern). For example, if a print technique or process cannot be definitively identified, a more general term may be used instead (e.g., *relief print* may be used if it is unclear whether the print is a *linocut* or a *woodcut*). This is similar to the broadest “facet” concept within the Getty Research Institute’s Art and Architecture Thesaurus (AAT).

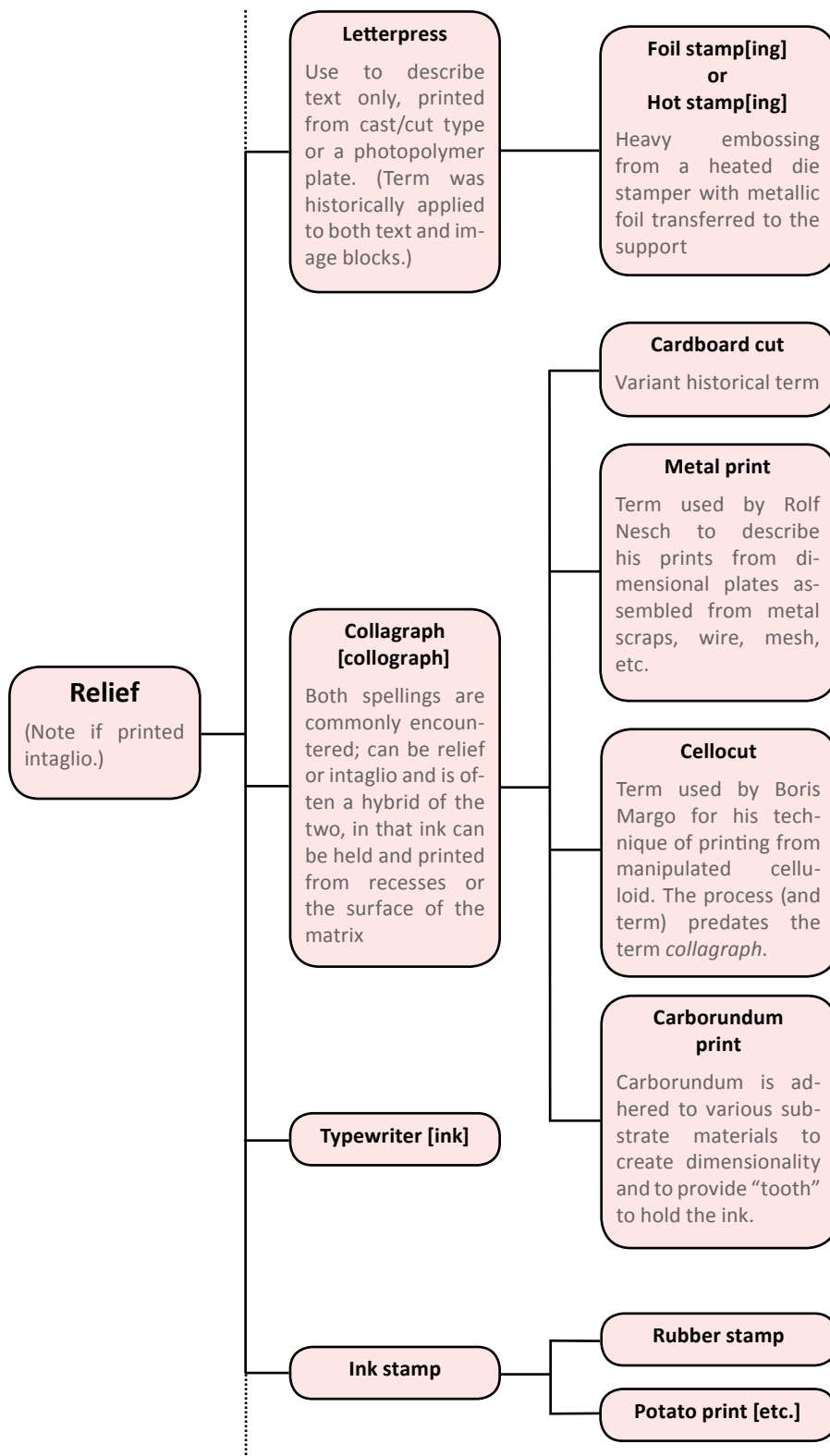
The Lists of Print Terms are comprehensive lists of suggested terms for use. They include general and specific terms related to printmaking processes and techniques, and group synonymous terms to assist the user in recognizing terms encountered in auction catalogs, descriptions from artists and dealers, and institutional collections catalogs or databases. General guidelines are provided for the use of historical terms, some of which are considered obsolete and are not recommended for use. (For example, use *lithotint* only when describing a 19th-century lithograph intended to recreate the appearance of a watercolor or wash drawing.) The terms are listed alphabetically within each print category.

The Print Glossary is intended to supplement the Print Hierarchy Charts and Lists of Print Terms. Glossary terms include detailed definitions, synonymous or related terms, and dates marking significant inventions or periods of use for individual techniques or materials.

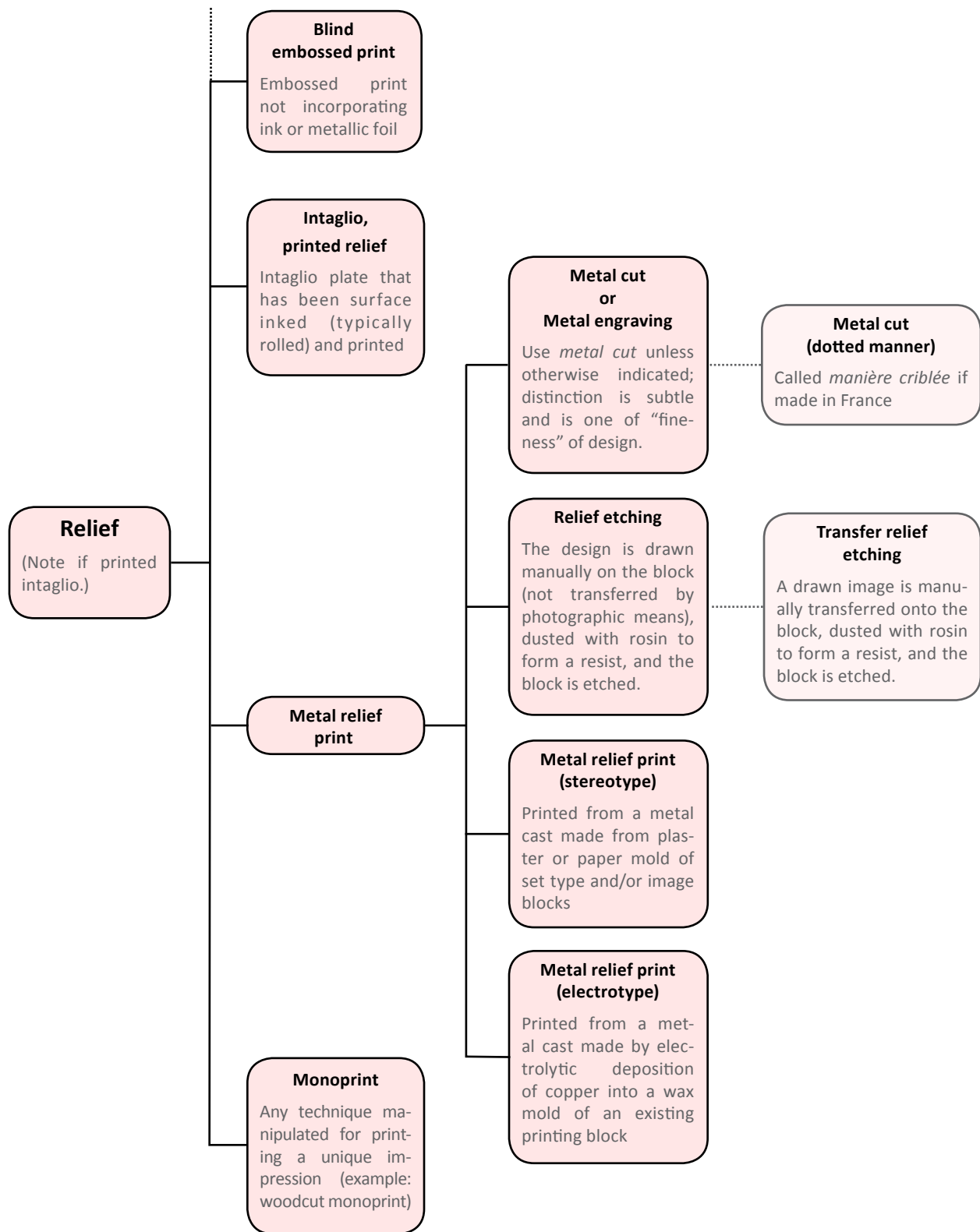
A. Hierarchy Chart for Relief Prints



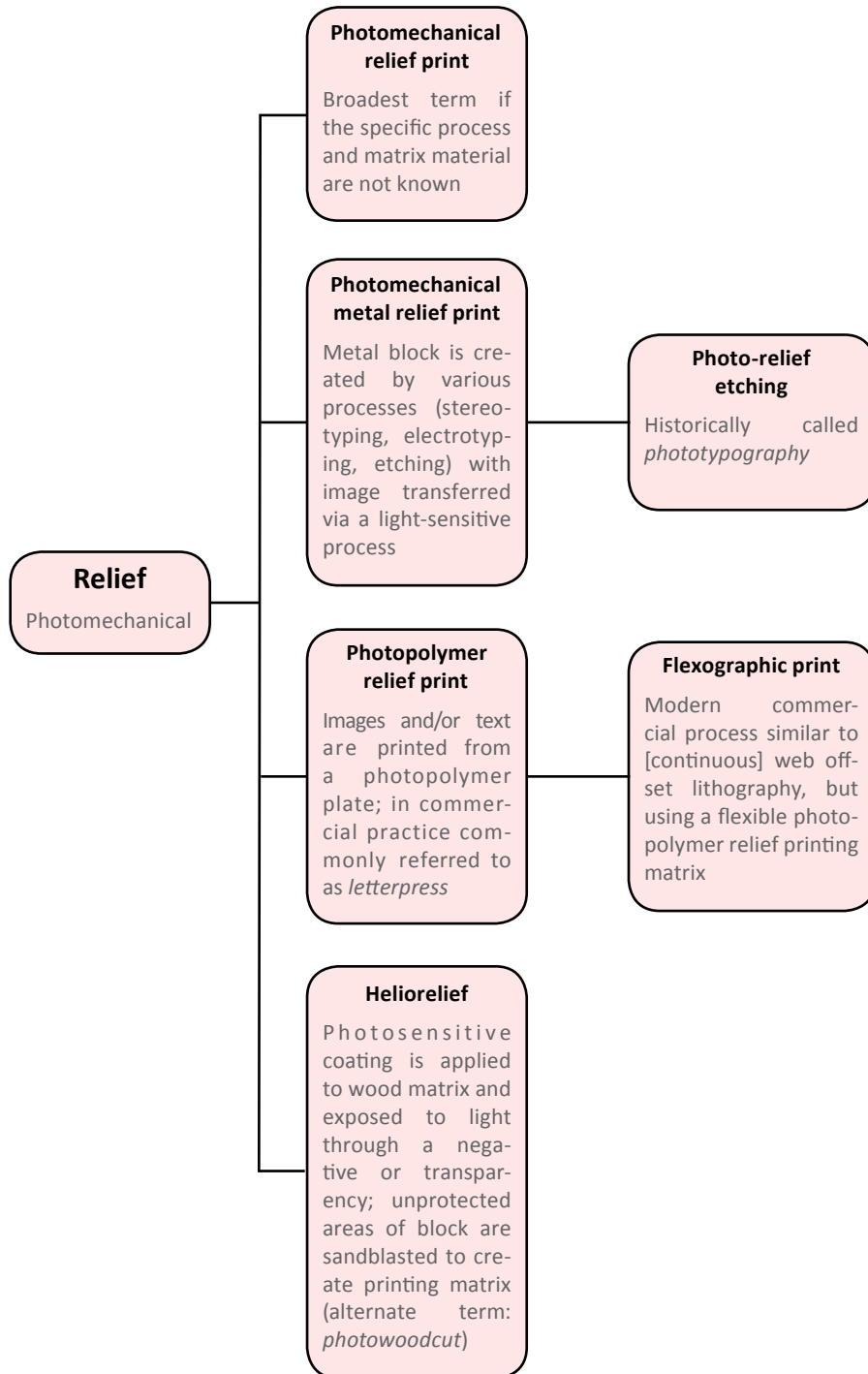
PRINT CATEGORY	PRIMARY TECHNIQUE OR PROCESS		ASSOCIATED TECHNIQUES
MOST GENERAL	MORE GENERAL	↔ MORE SPECIFIC	(USE W/ PRIMARY TECHNIQUE)



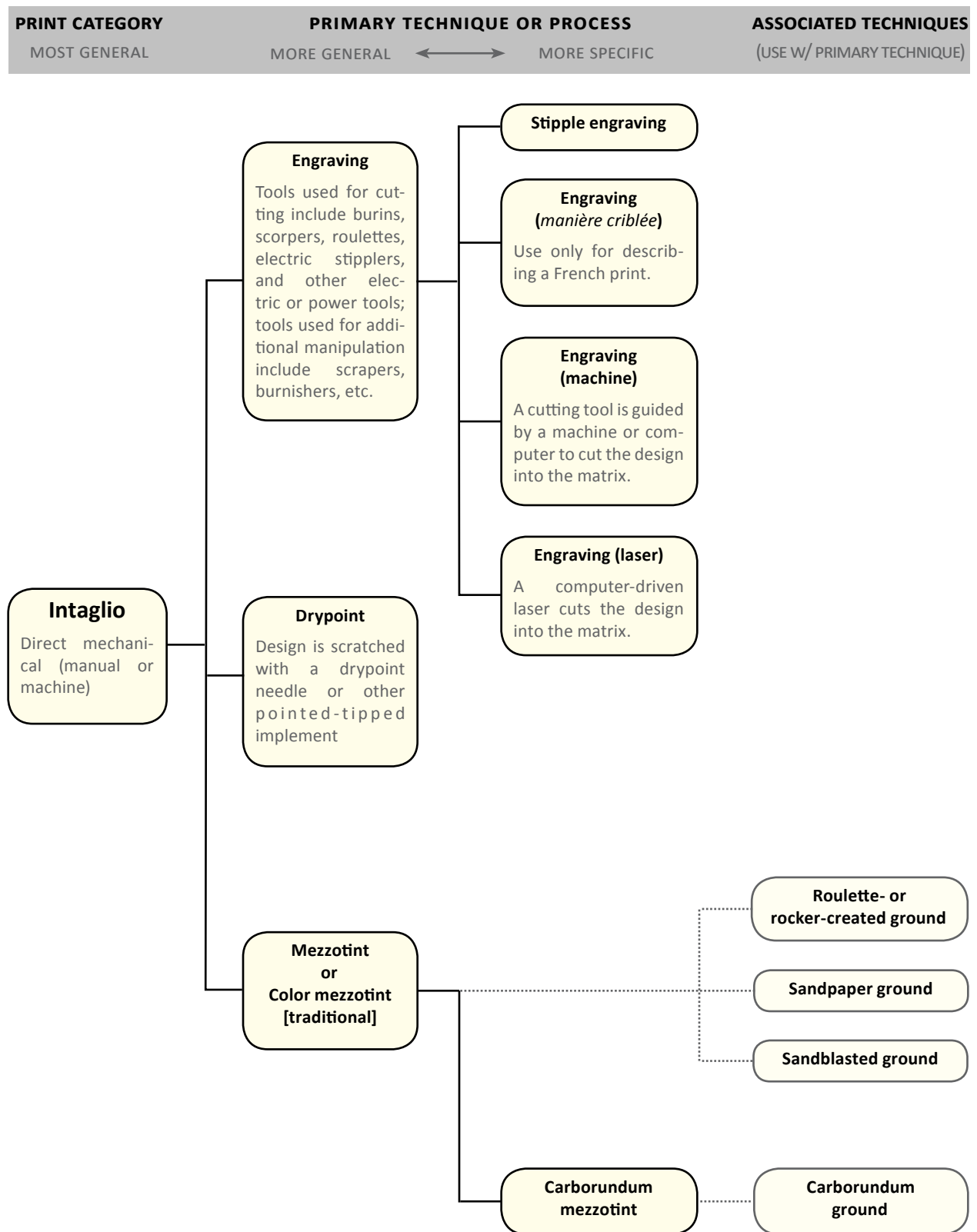
PRINT CATEGORY	PRIMARY TECHNIQUE OR PROCESS		ASSOCIATED TECHNIQUES
MOST GENERAL	MORE GENERAL	← → MORE SPECIFIC	(USE W/ PRIMARY TECHNIQUE)



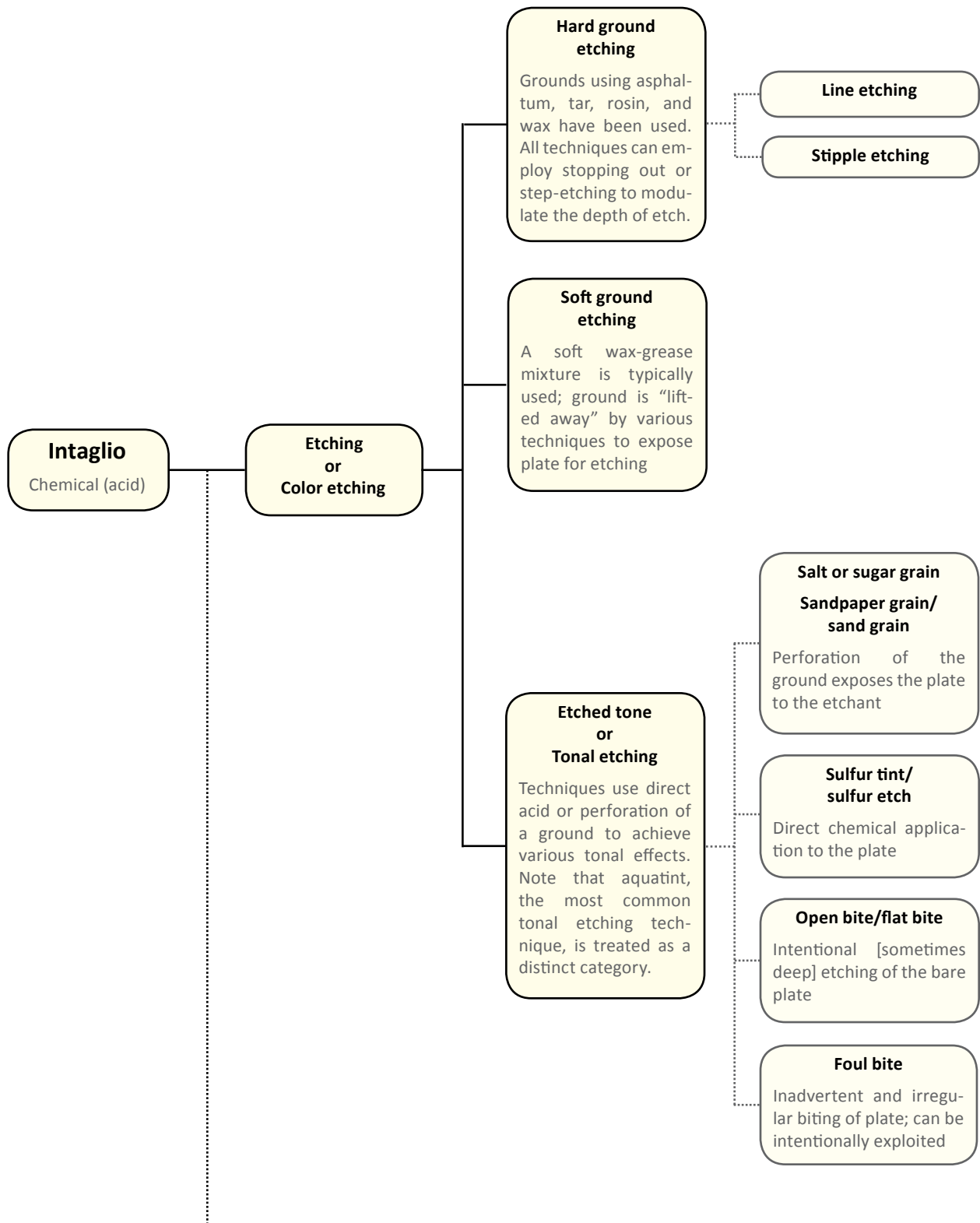
PRINT CATEGORY	PRIMARY TECHNIQUE OR PROCESS		ASSOCIATED TECHNIQUES
MOST GENERAL	MORE GENERAL	← → MORE SPECIFIC	(USE W/ PRIMARY TECHNIQUE)



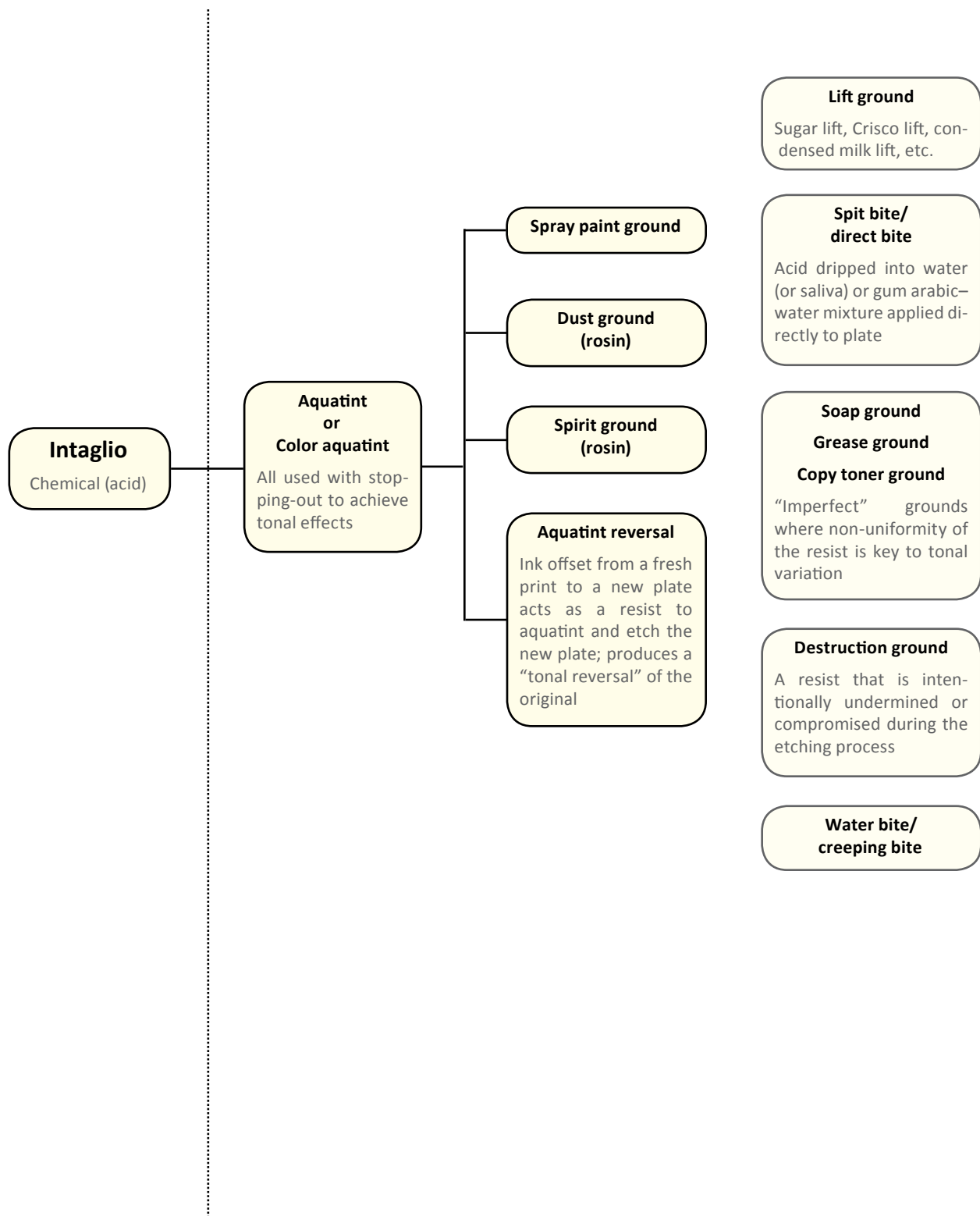
B. Hierarchy Chart for Intaglio Prints



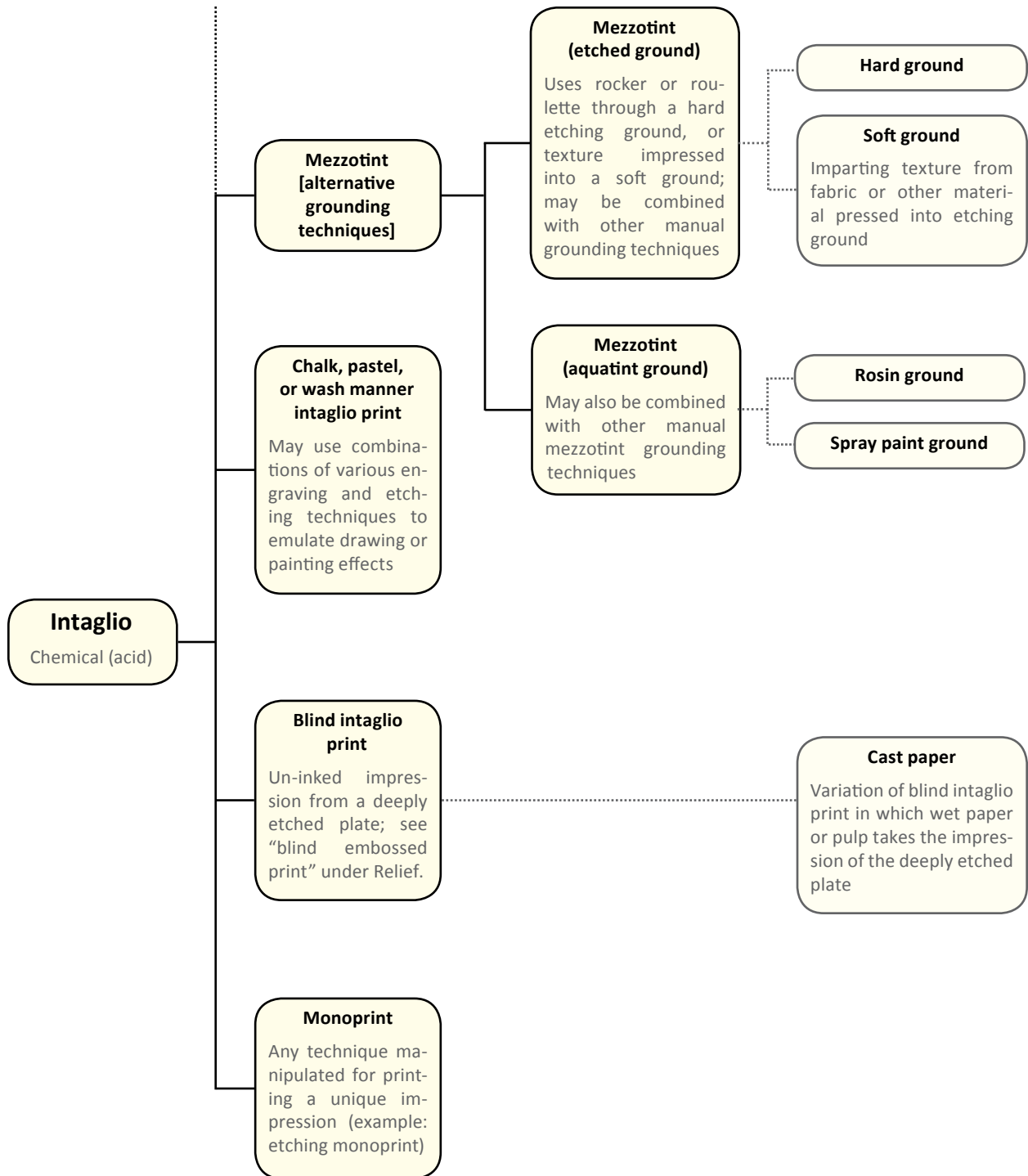
PRINT CATEGORY	PRIMARY TECHNIQUE OR PROCESS		ASSOCIATED TECHNIQUES
MOST GENERAL	MORE GENERAL	MORE SPECIFIC	(USE W/ PRIMARY TECHNIQUE)



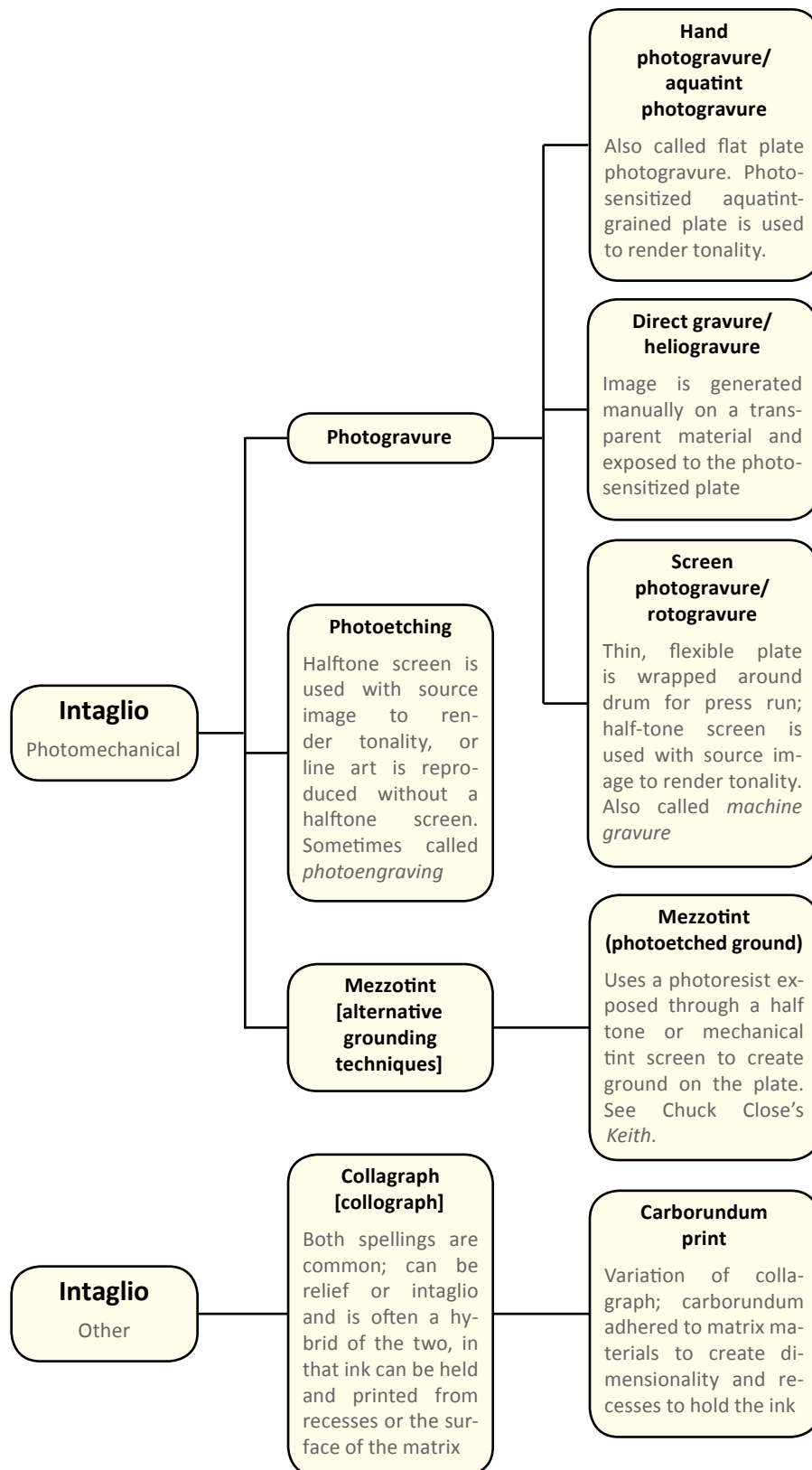
PRINT CATEGORY	PRIMARY TECHNIQUE OR PROCESS		ASSOCIATED TECHNIQUES
MOST GENERAL	MORE GENERAL	↔ MORE SPECIFIC	(USE W/ PRIMARY TECHNIQUE)



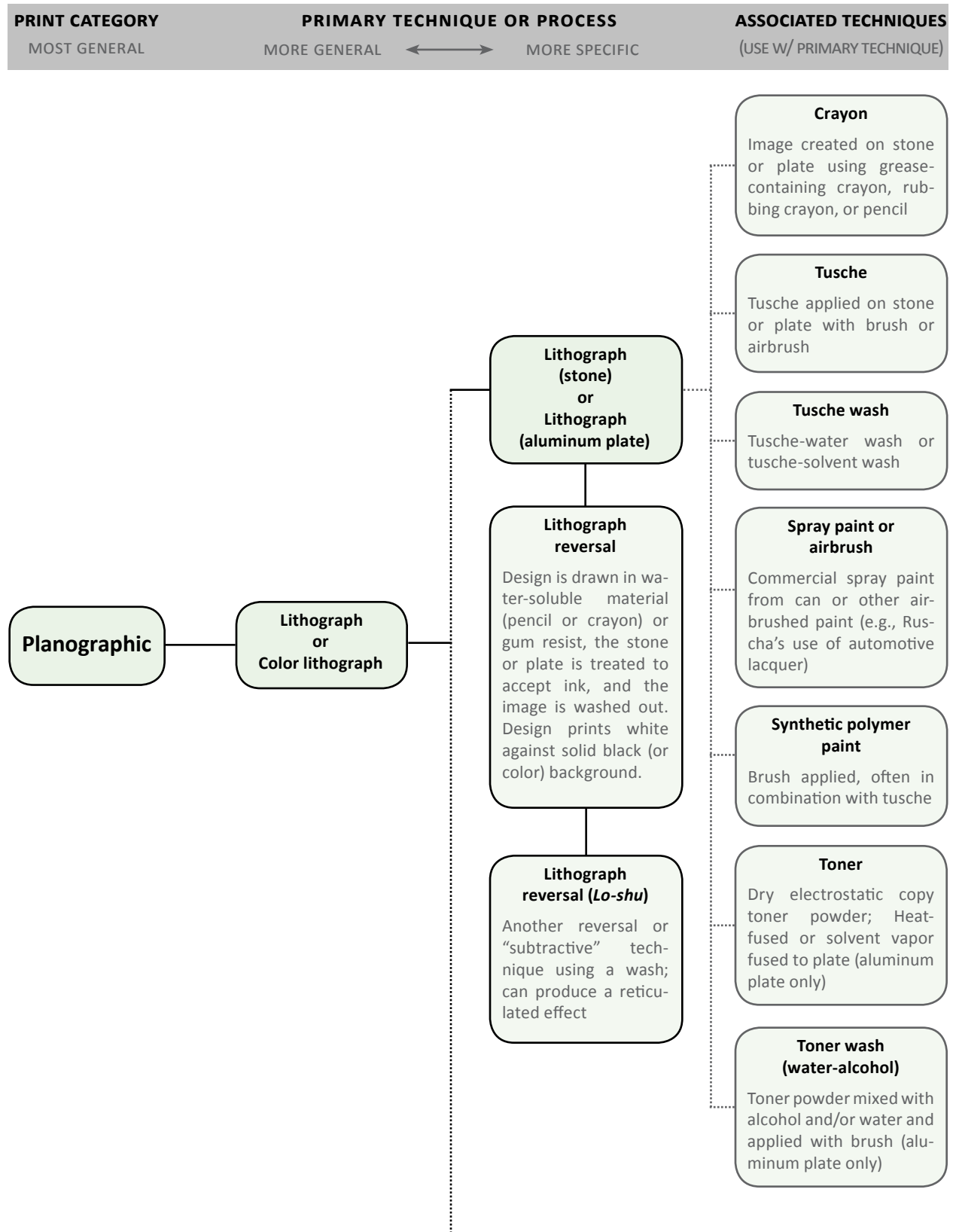
PRINT CATEGORY	PRIMARY TECHNIQUE OR PROCESS		ASSOCIATED TECHNIQUES
MOST GENERAL	MORE GENERAL	↔ MORE SPECIFIC	(USE W/ PRIMARY TECHNIQUE)

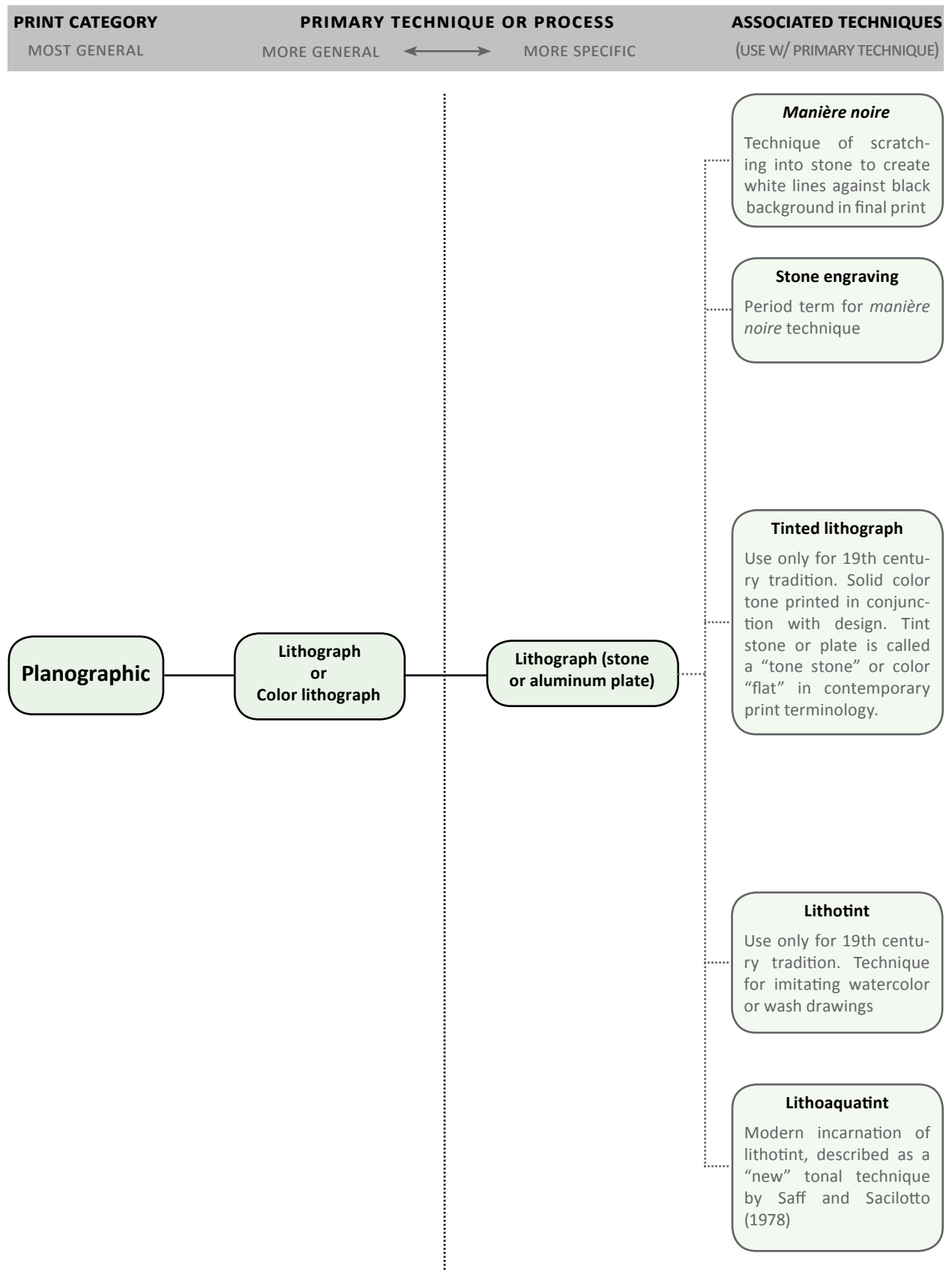


PRINT CATEGORY	PRIMARY TECHNIQUE OR PROCESS		ASSOCIATED TECHNIQUES
MOST GENERAL	MORE GENERAL	← → MORE SPECIFIC	(USE W/ PRIMARY TECHNIQUE)

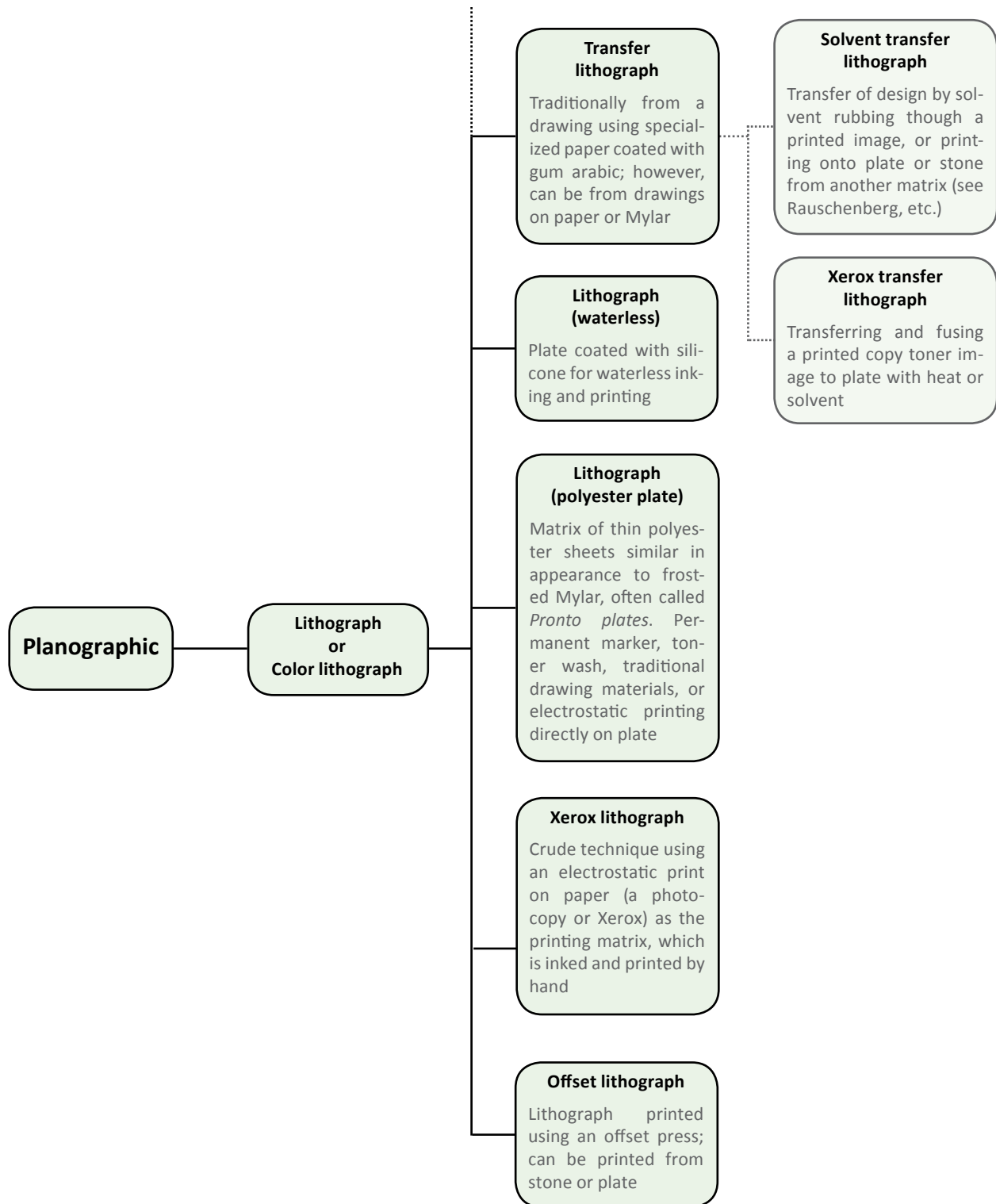


C. Hierarchy Chart for Planographic Prints

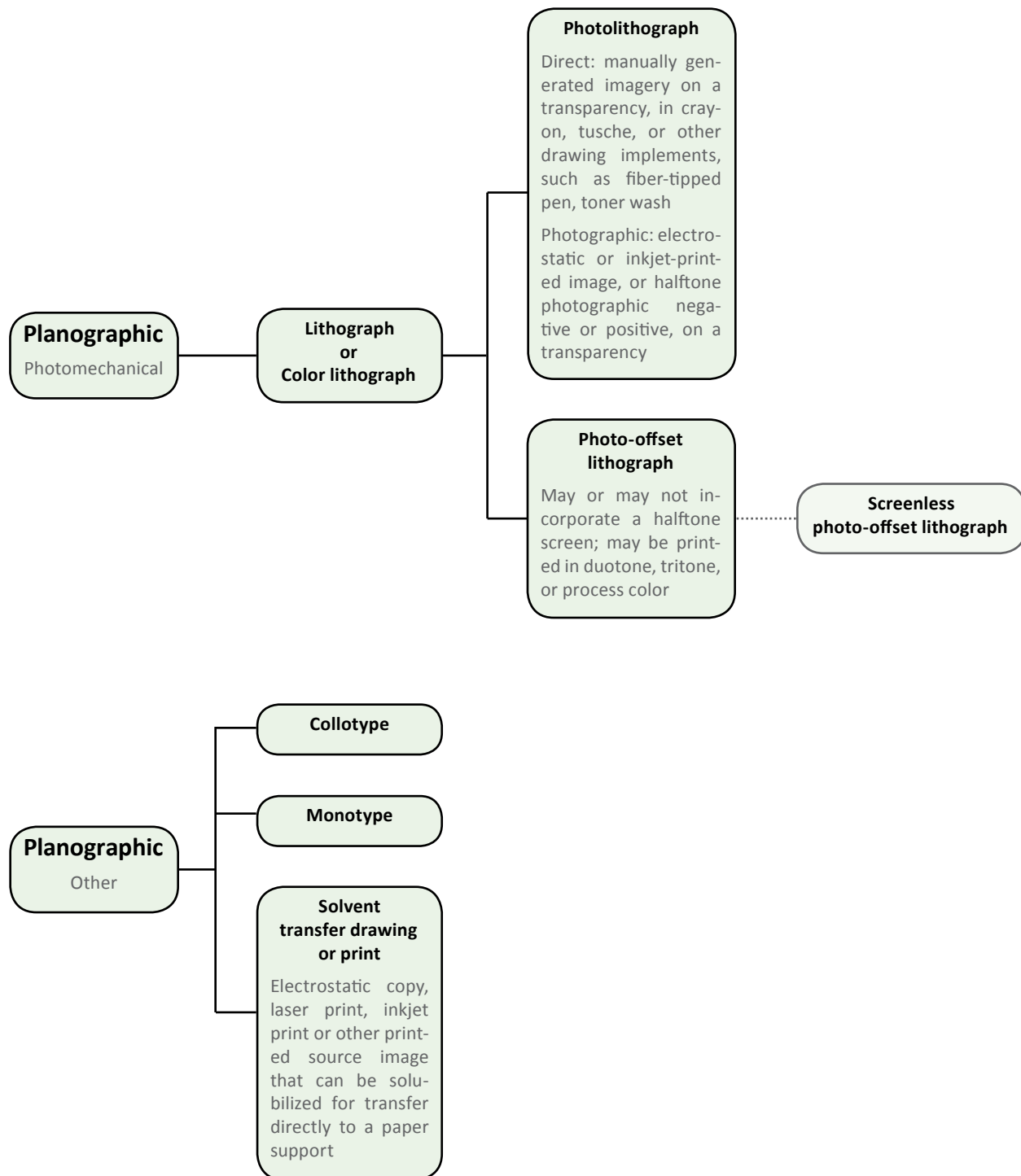




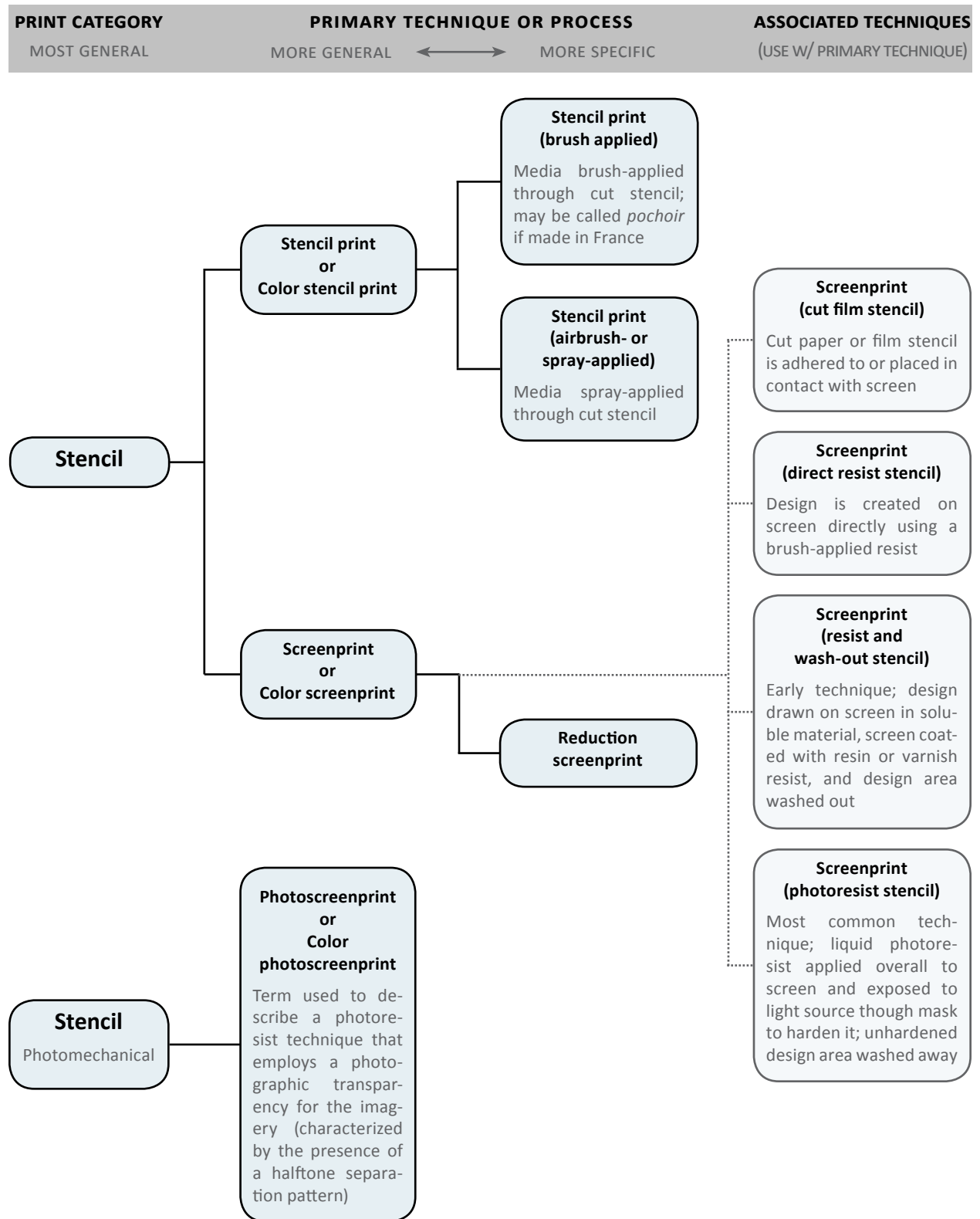
PRINT CATEGORY	PRIMARY TECHNIQUE OR PROCESS		ASSOCIATED TECHNIQUES
MOST GENERAL	MORE GENERAL	← → MORE SPECIFIC	(USE W/ PRIMARY TECHNIQUE)



PRINT CATEGORY	PRIMARY TECHNIQUE OR PROCESS		ASSOCIATED TECHNIQUES
MOST GENERAL	MORE GENERAL	↔ MORE SPECIFIC	(USE W/ PRIMARY TECHNIQUE)



D. Hierarchy Chart for Stencil Prints



III. LISTS OF PRINT TERMS

The following lists are compilations of print-related terms, current and historical, derived from a variety of sources including exhibition catalogs, collections databases, cataloging guides, and printmaking and print-identification manuals. They are intended to be inclusive and contain a variety of synonyms and associated terms, but emphasize a consistent recommended format or word order. These compilations of terms are by no means exhaustive, and are intended to be updated and expanded in the future as needed.

A. Using the Lists

The column on the left in each table includes current, meaningful, recommended terms for use in describing prints and printmaking techniques. The column on the right includes equivalent terms in alternate formats, terms that are now seen as outdated or inaccurate, and comments on use or meaning. Some recommended terms may reflect an object made in a particular style or at a specific time in history. Historical or proprietary terms that should be avoided are printed in gray.

In most cases the words in parentheses should be considered for inclusion in an expanded or extended medium description, to provide additional specificity. In other cases, the use of parenthesis may indicate an alternate format [e.g., tinted lithograph vs. lithograph (tinted)]; in these instances, please consider curatorial and institutional preferences as well as the terms' suitability for data entry. Terms are grouped alphabetically within each print category (Relief, Intaglio, Planographic, and Stencil). Additional lists (Terms for Digital Prints, Terms for Uncategorized Print or Paper Multiples, Terms for Printed or Applied Color, etc.) provide additional terms for special problems related to prints. Note that the list Terms for Digital Prints provides only the essential terms for the broad categories of digital printing.

See the [Print Glossary](#) (page 117) for definitions and clarification of terms. See also the [Print Hierarchy Charts](#) (page 93), which organize and present terms included here in a way that differentiates between standalone and associated techniques, thereby assisting with print identification, term selection, and data entry.

B. Terms for Relief Prints

RECOMMENDED RELIEF TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Blind embossed print	With blind embossing/debossing, blind embossed stamp
Chiaroscuro woodcut	
Collagraph	Collograph (alternate spelling), cardboard relief print, cellocut, carborundum print, cardboard cut, cardboard print, metal print
Color [woodcut, linocut, etc.]	
Compound relief print	Cut block print, jigsaw block print
Compound linocut	
Compound woodcut	
Flexographic print	Flexography (commercial or industrial photomechanical printing process)
Foil stamp	With foil stamping, hot stamping
Heliorelief	Photowoodcut
Ink stamp	Rubber stamp
Intaglio, printed relief	Intaglio, inked and printed relief
Letterpress	Use for text or type only (cast type, linotype; other letterpress type matrices or blocks include magnesium, photopolymer, wood)

RECOMMENDED RELIEF TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Linocut	Linoleum block print, linoleum cut, linoleum print; linoleum engraving
Metal cut/metal engraving	Both are cut by hand on metal blocks; the choice of term depends on whether the result is more like a woodcut or a wood engraving
Metal cut (dotted manner)	May substitute “metal cut (<i>manière criblée</i>)” if describing a French print
Metal relief print	Includes prints from any hand-cut metal blocks: metal cuts/metal engravings, manual and photorelief etchings, and photomechanical metal relief prints; also stereotyped and electrotyped blocks, metal relief halftone, halftone duotone, and relief process color
Paste print	
Potato print	
Photomechanical relief print	From a metal matrix: stereotyped block, electrotyped block, photo-etched block, metal relief halftone, halftone duotone, and relief process color; from a wood matrix: heliorelief; from a polymer matrix: photopolymer relief print
Photomechanical metal relief print	From metal matrix: stereotyped block, electrotyped block, photo-etched block, metal relief halftone, halftone duotone, and relief process color
Photopolymer relief print	Use for images or combined images and text from a photopolymer matrix; may use “letterpress” if only text is present.
Reduction linocut	
Reduction relief print	Reduction block print [undetermined type of block]; suicide cut
Reduction woodcut	
Relief print	Use as the most general term for a print in this category.
Typewriter ink	Typewriter, typewriting, typescript, typewritten text
Vinyl [or other] cut	Include the specific matrix material for relief prints when known (cast Lexan, acrylic, etc.)
Wood engraving	Chromoxylograph (historical commercial reproductive process)
Woodblock print	Used for woodcut prints in Japanese or Asian traditions
Woodcut	
Woodcut (laser cut)	CNC (computer numeric control) laser woodcut
Woodcut (machine cut)	CNC (computer numeric control) router woodcut

C. Terms for Intaglio Prints

RECOMMENDED INTAGLIO TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Aquatint	
Aquatint (rosin)	“Rosin” is implicit for typical aquatints; include (rosin) only if used in combination with other, non-rosin aquatint processes.
Aquatint (dust ground)	Greater specificity (rosin is implicit); dust ground aquatint

RECOMMENDED INTAGLIO TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Aquatint (spirit ground)	Greater specificity (rosin is implicit); spirit ground aquatint
Aquatint (spray paint ground)	Spray paint aquatint
Aquatint (off-set ground)	
Aquatint reversal	Reverse aquatint
Blind embossed print	Blind embossing from an intaglio plate: inkless intaglio, blind intaglio, <i>Gauffrage</i> (Fr.), <i>Blinddruck</i> (Ger.), <i>Karazuri</i> or <i>Kimekomi</i> (Jap.), cast paper
Carborundum mezzotint	
Carborundum relief etching	Carborundum aquatint
Collagraph	Hybrid relief-intaglio technique
Color [etching, engraving, etc.]	
Deep-bite etching	With deep bite
Direct bite	
Direct gravure	Heliogravure
Drypoint	
Engraving	
Engraving (copper)	Copper engraving, copperplate engraving
Engraving (laser)	Laser engraving, CNC (computer numeric control) laser engraving
Engraving (machine)	Machine engraving
Engraving (steel)	
Engraving (steel faced)	
Engraving (stipple)	Stipple engraving
Engraving (<i>manière criblée</i>)	Use only if describing a French print
Etching	
Etching (crayon resist)	
Etching (salt grain/sugar grain)	Salt/sugar ground etching
Etching (sand grain/sandpaper grain)	Sand grain/sandpaper grain etching
Etching (toner-wash ground)	
Etching (stipple)	Stipple etching
Etching and engraving (chalk manner)	Chalk manner intaglio print
Etching and engraving (crayon manner)	Crayon manner intaglio print
Etching and engraving (pastel manner)	Pastel manner intaglio print
Foul bite	False bite
Flat bite	May also use "open bite"
Hard ground etching	Etching (hard ground)
Intaglio print	Use as the most general term for prints in this category.
Intaglio compound print	Intaglio jigsaw print
Lift ground aquatint	Liftground, lift-ground, sugar-lift, Crisco lift, condensed milk lift

PRINTS: IDENTIFICATION AND CHARACTERIZATION OF MATERIALS AND TECHNIQUES

RECOMMENDED INTAGLIO TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Machine photogravure	Rotogravure, screen photogravure
Mezzotint	Black method, <i>maniere noire</i>
Mezzotint (alternative ground)	Mixed-method mezzotint, mezzotint (etched ground), mezzotint (photoetched ground), mezzotint (carborundum ground), carborundum mezzotint, mezzotint (sandblasted ground)
Open bite	May also use “flat bite”
Off-set soft ground etching	Off-set ground, off-set aquatint, “new ground”
Photoetching	Photo etching, photo-etching
Photogram gravure	Photogravure equivalent of Man Ray “Rayogram” technique
Photogravure	Aquatint photogravure, hand gravure, flat plate photogravure, heliogravure (historical term currently used for <i>direct gravure</i>)
Photopolymer intaglio print	Intaglio-type print, solar etching
Soap ground aquatint	Soap-ground aquatint, white ground aquatint
Soft ground etching	Etching (soft ground); soft-ground etching; softground etching; <i>a la cravat</i> (French related-technique term)
Spit bite aquatint	Spit-bite, spit-bite aquatint, spitbite aquatint
Step etching	Step biting
Tonal etching/etched tone	Tonal etching techniques: sulfur tone, sulfur tint, flower-of-sulfur tone; sand-grain/sandpaper grain etching; sugar/salt-ground etching; toner wash ground etching
Viscosity print	multiple-color, simultaneous printing technique; separate colors can be intaglio or surface [relief] inked and printed; multiviscosity print, simultaneous color intaglio print
Water bite	creeping bite, water-bite, water bite aquatint
[with] burnishing	
[with] crayon resist	
[with] electric stippling	
[with] etched tone	
[with] plate tone	Surface tone
[with] <i>retroussage</i>	
[with] roulette	Mattoir, mace-head
[with] rocker	
[with] sanding	
[with] scorper	
[with] scraping	
[with] selective wiping	
[with] stippling	
[with] stopping out	

D. Terms for Planographic Prints

RECOMMENDED PLANOGRAPHIC TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Collotype	
Color [lithograph, monotype, etc.]	
Chromolithograph	Use only to describe prints from a specific period or those made for a specific purpose (see glossary); may also use <i>color lithograph</i> .
Lithograph	19th-century terms <i>autholithograph</i> or <i>autolithography</i> implied a print was created entirely by the hand of the artist on the stone.
Lithograph (aluminum plate)	Other/historical terms (do not use): Alagraphy, aluminography
Lithograph (crayon, spray paint, toner wash, tusche, etc.)	May describe specific techniques for image creation if greater specificity is desired
Lithograph (<i>maniere noire</i>)	<i>Maniere noire</i> lithograph
Lithograph (polyester plate)	Other/historical terms (do not use): Pronto Plate lithograph (proprietary term)
Lithograph (stone)	Other/historical terms (do not use): Stone lithograph
Lithograph (tinted)	Use only for 19th-century prints; indicate number and colors of tint stones as appropriate. Other/historical terms (do not use): tinted lithograph
Lithograph (waterless)	
Lithograph (zinc plate)	Other/historical terms (do not use): zincograph
Lithograph reversal	Other/historical terms (do not use): Gum reversal lithograph; Lo-shu wash; acrylic-medium reversal
Lithoaquatint	New version of lithotint described by Saff and Sacilotto (YEAR)
Lithotint	Use for 19th century lithographs intended to imitate wash drawings; otherwise, describe technique as “with tusche wash”
Monotype	
Offset lithograph	Can be manually drawn or photographic imagery. Other/historical terms (do not use): Off-set lithograph
Photolithograph	Can be made using offset or traditional stone/plate lithography. Other/historical terms (do not use): Photo-lithograph
Photo-offset lithograph	Specific color offset processes: photo-offset duotone, photo-offset tritone, photo-offset process color
Planographic print	Use as the most general term for a print in this category.
Stone engraving	
Transfer lithograph	Typically the image is transferred from a drawing done on paper or Mylar; it may be transfer printed from a relief block.
Transfer lithograph (solvent transfer)	Manual transfer of a printed image or text to the stone or plate (as in the work of Rauschenberg)
Transfer lithograph (Xerox transfer)	Manual transfer of image toner to the lithographic plate, using heat or solvent to fuse the toner
Xerox lithograph	Print made using a photocopy as the matrix, which is inked and printed like a stone or plate

RECOMMENDED PLANOGRAPHIC TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
[with] scraping	
[with] scratching	

E. Terms for Stencil Prints

RECOMMENDED STENCIL TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Color [screenprint, stencil print, etc.]	
Photoscreenprint	Other/historical terms (do not use): photo-screenprint
Reduction screenprint	
Screenprint	Other/historical terms (do not use): screen print, silkscreen, serigraph
Screenprint with flocking	Flocked screenprint
Stencil print	Other/historical terms (do not use): stenciled print, stencil
Stencil print (<i>pochoir</i>)	Use only if describing a French print.

F. Terms for Digital Prints

RECOMMENDED DIGITAL TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Digital print	Use as the broadest description only if the print type is not known.
Electrostatic print	More specific types of electrostatic print: electrographic print, electrophotographic print
Impact (dot matrix) print	
Inkjet print	More specific types of inkjet print: pigmented inkjet print, thermal inkjet print, piezoelectric inkjet print
Thermographic print	More specific types of thermographic print: direct thermal transfer print, dye diffusion thermographic print

G. Terms for Uncategorized Print or Paper Multiples

RECOMMENDED UNCATEGORIZED TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Cut paper multiple (hand-cut)	
Cut paper multiple (laser-cut)	
Cut paper multiple (die-cut)	
Cut paper multiple (machine-cut)	
Decalcomania	Technique term for transfer of an image from a print matrix to a solid object, such as pottery; source term for “decal”
Dry transfer	Letraset, press-type, transfer type; may include symbols or ideograms and not just text
Plotter drawing (ink, graphite, etc.)	
Rubbing	Frottage
Solvent transfer drawing/print	Printing ink transferred directly (e.g. from newspaper or magazine image) to paper or another support

RECOMMENDED UNCATEGORIZED TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Xerox transfer drawing/print	Copy toner transferred directly (from photocopy) to paper or another support

H. Terms for Printed or Applied Color

RECOMMENDED COLOR TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
<i>À la poupée</i>	
Blended inking	Typically a synonym for gradated or “rainbow” inking, but can describe other variants
Color flat	Contemporary term for solid color from a plate/stone/block/stencil
Gradated inking	Rainbow roll, gradation roll, blended roll
Hand coloring	Hand colored, hand-applied color, stenciled color
Monotype inking	Monotype inking
Printed mordant with metallic powder	Technique used primarily with lithography and screenprinting
Stenciled coloring	Stenciled color, stencil-applied coloring, <i>pochoir</i> (for French prints only)
Stenciled coloring (brush/airbrush)	
Tone block	Tint block; colored (tinted) from relief blocks
Tone stone	Tint stone

I. Terms for Proprietary Processes or Techniques from Artists, Studios, or Commercial Firms

RECOMMENDED PROPRIETARY TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Cellocut	Term coined by Boris Margo for collagraphic prints made using dissolved celluloid to form the matrix.
Intaglio-type print	Term for myriad photopolymer film intaglio techniques developed by Keith Howard; specific technique terms may precede the general term (e.g., direct intaglio-type, mezzo intaglio-type)
Mixografia/color mixografia	Proprietary process(es) from Los Angeles-based <i>Mixografia Studio</i>
Metal print	Term coined by Rolf Nesch for his mixed-material collagraphic prints

J. Other Terms

RECOMMENDED OTHER TERMS	SYNONYMS, RELATED TERMS, AND NOTES ON CHOICE
Bleed impression	Bleed print
Cancellation proof	
<i>Chine collé</i>	
Chop mark	Chop, studio chop, studio stamp, blind stamp
Counterproof	
Monoprint	Unique print impression carried out in any process

IV. PRINT GLOSSARY

Prints, unlike paintings or drawings, generally exist in multiple examples (although they may be created as unique impressions). All prints share one common principle: the physical transfer of a design material (ink) to a receiving or final support material. Prints are often defined by reproducibility (e.g., the possibility of multiple impressions), although unique-impression processes such as monotype defy this definition. Prints may be made in a wide variety of ways, usually by creating a design or composition (by cutting, carving, etching, etc.) on a substrate called a matrix, and then by transferring or printing a design material (ink) from the matrix to the final support (typically paper) using pressure. Transferring the image or design may involve a printing press or manual techniques such as pressing or rubbing the paper (or other final support material) onto the inked surface. Multiple impressions of a print are made by repeated, relatively consistent printings from the matrix. The total number of impressions an artist or studio decides to make for any one image is called an edition. In modern times each impression in an edition is signed and numbered by the artist, but this is a relatively recent (turn of the 20th century) practice in the history of printmaking.

The Print Glossary is a thorough (although by no means exhaustive) compendium of significant and commonly used or encountered terms for printmaking processes and techniques. The glossary entries are grouped into four broad print categories—relief, intaglio, planographic, and stencil, each containing a subsection dedicated to photomechanical processes—with an additional section that lists color-related terms. Within each category, related terms or variations of a process or technique are listed below the more general term and indented.

A. Relief

Relief print

A relief print is any print in which the image is created from ink that is transferred under pressure from the raised surfaces of a hand- or machine-carved, cut, etched, or cast block to paper or another support. A simple example of a relief matrix is a rubber stamp. The most common relief prints are *woodcuts*. The general term *relief print* can be used when it is not clear which kind of relief printing technique or matrix has been used to create the print (photomechanical or hand carved, woodcut or linocut, etc.). Relief prints are often visually identified by the characteristic “ink squash” that results when ink is forced to the edges of design elements during printing. This appears as a dark outline with a lighter center; the excess ink along the edges may form a slight ridge. Design elements (or inked areas of the image) may appear flat or slightly recessed when viewed with raking illumination, and the corresponding areas on the verso may appear raised. The amount of embossment depends upon the amount of pressure applied during printing, the method of printing (i.e., by hand vs. with a press), and the paper type (hard or soft, thin or thick).

Collagraph/colograph

A collagraph or collograph is a print made from an image built up on a rigid surface from a variety of materials, often including glue (or acrylic gel medium, automotive lacquer, etc.) and often other materials such as sandpaper, string, corrugated cardboard, plant materials, carborundum, etc. Collagraphs can exhibit characteristics of relief, intaglio, or blind (without ink) printing. *Collagraphy* or *collography* is the process of making such a print. The term *collagraph* dates to 1956 and is attributed to Glen Alps (American, 1914–1996). Particularly in the 20th century, the term *collograph* was sometimes used to refer to *collotype*; it described a color collotype in which the artist drew the artwork for each color by hand.

Carborundum print

A carborundum print is made from a matrix consisting of *carborundum* (an abrasive silicon-carbide powder) mixed with a synthetic resin or varnish and applied to a rigid (plastic or metal) support. With this technique the carborundum provides an ink-holding “tooth,” and can be manipulated in different ways with the resin or varnish to create the design. For example, lines of resin can be brushed onto the plate, and the carborundum can be sprinkled onto them to dry, or areas of the carborundum-resin mixture can be dissolving using a solvent.

Carborundum printing is primarily associated with the relief process *collagraphy*, but can be combined with *intaglio* techniques or used as an alternative to them. The carborundum's fineness or coarseness determines the character of the mark.

Cardboard relief print

A cardboard relief print is made from inked pieces of cut-out matboard or cardboard that have been glued to a base plate; it is also called a *cardboard cut*.

Cellocut

A cellocut is a print made from a carved or molded celluloid matrix. Developed by Boris Margo, the technique involved pouring celluloid dissolved in acetone onto a rigid support. Upon drying, the plastic was engraved, scratched, sanded, filed, etc., to create the print matrix. The plate could be printed relief, *intaglio*, or both. The cellocut could also be printed alone or in combination with other techniques.

[Blind] Embossing

Embossing is a physical impression from a printing matrix in paper, and is most often made from deeply bitten *intaglio*, *collagraph*, or relief matrices. The term blind embossing is used to refer to prints where there is an impressed or recessed image created without ink.

In binding and finishing, the term describes a process in which images, patterns, or text are stamped or pressed into a substrate. In the embossing process, a relief die or form is mounted to a platen beneath the substrate to be stamped. A counter embossing form—or a sunken die into which the relief die fits exactly—is mounted to a platen directly above the substrate. During embossing, the two dies are pressed together through the substrate, which creates a raised image. Often, the dies are heated. In the process of debossing—which is the reverse of embossing, or the creation of a sunken image—the positions of the relief die and the counter die are reversed. A similar process in which a sunken image is pressed into a hard book cover or other similar substrate is called die-stamping.

Foil stamp(ing)/Hot stamp(ing)

In foil stamping, a heated die containing a relief (raised) image presses down onto a roll or sheet of foil placed above the substrate to be decorated. As the die hits the foil, it is transferred to the substrate. Many book and portfolio covers, and various types of packaging, are foil stamped. Foil is available in many different colors, patterns, finishes, textures, etc. Foil stamping that occurs in tandem with embossing is known as foil embossing. Foil stamping replaced an earlier process known as bronzing or bronze dusting.

Ink stamp

An ink stamp is a relief print made by pressing a matrix into an ink stamp pad and transferring it to a substrate with manually applied pressure.

Potato print

A potato print is a relief print made from a design carved into a raw potato.

Rubber stamp

A rubber stamp is a relief print made from vulcanized rubber that has been carved, molded, or laser engraved to create a design matrix. The rubber is often mounted to provide rigidity and facilitate printing. Hand-carved rubber stamps can be made from rubber (art gum) erasers.

Intaglio, printed relief

An *intaglio*, printed relief, is a print from an *intaglio* plate that is surface-inked like a relief plate using a brayer (roller).

Letterpress

Letterpress is the traditional relief printing of text from *type*, often in conjunction with image blocks mounted to be *type high*. Image blocks may be wood engravings, halftones in copper or zinc, carved linoleum blocks, photopolymer plates, etc. Letterpress printing was largely replaced by offset lithography for commercial and reprographic work in the 20th century, but saw a subsequent revival as a fine craft in the book arts and artist's book realm, as well as in the hand-crafted, boutique stationery industry. This revival has lasted into the 21st

century. *Letterpress* is also used to distinguish the text part of an illustrated book from the illustrations, and the actual press used for this printing process.

Linotype

Linotype was a type-setting or line-casting machine that was the industry standard for newspapers, magazines, and posters from the later 19th century to the 1960s and 1970s. The name of the machine comes from the fact that it produced an entire line of cast metal type at once. The linotype machine operator entered text on a 90-character keyboard. The machine then assembled matrices, or molds for the letter forms, in a line. The assembled line was then cast as a single piece, called a slug, of type metal in a process known as hot metal typesetting. (This was much faster than the prior industry standard of manual letter-by-letter typesetting.)

Type

Type is a rectangular piece or block of material (traditionally cast from an alloy of lead, tin, and antimony) used for letterpress printing, with a letter or character in relief on its upper surface.

Type high

Type high is the height equal to the distance from the foot to the face of a piece of type, or 0.918 inch (23.3mm), a standard long established in letterpress printing.

Linocut

A linocut is a relief print made from a design cut in linoleum, typically using knives and gouges. Linocuts are often characterized by flat, uniform color regions and continuous multidirectional lines (the latter are made possible by the material's homogeneity and lack of grain direction). Some artists intentionally incorporated patterns derived from the variety of surface textures offered by household and industrial linoleum flooring materials. The prints are also called *linoleum cuts*.

Metalcut/metal engraving

A metalcut or metal engraving is a relief print made from a design cut by hand on a metal block. The choice of term depends on whether the resulting print looks more like a woodcut (metalcut) or a wood engraving (metal engraving). The white areas in a metalcut, for example, are gouged away with broader strokes, while those in a metal engraving show the finer lines of a burin.

Chromotypography

In chromotypography, colors are printed from metal blocks, typically created by chemical techniques (etching or stereotyping) from hand-made textures, as a means to incorporate areas of pattern or tonality to wood-engraved designs. The result is somewhat analogous to the incorporation of tint screens (e.g., Ben Day dots) in photolithography. Chromotypography represented a transitional period between manual and photomechanical (process) printing.

Metalcut, in the dotted manner

A metalcut in the dotted manner incorporates dots and stars from punches of various shapes to enliven dark passages of the image. The matrix was probably made from type metal (an alloy of lead, tin, and antimony).

***Manière criblée* [French]**

See metalcut in the dotted manner.

Metal relief print

Metal relief print is a general term for a relief print made from a metal matrix. Such prints include metalcuts/metal engravings, relief etchings, photo-relief prints such as photo-relief etchings and stereotypes (lineblocks), metal collage, and letterpress from metal type.

Line block

See **Photomechanical Relief** (page 122).

Stereotype/stereotyping

Stereotyping is a relief process employing a metal cast made from a plaster mold of a relief surface that has been either carved by hand or built up by electrotyping. In letterpress printing, the term also applies to the

important and widely practiced 19th-century process used to cast complete pages of set type, as well as wood engraved blocks, to withstand the wear of commercial printing runs. The resulting print is a *stereotype*.

Electrotyping

Electrotyping is a chemical method for forming metal parts that almost exactly reproduce a model. The method's invention is attributed by Moritz von Jacobi in Russia in 1838, and was immediately adopted for applications in printing. Electrotyping uses the electrolytic deposition of copper from solution to the surface of a three-dimensional mold, typically made in wax or rubber, allowing one to produce an exact facsimile in metal of any object having an irregular surface, whether it be an engraved copper-plate, a carved wood block, or a block of set type, to be used for printing. Electrotyping was commonly used to produce duplicate metal printing plates from the original linoleum or wood engravings for long printing runs, usually for book illustrations.

Relief etching

Relief etching is a relief print or process in which a design or image is created directly on a metal block using an acid-resist material; the non-image areas of the block are then etched away to create the raised relief printing surface. William Blake was an important pioneer of relief etching techniques. The term *relief etching* has sometimes been used to describe any intaglio plate that has been surface-inked, but that technique is more correctly described as *intaglio, printed relief* (or surface-inked). Relief etchings may also be made photomechanically.

Relief etching (transfer)

Relief etching (transfer) is a relief print or process in which an image is drawn in a greasy material on a sheet of paper, manually transferred to a metal block, and dusted with rosin to create an acid resist. The block is then etched away to create the relief printing matrix. William Blake either pioneered or invented the technique, which is also referred to historically as the *Gillot process* after its 19th-century patent holder. Transfer relief etchings may also be made photomechanically.

Paste print

A paste print is a rare type of 15th-century image achieved in low relief in paste on a paper backing. Paste prints are usually classified among prints because a relief block such as a woodcut was pressed into the paste; sometimes they were printed with ink, tinted paste, or gold leaf pressed into the paste.

Reduction block print

A reduction block print is a color relief print made from a single wood or linoleum block. The same block is alternately cut and then printed, usually beginning with lighter colors and progressing through darker ones. No preliminary proofing of the complete image is possible. Such prints are also called *suicide cuts*.

Reduction linocut

See reduction block print and linocut.

Reduction woodcut

See reduction block print and woodcut.

Relief compound print

A relief compound print is any color relief print for which the printing surface is taken apart for separate inking and then reassembled for printing. One visual difference between a compound print and a color print made with multiple blocks is that with a compound print, the colors will at no point overlap.

Cut block print

A cut block print is a type of relief print in which a single block is cut into pieces that are inked separately, reassembled, and printed. This is an alternative term for relief compound print.

Rubbing

A rubbing is a relief print made by rubbing ink or a dry drawing material over a sheet of paper or fabric placed on a raised or textured surface. In a rubbing, the design areas are raised and the bare areas are recessed. This is opposite to the effect normally seen in relief printing, in which the image areas are pressed into the paper. In a

rubbing the image areas will also reflect the patterned texture of the paper surface in a way that does not occur in printing.

Typewriter

A typewriter is an electric, electronic, or manual machine for composing text; individual characters are produced by a steel die which strikes the paper through an inked ribbon.

Typewriter ink

Typewriter ink is a pigmented vehicle that is impregnated into a thin silk, cotton, or nylon ribbon. In the late 20th century, inked fabric ribbons were replaced with carbon film ribbons, or clear plastic tapes with dry black or colored powder on the surface. These could only be used once, but were easily replaced.

Vinyl cut

A vinyl cut is a relief print made from a design cut in a vinyl block. Soft vinyl, heavy acetate, and other soft plastics can be used to make hand-cut or carved prints using traditional woodcut or linocut tools.

Wood engraving

A wood engraving is a relief print made by carving a design into the end grain of a wood block, using a burin or graver, and printing from it. Wood engravings are sometimes (but not always) characterized by white lines against a dark background. Wood engraving was very popular as a commercial reprographic technique in the 19th century for printing images in magazines and newspapers along with text; for this application, the block height was the same as the type height. See *type high*.

Color wood engraving

This is a wood engraving printed in two or more colors, typically from multiple blocks (one for each color).

Chromoxylograph

Chromoxylograph is the 19th-century term for a color reprographic print from end-grain wood blocks. The preferred term is *color wood engraving*.

Wood engraving (tinted)

A tinted wood engraving is a monochrome wood engraving accompanied by one or two neutral tints printed from separate tint or tone blocks to enhance the image.

Xylograph

Xylograph is a term that was historically used to describe both woodcut and wood engraving processes.

Woodcut

A woodcut is a relief print made from a design cut into a woodblock, typically using knives, gouges, and chisels. Traditionally the wood block is cut from the length of the tree, and the cut face is parallel to the grain or plank direction. Woodcuts are typically less precise than engravings, as lines cannot be cut too thin or they will not withstand printing pressure. In the 19th century, artists began using gouges and chisels (previously used to clear areas around linear elements) to achieve broader image effects, and began incorporating textures and patterns from the wood into the image.

Xylograph

Xylograph is a term that was historically used to describe both woodcut and wood engraving processes.

Chiaroscuro woodcut

A chiaroscuro woodcut is a color woodcut made from two or more plank-edge wood blocks printed one on top of another, in a muted range of tones often imitating an ink or wash drawing. The blocks typically include flat tonal color blocks, sometimes with cut-out lines or areas that permit the white of the paper to show through, as well as a black ink line block or “key” block. The Italian word *chiaroscuro*, which refers to contrasts between light and dark in a work of art, was applied from the early 16th century onward to drawings and woodcuts in which figures were delineated in dark ink on a colored background, with white strokes modeling the volumes.

Color woodcut

A color woodcut is printed in two or more colors, typically from multiple blocks (one for each color), though discreet areas may be inked separately for simultaneous color printing. Traditionally, a “key” block printed in black ink was used to delineate the image.

Woodblock print

The term *woodblock print* is typically used to describe a woodcut made in Japan or China or made in the Asian visual tradition. *Ukiyo-e* is the best known type of Japanese woodblock art print. The term *block print* is also sometimes used to describe images from European block-printed books produced in the 15th century.

Photomechanical Relief

Heliorelief

Heliorelief is a photo-relief print or process in which a wood block is coated with a light-sensitive ground (typically a commercial screenprinting emulsion), which is then exposed through a photographic transparency or another transparent material with manually-generated imagery (such as Mylar) to create a hardened resist. After exposure, the block is washed and sand-blasted to remove areas of the wood matrix not protected by the hardened resist layer. The process was developed in the 1980s by Donald Saff and Deli Sacilotto at the University of South Florida (GraphicStudio). A proposed alternative term for the process is *photo-woodcut*.

Line block

Line block is a historical term for various metal relief prints or processes in which the image on the block’s surface was created photomechanically, chemically, or by other mechanical means (e.g., casting) rather than manually. The term encompasses processes that do not employ photographic techniques, such as *stereotyping* and *transfer relief etching*, as well as those that use a light-sensitive ground to transfer an image to the block. Line block subjects may incorporate areas of tone applied using prepared or manufactured mechanical tint screens. However, today the term is often reserved for the line block that became standard in the 20th century: a solid tone image was transferred photographically to the metal block, which was then etched for printing.

Metal relief print

Metal relief print is a general term for a relief print made from a metal matrix. Such prints include *metalcuts*/*metal engravings*, *relief etchings*, and *photo-relief prints* (such as *photo-relief etchings* and *stereotypes* or *lineblocks*), *metal collage*, and *letterpress* from metal type.

Photomechanical metal relief print/photo-metal relief print

These are general terms for relief prints made from a matrix that has been created using a light-sensitive process to transfer imagery to the metal block (typically zinc), either with or without a halftone screen or other mechanical tint screens. Such prints may be made from relief blocks created by either additive (electrotyping) or reductive (etching) processes.

Photo-relief etching

In photo-relief etching, a light-sensitive ground is used to transfer a source image to a metal block (typically zinc) for etching. Photo-relief etching and electrotyping were the two main photomechanical processes historically used to produce photomechanical metal relief prints. The process also has been called *phototypography*. See *relief etching* and *relief etching (transfer)*.

Relief halftone

A relief halftone is a photomechanical metal relief print produced from a block on which a tonal image has been achieved by means of a halftone screen.

Photopolymer relief print

A photopolymer relief print is made by a non-acid etching process utilizing a commercial photo-sensitive polymer plate as the printing matrix. In photopolymer relief printing, the plate is exposed to a light source through a photographic film negative or other transparency to selectively harden the polymer, then rinsed in warm water or a mild alkaline solution to remove unhardened polymer. The technology emerged in the 1990s

as an alternative to hand-set type and traditional image blocks in the letterpress printing industry. Its modern industrial incarnation, *flexography*, has rapidly replaced offset lithography as a cost-effective process of choice for industrial packaging and other large-run commercial printing applications. Similar photopolymers are used in a range of commercial applications such as architectural signage, rapid prototyping, and 3D printing technologies.

Stereotype/stereotyping

Stereotyping is a relief process employing a metal cast made from a plaster mold of a relief surface that has been either carved by hand or built up by electrotyping. In letterpress printing, the term also applies to the important and widely practiced 19th-century process used to cast complete pages of set type, as well as wood engraved blocks, to withstand the wear of commercial printing runs. The resulting printed image is a *stereotype*.

B. Intaglio

Intaglio print

Intaglio comes from the Italian word *intagliare*, “to incise.” An intaglio print is any print in which the image is created from ink transferred under pressure from the recessed areas of a plate to a support (typically paper). Great pressure is required to force the paper into the grooves of the plate to pull out the ink, necessitating the use of a rolling printing press (commonly referred to as an etching press). The paper is often dampened before the printing process to improve its ability to conform to the grooves of the inked printing plate.

While this printing method distinguishes intaglio processes or prints from other print categories, the tools and techniques used to create the design on the plate result in different technique-specific visual characteristics. There are two general methods of creating an intaglio design on metal plates: direct incision or texturing of the plate by purely mechanical means, whether manual or mechanized, and “biting the plate” with acids or metal salts. Techniques in the former category include engraving, drypoint, and mezzotint. Techniques in the latter include all forms of chemical or metal-salt etching, including line, tonal, and photomechanical techniques. The introduction of new printmaking technologies and materials (such as hydraulic presses and light-sensitive polymer films and plates) has greatly expanded the range of technical and creative possibilities available to artists. These new techniques have also created a new visual vocabulary that must be interpreted and described (e.g., non-etch or water etch, simultaneous relief and intaglio printing).

Aquatint (rosin)

A rosin aquatint is an intaglio print made using the traditional aquatint process, which is a tonal etching technique rather than a line etching technique. In the most common aquatint technique, *dust-ground*, grains of rosin are applied to a metal plate that is then heated to slightly melt and adhere the grains to the plate. The plate is then exposed to acid, which bites around the individual grains, creating a plate with a rough surface or “tooth” that holds ink. A range of tonal values can be achieved in the image by selectively applying a resist or “stopping out” areas of the design during the etching process. *Spit bite*, *soap ground*, and *sugar lift* or *lift ground* processes are associated techniques that can only be used in conjunction with aquatint.

Aquatint (dust ground)

Dust ground is the most commonly practiced aquatint application technique, which typically results in a slightly more irregular grain pattern than the *spirit-ground* aquatint technique.

Aquatint (spirit ground)

Spirit ground is an aquatint application technique in which rosin is dissolved in alcohol (or an equivalent solvent) and poured over the plate. The alcohol then evaporates, forming a thin film of resin on the plate. The film splits apart and reticulates in the final stages of drying, producing a very regular pattern.

Aquatint (lift ground)

Lift ground is an associated aquatint technique that allows a direct, positive image to be created, producing a dark form on a light background in the final print. To make a lift ground aquatint, the image is drawn on the plate with a viscous water-soluble solution (traditionally a sugar solution). After drying, the plate is covered with a resist and submerged in water, which dissolves the sugar solution, undermining and lifting away the resist and exposing the bare plate in image areas for etching. Rosin then is dusted on the surface

of the plate to create the aquatint ground prior to etching. Examples of lift ground techniques include sugar lift, Crisco lift, and condensed milk lift.

Aquatint (soap ground)

Soap ground, like all etching grounds, is a way of protecting portions of the plate from the acid. Soap, however, is an imperfect resist; the acid penetrates it in varying degrees depending on its thickness. The technique allows the artist to build up thicker layers of resist where the acid can't reach the plate as well as thinner, gradated areas that are more susceptible to the acid's bite. The instability of the ground leads to characteristic textural and tonal qualities, in which white or light areas show up against a dark background. In a soap ground aquatint, the design medium applied to the plate is a paste made of soap flakes, linseed oil, and water. An aquatint ground is added to provide tooth to the plate, which is then etched. Soap ground is also sometimes called *white ground*.

Aquatint (spit bite)

Spit bite aquatint involves dropping or painting strong acid directly onto the aquatint ground of a prepared plate for localized, controlled biting. Depending upon the time the acid is left on the plate, light to dark tones will appear in the final print. Saliva, gum arabic, ethylene glycol, or Kodak Photoflo solution can be used to control the acid application. Traditionally, a clean brush was coated with saliva, dipped into nitric acid, and brushed onto the ground; hence the term "spit bite," although today the most common technique used acid mixed in gum arabic. Each area of spit bite has the visual characteristics of open bite in miniature. An earlier but related technique, usually called *lavis*, involved painting the plate directly with acid—essentially drawing with acid—and washing it off when the desired effect had been achieved.

Aquatint (spray paint ground)

Spray paint ground is an aquatint application technique in which a commercial solvent-borne spray paint is used to apply a non-water-soluble ground to the plate, resulting in a fine pattern that roughly emulates a traditional aquatint grain.

Asphaltum

Asphaltum is a viscous, brown, acid-resistant material used as an ingredient in etching grounds. It can also be used as a stop-out varnish to selectively protect areas of an etching plate from biting in the acid bath. In lithography, it is used in processing the stone, and it sometimes replaces tusche as a design material. Asphaltum is also called *bitumen*.

Blind intaglio

A blind intaglio print is an un-inked embossed print produced from a deeply etched plate. For very deep intaglio embossing, a sheet of thick, damp paper and several layers of soft blankets may be required; in some cases the paper may be left to dry on the plate. The term *embossing* is derived from "boss," meaning a convex protuberance, and is often associated with relief printing techniques. See the entry for blind embossed print.

Carborundum print

A carborundum print is made from a matrix consisting of carborundum (an abrasive silicon-carbide powder) mixed with a synthetic resin or varnish and applied to a rigid (plastic or metal) support. With this technique the carborundum provides an ink-holding "tooth," and can be manipulated in different ways with the resin or varnish to create the design. For example, lines of resin can be brushed onto the plate, and the carborundum can be sprinkled onto them to dry, or areas of the carborundum-resin mixture can be dissolving using a solvent. Carborundum printing is primarily associated with the relief process *collagraphy*, but can be combined with intaglio techniques or used as an alternative to them. The carborundum's fineness or coarseness determines the character of the mark.

Carborundum relief etching

In this print method, the surface of an etching plate is roughened with carborundum and an image is drawn on it using an acid-resistant varnish. As in relief etching, after the plate is immersed in acid, the broad, carborundum-roughened lines protected by the varnish stand above the deeply bitten background. The plate may be inked and printed in the typical intaglio fashion. The resulting lines will exhibit the same tonal character as a carborundum mezzotint.

Collagraph, printed intaglio

An intaglio-printed collagraph is made from a matrix formed by gluing cut pieces of various flat materials—such as matboard, cardboard, or metal plates—to a rigid base, which is then inked and wiped in the intaglio fashion and run through a press. A collagraph of this type is typically characterized by ink that is held by and printed from incised lines, recesses, or crevices in the collagraphic elements, as opposed to ink transferred only from the surface (relief).

Creeping bite

Creeping bite is an etching technique for achieving a gradated tone when biting an aquatint-grained intaglio plate. The plate is placed in the tray at an angle so the acid “creeps” over the surface and bites longer on one side than the other. The technique is also called *water bite*.

Deep-bite etching

Deep-bite etching is the process of leaving an etching plate for an extended time in the acid bath, so that the acid bites very deeply into the unprotected areas of the plate. With this technique, the printing areas become substantially recessed and may produce more sharply defined, thicker lines than are found in a traditional etching, which can allow for longer print runs. In more modern applications, such as *open biting*, the technique can be exploited to create broad areas of irregular tonality that stand in contrast to the un-etched surface of the plate.

Direct bite/brush bite

In the *direct bite* or *brush bite* technique, acid is brushed directly onto the surface of the bare plate to create subtle tonal effects. (The plate is not immersed in an acid bath as for *open bite/flat bite*.) The technique is similar to *spit bite*, but in *direct bite/brush bite* the acid contains other additives (such as gum arabic) and the plate is typically not aquatint grained. The *direct bite* technique was historically known as *lavis*. See *open bite*.

Drypoint

A drypoint is an intaglio print made by incising an image onto a metal plate with a needle or another pointed tool. During the incising process, metal is displaced or “pushed up” and clings to edges of the incision. This burr holds printing ink and creates drypoint’s characteristic rich, fuzzy or feathery line. The burr typically wears away or diminishes during the printing process; it may also be scraped away prior to printing.

Engraving

Engraving is an intaglio process in which the design is incised directly into the surface of a metal plate using a tool such as a *graver* or *burin*. The plate is then inked, and the image is transferred to the support by means of a printing press. In the engraving process, a sharp-tipped tool is pushed across the plate to form a V-shaped groove or line, and the displaced metal is forced up in slivers. To achieve long, curved lines the engraver may turn either the plate or the tool during cutting. The lines in an engraving tend to be characterized by gradual modulation of line width, achieved by increasing or decreasing the depth of the cut, as well as tapering line ends. The nature of the process also favors a style of modeling forms based on a series of parallel lines. Engraving was first developed as a printmaking technique in the early 15th century in Germany, and emerged from existing metalworking traditions, such as armor and metalsmithing decoration. Historically, the term *engraving* has been used generically to refer to any intaglio print.

Engraving (copper)

Copper engravings are printed from copper plates. Copper engraving plates were largely replaced by more durable steel or steel-faced copper plates, particularly for commercial or large-scale printing applications, in the early 19th century. While copper is much easier to work than steel, its relative softness means that a plate begins to show signs of wear after anywhere from several dozen to a few hundred impressions, resulting in degradation and loss of the more delicate lines in the printed image.

Engraving (laser)

In the laser engraving process, a laser is used to incise lines or marks into a planar matrix (metal plate, acrylic sheet, etc.) that can be inked and printed in the intaglio manner. A laser engraving machine has two main components: the laser itself and a controller, which receives input and guides the laser over a desired surface. The controller, usually driven by a computer, dictates the direction, intensity, speed, and spread of the laser

beam aimed at the surface. Laser-engraved designs can originate from scanned or digitized drawings or photographic images, or from digital files created directly on a computer, using software such as CAD.

Engraving (machine)

In machine engraving, a mechanized process moves or guides the cutting tool, rather than the artist's hand (manual engraving). Historically, machine engraving processes were used only to cut narrow, parallel lines in the plate (e.g., within wide sections of sky in landscape engravings). Computer numeric controlled (CNC) engraving machines are now capable of cutting complex, highly intricate designs from a digital file into an intaglio plate.

Engraving (steel)

From about 1820–1860 (dates vary among sources), engravings were increasingly produced on steel plates rather than copper plates. According to Gascoigne (2004), early steel engraving was popular for smaller and more finely engraved prints, as lines engraved in the harder metal could be shallower and spaced more closely together, resulting in a crisper, paler ink deposit on the paper. Some confusion in terminology results from the fact that in the 20th century, *steel engraving* often referred to a print from a copper plate that was steel-faced prior to printing. It is also worth noting that, prior to the advent of steel facing, many prints described as steel engravings were either partly or almost entirely etched.

Engraving (stipple)

Stipple engraving is an intaglio technique that achieves tonality or rendering of forms by directly engraving short flicks or dots into the plate, usually in conjunction with engraved or etched lines. Historically, the technique frequently employed tools such as a *roulette* (a small wheel with points), a *mattoir* (a mace head-type tool), a curved stipple graver, or a stippling burin. Stipple engraving was sometimes associated with printing methods that reproduced drawings, and was well adapted for printing in full colors (*à la poupée* or multiple-plate). It flourished as a specialized technique from the latter part of the 18th century until the early 19th century, mainly in France and England. A variant of stipple engraving known as *crayon manner* was used to imitate the soft effect of chalk drawings, particularly in France.

Etching

Etching is an intaglio process in which a corrosive substance “bites” the design into a metal plate; the term is derived from the Dutch *etzen*, “to eat.” In the most common form of etching, the plate is coated with an acid-resistant material called a *ground*, and the design is worked into the ground. The plate is then exposed to acid, which etches into the plate wherever the metal has been exposed, creating the design for printing. A number of substances, called *mordants*, can be used to etch various printing matrices (including metal salt solutions such as ferric chloride). Direct etching techniques that don't require a ground, in which the mordant is applied directly to the plate, include open bite/flat bite and spit bite.

Etching (hard ground)

Hard ground etching involves the application of a hard, acid-resistant coating or *ground* to the plate. The artist then draws into or selectively removes the ground using a variety of techniques, which exposes the plate for etching in an acid bath. The earliest etching grounds consisted primarily of beeswax (with additions such as tar and rosin) and were softer than those commonly used today. In the first half of the 17th century Jacques Callot is credited with developing an improved, harder recipe for an etching ground using varnish rather than a wax, which enabled lines to be more deeply bitten and greatly reduced the risk of foul biting. The harder ground, in addition to more sophisticated stopping-out techniques, enabled etchers to do more highly detailed work that was previously the monopoly of engravers.

Etching (sand grain/sandpaper grain)

Sand grain or sandpaper grain etching is a tonal etching technique in which sandpaper is placed in contact with a ground-coated plate and the two are passed through the intaglio press together. This process can be repeated multiple times, changing the position of the sandpaper, which results in an etching ground that is perforated with the fine granular texture of the sandpaper. This allows the acid from the bath to penetrate the ground. The technique produces an irregular pattern of tiny pits in the etched plate that hold ink for printing, resulting in areas of tonality that are somewhat analogous to aquatint. The tonal pattern's degree

of fineness or coarseness can be manipulated with the use of different papers and with the number of times the plate is passed through the press.

Etching (sugar or salt grain)

A tonal etching technique in which a hard wax ground is applied to the plate, and while it is still warm and liquid, salt or sugar is sprinkled into the ground, which settles on the surface of the plate when the ground hardens. After the ground has hardened, the plate is rinsed in water (dissolving the grains of salt/sugar) leaving an irregular pattern of tiny holes in the ground which can be penetrated by acid during the etching process. Once etched, the technique produces an irregular pattern tiny pits in the plate that hold ink for printing, resulting in areas of tonality somewhat analogous to *aquatint*.

Etching (soft ground)

Soft ground etching is an etching technique in which the artist draws on a piece of paper placed on top of a plate that has been coated with a very sensitive, soft wax ground. When the paper is removed, the ground is selectively lifted away with the paper wherever the drawing tool exerted pressure. When the plate is immersed in an acid bath, the acid can penetrate and bite the plate wherever the ground was lifted away. A printed soft ground line typically looks similar to one drawn by hand with a pencil; the etching exhibits the visual characteristics of the drawing implement and the texture of the lift paper. The soft ground technique may also be used to transfer patterns to the etching plate, such as the texture of fabrics or other materials that are pressed into the ground.

Etching (toner wash ground)

In toner wash ground etching, a mixture of copy toner powder, water, and a surfactant (such as liquid detergent) is applied to the plate, typically using a brush, in order to create areas that will selectively resist acid during etching. The toner mixture can be manipulated on the plate (and easily wiped away) until the desired effect has been achieved. The toner is then adhered to the plate with heat (typically using a hot plate); it appears glossy and rigid when dry. A toner wash ground is as an example of an “imperfect ground” and is characterized by irregular patterns that form when the mixture contracts during drying. The resulting fissures allow acid to penetrate and bite the plate when it is immersed in an acid bath. The final print is characterized by a reticulated “retreating tide line” pattern. The technique can also be combined with *aquatint*.

Etching and engraving (chalk manner)/(pastel manner)/(wash manner)

Chalk manner, pastel manner, and wash manner are terms used to describe intaglio prints made in a technical tradition that was developed and refined in the 18th century to imitate colorful drawings or paintings. Prints in this tradition often combine multiple etching and engraving techniques achieved with a variety of tools, and are often printed from multiple plates using careful registration. However, prints in the chalk manner may use a single plate to faithfully recreate the effects of a drawing made in a single color, such as a red chalk sketch. Wash manner prints typically rely on various tonal etching techniques—such as *aquatint*, soft ground, or salt/sugar grain—to replicate watercolor or ink effects. Since it can be difficult or impossible to discern the specific techniques used in many of these prints, the term *chalk/pastel/wash manner intaglio print* may be used.

Flat bite

See open bite.

Foul bite

In intaglio printing, foul bite is characterized by irregularly bitten areas that result from acid penetrating unexpectedly through the acid-resistant ground during etching. (Modern etchers have also exploited the technique deliberately to create tonal effects.) Foul bite typically leaves small, unintentional marks, pits, or pale areas of tone. Foul biting may occur when the ground is imperfect, when the plate is left in the acid bath too long, or when the etched lines are spaced too closely together.

Intaglio compound print

An intaglio compound print is printed either from a plate that is cut into individual components that are inked separately and reassembled or from two or more separate plates that are inked and assembled on the press bed for simultaneous printing. The method is the same for relief compound prints. In compound prints, the colors

do not overlap or merge gradually, and there is a clear division between areas of color, often accentuated by a narrow white or unprinted line that marks the edges of the separate pieces.

Mezzotint

Mezzotint is an intaglio process invented in the middle of the 17th century in which a metal plate—typically copper—is prepared with an overall even texture or “tooth” to hold ink for printing. Traditionally, specialized tools called rockers are used to mechanically texture or *ground* the plate, although alternative tools (e.g., *roulettes*) and techniques (e.g., etching or sandblasting) can be used to achieve this purpose. A design is then created in the plate by selectively burnishing or scraping the surface to remove the texture. Burnished areas will hold less ink and appear lighter in the final print, whereas the unworked sections will hold more ink and appear dark. Mezzotints are typically characterized by a rich, velvety ink surface.

Mezzotint (alternative ground)

Numerous alternative techniques exist for texturing a mezzotint plate, including mechanical techniques such as engraving, sandblasting, or sanding, and chemical techniques such as etching and photoetching. See Carol Wax’s 1996 book *The Mezzotint* for a comprehensive discussion of alternative grounding techniques.

Mezzotint (carborundum ground)

Carborundum ground is an alternative mezzotint grounding technique introduced by WPA graphic artist Dox Thrash, in which the plate is physically textured using carborundum, a hard abrasive powder, to create a relatively uniform overall “tooth” to hold the ink for printing.

Mezzotint (etched/photoetched ground)

Etched and photoetched ground are alternative mezzotint grounding techniques in which chemical etching of the plate creates the texture or tooth to hold the ink for printing. Etching techniques include *soft ground*, in which fabric or other materials can be pressed into the ground to impart an etched texture to the plate, and *hard ground*, in which different techniques can be used to uniformly perforate the etching ground to impart an etched texture to the plate. Photoetching employs either a random grain pattern or a halftone screen in etching the plate; Crown Point Press used this technique to create the plate for Chuck Close’s iconic large format mezzotint, *Keith*.

Mezzotint (sandpaper/sandblasted ground)

Sandpaper or sandblasted ground is an alternative mezzotint grounding technique in which the plate is textured (or *grounded*) by sanding or sandblasting, creating a relatively uniform overall “tooth” to hold the ink for printing.

Open bite

Open bite (or flat bite) is a method of etching areas of a plate without the use of a resist or aquatint ground, typically by immersing the plate in an acid bite with broad areas exposed or unprotected. This results in wide, flat depressions without tooth; even if they are deeply bitten, they will be wiped almost clean as the printer clears the surface ink from the plate in preparation for printing. Because the acid does not bite evenly, and roughens the surface of the metal, however, the bitten areas will produce some tone in the final print. Ink also typically accumulates at the edges of bitten areas, thus in the print this results in an irregular gray area with darker edges. Etchers have often used this technique to give warmth to large open areas. *Open bite* and *flat bite* are both used to describe etching techniques in which the acid bath attacks any broad area that has not been stopped out, but similar effects may be achieved locally by painting acid onto the plate, which is known as *spit bite* or *brush bite*.

Steel facing

Steel facing is a form of electroplating in which a microscopically thin layer of pure iron is deposited onto a copper plate after the design has been completed. The primary purpose of steel facing is to produce a significantly harder surface from which to print, which allows for much larger print editions. When done properly, steel facing results in little or no loss of detail, and greatly increases the printing life of a plate. Zinc etching plates cannot be steel faced (although it is possible to copper face a zinc plate and then steel face it).

Step etching

Step etching (also called *step biting*) is the primary method used to etch an intaglio plate to varying depths. When a plate is etched, the non-image areas are protected by an acid-resistant ground. In step etching, the plate is

periodically removed from the acid and selective areas are stopped out. The plate is then put back in the acid to achieve a deeper bite in the unprotected areas, resulting in darker, broader lines in the final print.

Stopping out

Stopping out is the process of painting an acid-resistant material onto the plate to protect selective areas from etching in subsequent acid baths. Stopping-out solutions are often shellac based, and dry faster than the asphaltum used to create a typical hard etching ground.

Sulfur etch/sulfur tint

Sulfur etch or sulfur tint is a tonal intaglio technique developed in the 18th century in which powdered sulfur is applied to a copper plate to mildly etch or corrode the surface, producing areas that will hold ink and print a relatively faint, irregular gray tone. For this technique, traditionally the sulfur was either applied to a plate that has been coated with olive oil, or was mixed with olive oil to create a paste that could be applied to the plate.

Tonal etching/etched tone

These terms can be used to refer to a number of techniques used to create selective areas of tonality in an etching plate, including salt grain/sugar grain etching, sulfur etch/sulfur tint, direct acid biting, and aquatint variations such as spit bite. Either term can be used to describe areas of tonality in an etching, especially if the specific etching techniques are not identifiable.

Toner

Toner or *copy toner* is a powdery mixture of a thermoplastic, styrene-based resin and a colorant used in electrostatic photocopiers and laser printers. While the black pigment is usually carbon black, color toners contain organic dyes such as phthalocyanine, quinacridone, rhodamine, diarylide, and azo. Additional components may be present such as release agents, surfactants, charge control agents, and waxes. See etching (toner wash ground).

Viscosity print/simultaneous color print

A viscosity print is a color print in which all the colors are applied to the print matrix at the same time prior to printing. The colors may be superimposed or juxtaposed without blending by adjusting the quantities of oil in the inks, creating a plate or matrix with different levels of depth, or using brayers or ink rollers of varying hardness. Liquids with different flow properties either repel or stick to one another in a predictable way when they are applied over or in proximity to one another. Because simultaneous color printing exploits this tendency, it was named *viscosity printing* by its inventor, Stanley William Hayter.

Water bite

See creeping bite.

Photomechanical Intaglio

Photoengraving

Photoengraving is a term applied to an intaglio method of etching an image into a metal plate that has been coated with a light-sensitive ground and exposed in order to form an acid resist. The term has been used as a synonym for *photoetching*; however, the term was also applied historically to the process in which a photo-etched metal plate is mounted to a wood block to be inked and printed relief (i.e., relief image blocks for letterpress printing). See photo-relief etching.

Photoetching

Photoetching is an intaglio method of etching an image into a metal plate that has been coated with a commercial light-sensitive ground and exposed in order to form an acid resist. The image can be solid (line art) or continuous in tone, and it may come from a photographic film positive or from a drawing or printout on a transparent material such as polyester film (e.g., Mylar). A commercial halftone screen is typically used to break down a continuous-tone image into small discreet cells to hold ink on the plate and to render tonality. A photoetched image is etched to a uniform depth in the plate. Crown Point Press uses this feature—and the use of a halftone screen for tonal images—to distinguish photoetching from photogravure. This method is sometimes called *photoengraving*.

Photogravure

Photogravure is an intaglio method of etching an image into a metal plate using a light-sensitive gelatin ground (traditionally a gelatin-coated carbon tissue applied to the plate after exposure) to form an acid resist. The image may come from a photographic film positive, or from a drawing or printout on a transparent material such as polyester film (e.g., Mylar). An aquatint ground is typically added to the plate to provide tooth and render tonality. A photogravure image is etched to varying depths in the plate. Crown Point Press applies the term only to the traditional process of using an aquatint-grained copper plate, and not to other techniques such as those using photopolymer plates or incorporating a halftone screen.

Direct gravure

Direct gravure is a photogravure technique that does not employ a photographic image from a camera. In direct gravure, the artist typically draws or otherwise creates an image on a transparent material such as polyester film (e.g., Mylar), or outputs a digital file to a transparency. The transparent film is then placed in contact with the sensitized plate or carbon tissue for exposure in order to create an acid resist for etching. While variations of the photogravure process have been explored since its invention, Donald Saff (working with artist Chuck Close) pioneered modern direct gravure at GraphicStudio in the 1980s. The process is also called *heliogravure*.

Hand gravure/flat plate photogravure

Hand gravure and *flat plate photogravure* are terms applied to the traditional photogravure process as employed on a small, artisanal scale for artistic use, as opposed to photogravure employed on a commercial scale.

Heliogravure

The term *heliogravure* was originally applied to a forerunner of photogravure in which a photographic image was projected onto a metal plate that had been coated with a light-sensitive ground, rather than onto a light-sensitive emulsion—traditionally gelatin carbon tissue—that was then transferred to the plate. Today the term is used as a synonym for *direct gravure*; the term *photogravure*, however, is often used indiscriminately for both techniques.

Rotogravure or machine/screen photogravure

These are common terms for *rotary photogravure*, a process that incorporates a halftone screen in image creation and uses a flexible, etched metal plate wrapped around a cylinder for commercial-scale photogravure printing. The process came into general use around 1907.

Photopolymer intaglio [print]

Photopolymer intaglio prints result from a non-acid-etch intaglio process similar to photogravure or photoetching, but utilizing a commercial photo-sensitive polymer film or flexible plate as the printing matrix. When photopolymer film is used, it must first be applied to a rigid support (typically a copper or zinc etching plate or acrylic sheet). The image is created by exposing the film or plate to light through a photographic film positive (with a very fine halftone grain already incorporated into the image) or a manually-generated drawing on a transparent material such as Mylar. For a continuous-tone image that does not incorporate a halftone screen, the film or plate requires a separate initial exposure to an aquatint screen to create tooth and render tonality. The film or plate is developed in water or a mild alkaline solution that washes away the unhardened photopolymer comprising the design areas, creating fine recessed crevices to hold the ink for printing. Photopolymer materials were developed for commercial printing and industrial applications (such as circuit board fabrication in the electronics industry), and emerged in the 1990s as a nontoxic alternative to traditional intaglio processes. Photopolymer intaglio techniques are also sometimes called *solarplate etching*. See intaglio-type [print].

Intaglio-type [print]

Keith Howard, one of the pioneers of photopolymer intaglio printing, coined this term to apply to a wide range of techniques that use commercial photopolymer films applied to a rigid support as the printing matrix. These techniques include *stencil intaglio-type*, *mezzo intaglio-type*, *direct intaglio-type*, and *wash-drawing intaglio-type*. One significant innovation for four-color or process-color *intaglio-type* printing uses transparent PETG sheets as the rigid support material for the photopolymer film, in addition to an “inverted”

printing process—with the paper placed first on the press bed and subsequent plates on top—which allows for accurate registration during multiple-plate color printing. Dan Welden, another pioneer of photopolymer intaglio printmaking, used the term *solarplate etching* for his photopolymer intaglio techniques, especially those that use natural sunlight for plate exposure.

C. Planographic

Planographic print

A planographic print is any print in which the image is created from ink that is transferred under pressure from a flat surface or matrix without grooves, recesses, or other topographical features that hold the ink. This includes all forms of lithography, collotype (see **Photomechanical Planographic**, page 134), and monotype. Lithography is the predominant technique within this category.

Anastatic printing

Anastatic printing is a transfer process developed for the facsimile reproduction of existing printed materials such as letterpress prints or intaglio engravings or etchings. In anastatic printing, a previously printed piece of paper is subjected to chemical treatment that releases the fatty content in the original ink, which can then be transferred directly to the stone (using pressure if necessary) to create the new printing surface. The process involves damage or destruction of the original printed work.

Lithography

Lithography is a planographic printmaking process based on the antipathy between grease and water. Lithography typically involves creating a design with greasy or oily drawing materials (crayons) or ink (tusche) on a prepared semi-porous limestone or specially grained metal plate. This printing matrix is then treated to render the design areas receptive to an oily ink (oleophilic) while the non-design areas of the stone remain receptive to water (hydrophilic), and thus resist the ink during printing. The lithographic plate or stone is then wetted and inked using a roller, and impressions are printed on a flat-bed lithographic press. The term *lithography* translates as “drawing on stone.” The resulting prints are *lithographs*.

Autolithography

In the 19th century, the term *autolithography* was used to describe an original image made by the artist, directly on the stone or plate, without a craftsman as an intermediary.

Lithograph (aluminum plate)

Aluminum plate lithographs employ an aluminum sheet as the printing matrix rather than the traditional limestone. One of the main differences between metal plate lithography and stone plate lithography is that metal plates require somewhat different chemical treatment than stones in order to render them receptive to ink and to fix the image for printing. For example, since aluminum plates are not naturally porous, the surface has to be mechanically roughened (grained) and treated to become receptive to the water and grease.

Lithograph (chalk)

Chalk lithographs are worked on roughly ground stones in order to imitate the visual appearance of a chalk drawing on a textured paper. The artist controls the pressure of the lithographic crayon on the roughened stone to allow the greasy material to adhere only to the peaks in the stone’s surface while leaving voids or valleys clear. The resulting lines vary in weight or density as they would in a chalk drawing.

Lithograph (lithotint)

Lithotint, which was developed by Charles Joseph Hullmandel (Géricault’s printer) in 1840, is a lithographic process that produces the visual equivalent of a painter’s wash. The method involves painting onto the stone with tusche washes (lithographic ink diluted to varying degrees with water), resulting in regions of differing ink intensity in the final print. While technically challenging, the technique is capable of creating effects of surprising subtlety and can successfully imitate watercolors (for example, pigment may form a darker rim at the edge of brush marks). The term *lithotint* has been incorrectly applied to tinted lithographs.

Lithograph (*manière noire*)

Manière noire is a lithographic technique for stone in which the surface is covered with a solid layer of tusche or grease (which would print as solid black); the image is created by removing areas of the tusche layer. This

results in a white-on-black effect in the final print, analogous to the mezzotint technique in intaglio. Lighter design areas can be achieved by removing the tusche or grease in various ways, ranging from gentle rubbing with a piece of flannel (for dark grays) to wire-brushing the surface of the stone or scraping it away with a sharp tool to create pure white highlights. This method never gained great popularity outside Paris, where it was in vogue in the 1830s.

Lithograph (polyester plate)

Polyester plate lithography uses a thin polyester sheet with a prepared coated surface as the printing matrix. Polyester plates have an appearance similar to smooth, opaque Mylar, and emerged in the 1990s as a nontoxic alternative to traditional forms of lithography, which require chemical preparation during the image creation and printing processes. Polyester plates are relatively inexpensive and require minimal processing, although they are not capable of holding or printing a wide tonal range, or of creating any of the subtleties that can be achieved using traditional lithographic processes. Images can be drawn directly onto the polyester plate using a variety of materials—grease pencil, water-insoluble inks, copier toner solutions, or permanent markers—or they may be photocopied directly onto the plates. Once the image has been created, the plate is dampened with a wet sponge, rolled with oil-based printing ink, and printed on a flatbed press or by hand.

Lithograph (stone)

Stone lithography is the traditional lithographic process, which employs a specific type of limestone as the printing matrix. In stone lithography, after the drawing is executed, the stone is etched with a weak nitric acid and gum Arabic mixture and buffed, which chemically alters the surface of the stone so that it will hold a continuous film of water when wetted. The greasy design is then removed with solvent (called the wash-out), but the stone retains the medium's ability to repel water in the design areas. Once it has been cleaned, the stone may be rolled with oil-based ink—the stone is kept moist by wiping with a damp sponge—and printed on a flatbed press.

Lithograph (tinted)

A tinted lithograph consists of a primary design or image—typically in black ink—printed from one stone, and a second, overall colored layer or tint—often in a faint color such as fawn or pale gray—printed from a second stone. If the print exhibits only two tints it may be termed a *double-tinted lithograph*. The tint stone (also called a *tone* stone) is typically covered entirely with a uniform layer of grease to produce the tint, whose shape can be modified by scraping or rubbing the surface of the greasy stone before inking. The process was especially common during the second half of the 19th century.

Lithograph (toner wash)

Toner wash is a lithography technique in which copy toner powder is mixed with asphaltum, thinned with water and/or alcohol, and applied as washes to the lithographic plate. When the water or alcohol evaporates, characteristic “retreating tide line” patterns form, which are often a key to identification. Since heat is used to adhere the toner to the plate and promote drying, the technique is typically reserved for aluminum or polyester plate lithography. In a variation of the toner wash technique for use on stone, lacquer is added to the wash to encourage the asphaltum to penetrate the surface of the stone.

Lithograph (waterless)

Waterless lithography was adapted by artists from the commercial printing industry and utilizes a water-repellent coating of silicone that is applied to the printing plate once the design has been completed. After curing or drying, the silicone-coated non-design areas of the plate resist ink, eliminating the need to wet the plate during the inking and printing process.

Lithograph (zinc)

Zinc lithography uses a zinc plate as the printing matrix rather than the traditional limestone. One of the main differences between metal plate lithography and stone plate lithography is that metal plates require somewhat different chemical treatment than stones in order to render them receptive to ink and to fix the image for printing. For example, since zinc plates are not naturally porous, the surface has to be mechanically roughened (grained) and treated to become receptive to the water and grease. Although Alois Senefelder

explored this printing surface in the early 19th century during the development of planographic processes, when it was called *zincography*, zinc plates did not become widespread for commercial printing until the 1880s.

Color lithograph

Color lithographs are printed in multiple inks, as when two or more colors are used for separate, unique elements of the design or when three or more colors are used to create a double-tinted lithograph (one color for the image and two tints). The term is generally applied to lithographs created in more artistic, non-commercial traditions or settings, in an effort to draw a distinction between color lithographs and large-run, multiple-color reprographic prints, which are commonly called chromolithographs.

Chromolithograph

Chromolithographs are multiple-color lithographs that were produced commercially in vast numbers during the second half of the 19th century and later. However, the term is sometimes reserved for multi-color lithographs produced during a specific time—primarily the Victorian period—and in a certain tradition—one in which many different stones (sometimes as many as 20) were used to create technically complex prints that emulated oil paintings.

Lithoaquatint

Lithoaquatint is a lithography technique for creating fine tonalities and wash effects on metal plates, described by Saff and Saccilotto (1978). See lithotint.

Monotype

A monotype is a unique print created by applying ink or paint to a flat, un-manipulated matrix or support and then transferring the image to paper or another support either by rubbing it or passing it through a printing press. One feature of monotype is that some residual design medium remains on the matrix after printing, sometimes allowing a second impression to be pulled from the original matrix. This produces a much fainter impression of the original design called a *ghost impression*. The term *monotype* derives from the fact that each print is unique.

Offset lithograph

See **Photomechanical Planographic**, page 134, for offset lithography, photo-offset lithography, etc. .

[with] scraping

Scraping is the removal of ink with a blade, pointed instrument, or even a fingernail, used to make corrections or manipulate the image on a lithographic stone or metal plate. In order to return the stone or plate to its original state, the scraping must remove all of the greasy design material layer. The technique is typically used to create white lines against the final black printed design, as with *manière noire*.

Stone engraving

A stone engraving is a planographic print created by covering a lithographic stone with a water-soluble ground and drawing into the ground with a sharp point to expose the stone below. When a greasy ground is applied overall to the stone, it penetrates only the incised lines and renders those areas receptive to printing ink. Characteristics of stone engraving are precision and fineness or delicacy of line reminiscent of etching or steel engraving, in addition to an unchanging density (thickness of the ink film) in narrow and wide lines. The latter feature is characteristic of lithography in general but not of intaglio prints. Stone engraving was developed by Alois Senefelder in the early 19th century, and became a standard technique for the printing of maps and scientific drawings.

Toner/toner wash

Toner is a dry, electrostatic powder used in any number of commercial photocopiers and laser printers. Toner is composed of finely divided, charged particles of a pigmented powder in a synthetic resin. To produce an electrostatic copy or print, electrostatically charged toner particles are drawn to an image on the copier or printer plate, and are then transferred to paper or another printout medium, such as polyester film, and fused with heat. The thermoplastic resin (usually polystyrene) in toner is sensitive to organic solvents, a property that can be exploited by printmakers when creating toner washes with mixtures of water and solvents.

Transfer lithograph

Transfer lithography is a lithographic process in which an image is created in a greasy medium on specially prepared transfer paper or sheet of polyester film, which is then placed in contact with the stone or plate and pressed to transfer the image. The stone or plate can then be processed and printed in the usual manner. In other transfer techniques, impressions are taken from another printing matrix (e.g., a relief block, intaglio plate, or lithographic stone) while the oil-based ink is still wet, and the resulting image is transferred to a lithographic stone or plate.

Tusche

Tusche is a thin, greasy, water-miscible liquid medium used to draw on a lithograph stone. Commercial stick or paste tusche has typically been formulated specifically for the characteristics of limestone, which makes it less optimal for use on metal plates. Toner washes or customized formulations of commercial tusche are often used as alternatives to traditional lithographic tusche for working on aluminum plates.

Two-color lithograph (with tint stone)

See lithograph (tinted).

Zincograph

See lithograph (zinc).

Xerox lithograph

Xerox lithography is a technique in which an electrostatic print (a photocopy or Xerox) is used as a printing matrix. With this technique, the fused copy toner on the paper serves as the printing base to receive the ink, just as it does when making a photocopy transfer onto a traditional lithographic stone or plate. To make a simple Xerox lithograph, the electrostatic print is coated with gum arabic, wiped clean with a damp sponge, inked using a hand brayer, wiped again with a damp sponge to clear any ink from non-image areas, and printed with a hand burin or roller. Since the technique is much less involved (and less refined) than traditional lithography and does not require a printing press, it can be done almost anywhere.

Photomechanical Planographic**Collotype**

The collotype process, which is related to photolithography, uses reticulated gelatin as the printing surface. A plate (usually glass) is coated with a layer of sensitized gelatin, which dries to form a network of tiny, irregular wrinkles (reticulations) that provide the grain for rendering a tonal image. The gelatin is exposed to light through a photographic negative or transparency and hardens in direct proportion to the amount of light received. Unhardened areas retain the ability to swell, absorb water, and resist oil-based ink, while the hardened areas remain receptive to ink for printing. The very fine and random quality of the reticulated grain obviated the need for a halftone screen, and made collotype the method of choice for high-quality photographic reproductions through the first half of the 20th century.

Offset lithography

In offset lithography, printing presses use multiple cylinders: for metal plate offset lithography, one cylinder carries a thin metal lithographic plate that holds the image (in stone offset lithography the stone is held on the press bed); other cylinders hold a rubber blanket that picks up the inked image from the plate or stone and transfers (offsets) it, and the paper to which the rubber blanket transfers the ink. The imagery may be photographically generated or transferred, (which may or may not incorporate a halftone separation), or it may be created by hand on the plate or stone. One key feature of offset lithography is that due to the intermediary matrix, the final image is in the same orientation as the original (i.e., it is not reversed).

Photo-offset lithography

In photo-offset lithography, the image (typically photographic in nature) is transferred to the plate using a light-sensitive coating and a halftone screen.

Photo-offset lithography (duotone, tritone, process color)

In duotone, tritone, or process-color photo-offset lithography, two (duotone), three (tritone) or four (process color) superimposed halftone separations of a single source image are printed with a like number

of colored inks, in order to render tone more accurately than is possible with a single printing. Duotone, tritone, and process color have also been commercially employed in relief printing.

Screenless offset lithography

Screenless offset lithography utilizes a specially grained, sensitized aluminum plate capable of printing a continuous-tone image without a halftone screen. The process was developed in the 1980s and relies upon varying depth and random patterning in the grain of the plate, which holds the ink for printing, in order to achieve tonal range.

Photolithography

In photolithography, the imagery is transferred to the plate or stone using a light-sensitive coating (traditionally dichromated albumen or gelatin for stone photolithography, or a diazo compound emulsion for aluminum plate photolithography). Commercially prepared aluminum plates for photolithography are manufactured with a light-sensitive polymer coating. Photolithography images often originate as digital files or photographs, but they may also be drawn directly on a transparent film for transfer. Transfer media include hand-drawn or cut films, printed or photocopied transparencies, or photographic film negatives or positives, depending on the type of matrix.

D. Stencil

Stencil [print]

In stencil printing, ink or paint is forced through openings or voids in a sheet of material to create a print. Ink or paint may be brushed, rubbed, rolled, or sprayed through the stencil to create a positive image. A negative stencil design can also be made by placing an object against a surface and depositing color around it. Beginning in the 16th century, stencils were used extensively to hand color monochromatic prints in Europe. Combining stencil techniques with a fine mesh screen led to the development of screen printing in the early 20th century.

Pochoir

Pochoir is the French term for the stencil process. The term is usually applied to a specific category of prints created in Paris in which colors were applied through a series of carefully cut stencils using brushes to produce colorful print editions.

Flock printing/flocked print

In flock printing, an adhesive layer is first printed onto a support, typically in the form of a design, and a mass of short, fine fibers (flocking) are introduced and adhered to it. Early uses of the process are found in a rare type of 15th-century woodcut. The technique was later adapted in the 19th century to the manufacture of flocked wallpapers, which are notable for their rich, heavy patterning. In such applications, the surface of the paper was sometimes prepared by pressing a fabric into it to make it look like a textile. The flocking process was also used to print the “fabric” pennants that were popular in the early decades of the 20th century. The most common modern technique exploits an electrostatic charge to draw synthetic flocked fibers to an adhesive-printed support.

Screenprint

In screen printing, ink is forced with a squeegee through a framed fine mesh screen containing a design. The process is capable of producing heavy, opaque layers of color that are difficult or impossible to achieve with other print processes. During the earliest period of screen printing, which developed in the first decade of the 20th century, the finely woven fabric screens were made from silk; today most screens are made from synthetic fibers such as nylon or polyester. A print made using any of a variety of techniques described below is called a screenprint. Artists can use several different techniques to create the image on the screen:

- *Resist and wash-out* involves drawing on the screen with a soluble material, applying an insoluble resist, and then washing away the original drawing material to create openings for ink to pass through.
- *Block-out*, the most basic technique, involves selectively covering or “blocking out” parts of the screen with a resist such as glue or lacquer.
- *Cut stencil* involves placing a design cut from paper or plastic film directly against the screen.
- *Photoresist* involves coating the screen with a light-sensitive resist, exposing it to a light source through a film negative, positive, or manually generated transparency to selectively harden the resist, and then washing away the unhardened resist material.

Photoscreenprint

See **Photomechanical Stencil**, page 136.

Serigraphy

Carl Zigrosser coined the term *serigraphy* in 1940, during the WPA period, in an attempt to distinguish fine-art screen printing from commercial or industrial screen printing. The term literally means “silk drawing.”

Photomechanical Stencil

Photoscreenprint

In photo-screen printing, a light-sensitive emulsion is applied to the screen and exposed to light through a photographic (or other continuous-tone) image that has been broken down by a halftone screen (also called halftone *separation*). Areas exposed to light harden to form the resist for printing, while unexposed sections are washed away. Printing ink is forced through the open mesh to create the image.

E. Color-Specific Terms

à la poupée

À la poupée is an intaglio printing technique for applying multiple colors of ink to a single [intaglio] plate, traditionally with small pads or rolls of felt or cloth, for simultaneous printing. The phrase, which translates literally to “with the doll,” derives from the doll-shaped bundle used to dab the ink onto the plate. With the *à la poupée* technique colors will often appear to merge and combine to form a third color (or a muddy tone) wherever different inks are adjacent (as they share the same intaglio grooves and surface on the copper plate).

Blended inking

In the most common form of blended inking, the inks on the printing surface are blended with a roller to form a gradual (or gradated) range of color or tonality. Patches of differently colored printing inks are arranged along the top of the inking slab, and then gradually spread by repeated careful rolling. The technique is sometimes also called *split fountain roll*, *gradated roll*, or *rainbow roll*. Using a blended roll with oil-based inks can simulate the effects of *bokashi* in *moku hanga* printmaking and can help to add depth and subtle shifts in color to an image, especially when printing multiple block images in relief printing. Such blending inking techniques in woodblock printing are typically achieved directly on the block using brushes.

Gradated roll/Rainbow roll

See blended inking.

Split roll method

In the split roll method, small, isolated areas of different colors in a single image are inked on the same matrix using small rollers or hand brayers. For this technique, the separate areas to be inked must be spaced sufficiently apart, and be narrower than the width of the roller.

F. Other Terms

Computer Numeric Control/CNC

Computer numeric control or CNC is a modifier used to describe computer-driven devices. In the realm of fine-art printmaking, computer numeric controlled machine tools such as routers may be used to create a print matrix (e.g., to carve a wood block that is inked by hand like a traditional woodcut) or computer-driven lasers may be used to incise a piece of Plexiglas that is inked intaglio to create an engraving. In 2012, Catanese and Geary described the integration of CNC tools and related technologies with traditional inked-plate and press-transfer techniques as “post-digital printmaking.” See hybrid print.

Hybrid print

A hybrid print, as defined by Catanese and Geary (2012), is any print that combines computer numeric controlled (CNC) technologies with traditional analog plate and press-transfer techniques; the term may be extended to include any print made using a combination of printmaking processes.

Contact screen

A contact screen is a type of halftone screen with a prescribed dot pattern made on a transparent base. It is used in direct contact with the image film (negative or positive) and sensitized plate or stone to create a dot pattern from the continuous-tone original. See *halftone screen*.

Continuous-tone

Continuous-tone is an adjective used to describe a photographic image or drawing that has a natural range of tonalities, as opposed to an image that consists of a solid tone (sometimes referred to as *line art*) or one that simulates tonal gradation through the use of a dot or pixel pattern (such as a *halftone screen*).

Halftone screen

Halftone screens are incorporated into a photographic printmaking process to break up, or separate, a continuous-tone image into a pattern of dots for printing. In the traditional halftone screen process, a photographic transparency (positive or negative) is projected through a cross-line screen (a glass plate etched with finely ruled lines) to expose the sensitized printing plate. The etched lines in the glass plate create a pattern of dots on the sensitized printing plate proportional in size to the spacing of the lines. Alternatively, a *contact screen*—a film-based transparency made by exposing the film through a cross-line screen without an image—can be placed in contact with both a continuous-tone negative and the sensitized plate for exposure.

Line art

Line art is an image that has no variation in tonal values and is composed only of opaque marks, such as lines, dots, cross-hatching, or solid shapes or forms. The term is typically used in the context of photographic reprographic printmaking.

Photomechanical

Photomechanical processes use a light-sensitive material to transfer a source image to a printing matrix. The name of the broad print process or the resulting print (e.g., lithograph, etching) is typically prefixed by the term “photo” when photomechanical processes have been used (e.g., photolithography, photolithograph, photoetching, photoscreenprint). Photomechanical processes are based on a principle of photographic chemistry: certain substances harden when exposed to light. Light passing through a source image selectively hardens a material on the printing matrix, creating hardened ink-receiving and unhardened ink-repelling areas that will duplicate the source image when printed. The term *photomechanical* has over time acquired negative connotations because such processes were historically used mainly to reproduce art rather than to create it. However, since the 19th century artists have invented and exploited photomechanical methods to create original works.

Process color

Process color (often known by the abbreviation CMYK) is the commercial or industry term for full-color printing in ink using three subtractive colors—cyan, magenta, and yellow—plus black in order to create the illusion of a full spectrum of color. Process color is typically used to reproduce color photographic images.

Process print

The term *process print* is now commonly reserved for prints from any of the broad print categories (relief, intaglio, planographic, or stencil) in which a photographic process was involved in the creation of the printing matrix, particularly within the context of reprographic printmaking. Historically the term was applied somewhat more broadly to any print in which the design on the printing matrix had not been manually produced by an artist or craftsman, and therefore included other mechanical or chemical techniques.

Mechanical tint screen

A mechanical tint screen is a transparency containing a dot pattern that is used with photomechanical methods of printmaking to add degrees of tint, shading, or “fill” to non-image areas in solid designs or line art. Since 1879, the most popular type of tint screens have utilized Ben-Day dots, or evenly spaced dots of the same diameter, named after illustrator and printer Benjamin Henry Day, Jr. However, mechanical tint screens can be made with a wide variety of patterns.

Mezzotint screen

A mezzotint screen is a traditional contact screen with a random, regular grain pattern, which is used to separate a continuous-tone image without producing the strict grid of a halftone dot screen.

G. Selected References

- Antreasian, G. Z.**, with C. Adams. 1971. *The Tamarind book of lithography: Art and techniques*. New York: Harry N. Abrams.
- Benson, R.** 2008. *The printed picture*. New York: The Museum of Modern Art.
- Cape Fear Press.** Photo intaglio definitions. www.capefearpress.com/photointagliodef.html
- Boston Museum of Fine Arts.** CAMEO: Conservation and Art Materials Encyclopedia Online. http://cameo.mfa.org/wiki/Main_Page
- Catanese, P.**, and A. Geary. 2012. *Post-digital printmaking: CNC, traditional and hybrid techniques*. London: A & C Black, Publishers.
- Crown Point Press.** Magical secrets glossary. www.magical-secrets.com/studio/glossary
- Devon, M.**, with B. Lagattuta and R. Hamon. 2008. *Tamarind techniques for fine art lithography*. New York: Harry N. Abrams.
- Elliot, P.**, ed. 2001. *The publications of Charles Booth-Clibborn and his imprint, the Paragon Press: 1995–2000*. (Glossary of print terms and techniques). New Haven: Yale University Press.
- Gascoigne, B.** 2004. *How to identify prints: A complete guide to manual and mechanical processes from woodcut to inkjet*, rev. ed. New York: Thames and Hudson.
- Getty Research Institute.** AAT: Art and Architecture Thesaurus online. www.getty.edu/research/tools/vocabularies/aat/
- Goldman, P.** 1998. *Looking at prints, drawings and watercolours: A guide to technical terms*. London: British Museum Publications.
- Grasselli, M. M.**, I. E. Phillips, K. Smentek, and J. C. Walsh. 2003. *Colorful impressions: The printmaking revolution in eighteenth-century France*. Washington, D.C.: National Gallery of Art.
- Howard, K.** 2003. *The contemporary printmaker: Intaglio-type and acrylic resist etching*. New York: Write-Cross Press.
- Ittmann, J.** 2001. *Dox Thrash: An American master printmaker rediscovered* (glossary of printmaking terms). Philadelphia, PA: Philadelphia Museum of Art.
- Mustalish, R. C.**, and S. Ackley. 1998. *PhotoImage: Printmaking 60s–90s* (glossary of technical terms). Boston: Museum of Fine Arts, Boston.
- Nadeau, L.** 1989. *Encyclopedia of printing, photographic, and photomechanical processes*. New Brunswick, CA: Atelier.
- National Gallery of Art.** Gemini G.E.L. Glossary. www.nga.gov/gemini/glossary.htm
- Oxford University Press.** Oxford Art Online. www.oxfordartonline.com/subscriber/
- Tallman, S.** 1996. *The contemporary print from pre-pop to postmodern* (glossary). New York and London: Thames and Hudson.
- Print Wiki:** The Free Encyclopedia of Print. <http://printwiki.org>
- Saff, D.**, and D. Sacilotto. 1978. *History and process printmaking* (glossary). New York: Holt, Rinehart, and Winston.
- Shure, B.** 2009. *Magical secrets about chine collé: Pasting, printing, mounting, and leafing step-by-step*. San Francisco: Crown Point Press.
- Spencer Museum of Art.** University of Kansas. Glossary of Printmaking Terms. <http://www.spencerart.ku.edu/collection/print/glossary.shtml>
- Stijnman, A.** 2012. *Engraving and etching 1400–2000: A history of the development of manual intaglio printmaking processes*. London: Archetype Publications.
- Tamarind Institute.** Definitions. <http://tamarind.unm.edu/definitions.html>
- Wax, C.** 1996. *The mezzotint: History and technique*. New York: Harry N. Abrams.

APPENDICES

APPENDIX 1: GUIDELINES SUMMARY

SYNTAX FOR ART ON PAPER: MEDIA RELATIONSHIP AND DEGREE

I. GENERAL SYNTAX

A. General Listing Format

Order by visual dominance.

Use the serial comma.

Use commas to set off a prepositional phrase only when the phrase modifies multiple media.

Watercolor and graphite, with scratching out, on paper (Scratching out affects all the media.)

Use “with” to indicate minor materials or techniques.

Use “over” when describing layered media.

Use “(est.)” if uncertain about the identification of a medium.

B. Designating and Including Color

Include color names if only one or two colors of a given medium are present.

Use hyphenated compound terms to describe intermediate colors.

Chiaroscuro woodcut printed in gray-green and black inks from two blocks (i.e. not grayish-green)

Use “light” or “dark” to indicate extremes of value or intensity.

Include descriptions of distinctive colors.

Pen and pink fluorescent ink over gold metallic paint on paper

C. Including Supports

Identify the primary support following the materials and techniques.

Use “toned with [medium]” to describe papers colored overall with paint, ink, or dry media.

Use “prepared with ground” to describe papers with a surface coating applied by the artist.

Black and white chalks over graphite on paper prepared with pink ground (St. Memin)

Use “coated” to describe papers with a surface coating applied during manufacture.

Identify repurposed supports and commercial supports with pre-existing media.

Acrylic paint and graphite on printed newspaper

Identify distinctive paper or board types in parentheses following the support.

Red chalk and charcoal on paper (tracing paper)

Identify non-paper supports.

Graphite on polyester film (Mylar)

Include the number of supports for individual works comprised of multiple separate supports.

Include the number of joined pieces for single works on multiple adhered supports.

Secondary supports

Describe attachment to a secondary support after the primary support.

Watercolor, sprayed through stencils and brushed, on paper mounted on board inscribed by the artist (Klee)

II. DRAWING-SPECIFIC SYNTAX

A. Listing Format (See General Syntax A.)

B. Word Choice for Underdrawings, Less Abundant Media and Highlights

Use “over [medium]” to identify an underdrawing.

Use “touches of [medium]” to describe scarce but visually significant media.

Use “traces of [medium]” to describe scarcely visible media.

Use “with white [medium]” to describe highlights.

Pen and brush and brown ink with white opaque watercolor on paper

C. Designating and Including Color in Drawings (See General Syntax B.)

D. Selecting Singular or Plural Forms for a Drawing Medium Present in Multiple Colors

Full-Palette Media

Always use the singular form with full-palette media; list the colors only when fewer than three are present.

Red and blue wax crayon (Only two colors are present, so they are listed.)

Other Drawing Media

For limited-palette media, always use the plural form when multiple colors are present, even if they are not listed.

E. Multiple Forms of the Same Drawing Material

When multiple forms of the same medium are present, list them separately.

Graphite pencil and powdered graphite

F. Including Implements Used to Apply Ink and Paint

Include implements when their use is not implicit.

When adhering to institutional practices for implement inclusion, record additional details in an EXTENDED MEDIUM field.

III. PRINT-SPECIFIC SYNTAX**A. Listing Format**

Follow the General Listing Format for word order and punctuation.

Include the printing process for atypical uses of the printing matrix.

Color hard ground and soft ground etching, printed intaglio in orange, green, and black inks and relief in blue and red inks

B. Listing Associated Techniques

List associated techniques before primary print processes.

Hard ground and open bite etching

C. Additional Manipulations of the Image Matrix**Mechanical Manipulations****Selective inking techniques**

Describe additional manipulations of the image matrix using the phrase “with [manipulation].”

Etching with scraping and unique inking (manipulated plate tone)

Tool vs. action: Only state the tool when no verb exists to describe its use.

Soft ground etching with scorper (The scorper is the tool.)

Use the serial comma for more than two tools or actions.

Include the appropriate action or tool after each printmaking process.

D. Hand-applied Media

List hand-applied media (hand coloring) after manipulations of the image matrix.

Lithograph with stenciled watercolor (hand coloring)

E. Material Additions

Use “with” to list material additions.

F. Color Prints (See General Syntax B.)

For prints in two or more colors, include “color” before the printmaking process.

Include the number of colors if known.

For prints in a single non-black color, use “printed in [color] ink” after the printmaking process.

List individual colors and number of matrices if known.

Color lithograph, printed in black and tan inks from two stones

Describe distinctive ink colors and characteristics.

Color screenprint, printed in fluorescent inks

Specify solid-color tone stones, plates, or “flats” if known.

Woodcut, printed in black ink with blue-green tone block

G. including Supports

Identify the primary support for atypical or distinctive papers and for materials other than paper.

Use “printed chine collé” to describe prints incorporating that process.

Identify prints produced as part of a larger series, set, or portfolio.

Color etching and aquatint, from a portfolio of ten prints by various artists

DRAWINGS: IDENTIFICATION AND CHARACTERIZATION OF MATERIALS AND TECHNIQUES**I. DRY DRAWING MEDIA****A. Chalk*****Differentiating among Chalk Types******Distinguishing Black Chalk from Graphite and Charcoal******Distinguishing Fabricated Chalk from Pastel***

Use “chalk” or “fabricated chalk” to describe the medium.

Include the chalk color in the medium description.

Use the plural form “chalks” when more than one color is present.

B. Charcoal***Differentiating among Forms of Charcoal******Distinguishing Charcoal from Black Chalk or Graphite***

Use “charcoal” to describe the natural medium; identify other forms.

C. Colored Pencil

Use “colored pencil” to describe the medium.

Use “black colored pencil” where appropriate.

Always use the singular form “colored pencil” even when listing individual colors.

Use “watercolor pencil” to describe colored pencils with water-soluble components.

D. Crayon***Differentiating among Crayon Types******Distinguishing Crayon from Chalk***

Use “crayon” to describe the medium, and specify the type of crayon.

Always use the singular form “wax crayon” even when listing individual colors.

E. Graphite***Differentiating among Forms of Graphite******Distinguishing Graphite from Metalpoint***

Use “graphite” to describe graphite-containing media.

Specify the forms of graphite present.

F. Metalpoint***Grounds******Distinguishing Metalpoint from Graphite***

Use “metalpoint” unless the specific type of metal is known.

Specify the color of the ground.

G. Paint Stick**H. Pastel*****Differentiating among Pastel Types******Distinguishing Pastels from Fabricated Chalks***

Use “pastel” to describe the medium; specify the pastel type if known.

Always use the singular form “pastel” even when listing individual colors.

I. Other Dry Media or Media That Cannot Be Identified

Identify other dry media when known, or use “unidentified [color] [medium description].”

Gunpowder with erasing on paper (Ruscha)

J. Dry Drawing Media: Manipulations, Reductive Techniques, and Fixatives (See Drawings IV.)

II. INK

A. General issues

Use “ink” to describe a liquid drawing medium without perceptible particles.

Use “wash” to describe diluted ink, broadly brush-applied.

Including implements

Include the implement(s) used to apply the ink.

List multiple implements in order of application.

Other application methods

List direct-application techniques after the medium using the past participle.

Black ink, brushed, spattered, and dripped, on paper

Describe the use of atypical implements or techniques.

Black ink, sponge-applied and wiped, on paper

Color and Tone of Diluted Ink (Wash)

If an ink is present undiluted and diluted form (generally as a wash), do not identify the latter by a separate color name.

Pen and black ink and wash on paper

Only identify the color of a diluted ink if it is judged to be different from undiluted ink in the same work.

Pen and black ink and brown wash on paper (The wash is clearly a different ink.)

Use hyphenated compound colors to identify complex colors.

Use the modifiers “light” and “dark” to describe color value or intensity.

B. Brown Inks

Use the term “brown ink” without identifying the specific ink type.

Pen and brown ink (est. iron gall) over traces of black chalk on paper

C. Black Inks

Use the term “black ink” without identifying the specific ink type.

Brush and pen and black ink on paper

D. Multiple Implements, Inks, or Colors in a Single Piece

List multiple inks, ink colors, or implements.

Colored Inks

Include the ink color if one or two colors are present; omit colors for three or more inks.

E. Traditional Dip Pens

F. Modern Ink Pens

Pen Types

Include the type of reservoir pen when it can be confidently identified.

Describe distinctive ink colors or characteristics.

Yellow fluorescent porous-point pen (highlighter) on paper

Multiple Pen Types or Colors in a Single Work

Identify the pen types; include colors if fewer than three are used.

Reed and quill pens and brown ink over graphite on paper (van Gogh)

G. White Highlights (See Drawing Specific Syntax)

H. White Corrections by the Artist

Use “with corrections by the artist in [medium]” to identify white corrections.

III. PAINT

A. General Issues

Include the specific paint type when possible.

When the specific paint type is not known, describe the paint's surface reflectance and transmittance of light.

Semi-gloss opaque paint (est. oil) and opaque watercolor on paper

List colors only when fewer than three are used.

Use appropriate descriptors for distinctive paint subsets. (See G. below)

Varnishes and coatings

Use "with selectively applied glaze" to describe a colorless, glossy coating used to saturate underlying media.

Use "varnish" to describe a colorless, glossy material used as a standalone design medium.

B. Application Tools and Techniques

Only list implements other than brushes, unless a brush was used along with other implements.

Brush-, spatula- and sponge-applied acrylic paint on paper (vs. acrylic paint on paper)

Describe direct application methods using the past participle.

Opaque watercolor and ink, brushed and poured on paper

C. Water-based Paints

Water-based paints with carbohydrate binders

Use "watercolor" for transparent paints and "opaque watercolor" for opaque paints.

Water-based paints with proteinaceous binders

Identify paint as "tempera" if a proteinaceous binder is present; include the binder type if known.

Glossy opaque paint (est. egg tempera) on board

Use "casein" only if the binder is known.

Other water-based paints

Do not use "poster paint"; describe such paint as "matte opaque paint."

D. Synthetic Polymer Paints

Acrylic paint

Use "acrylic paint" only if the binder has been determined by analysis or art-historical context.

Commercial and industrial paints

Use "synthetic polymer paint" with appropriate modifiers unless the binder has been identified.

Glossy, opaque synthetic polymer paint (est. alkyd) on paper

E. Oil Paint

Use "oil paint" only if the binder has been determined by analysis or art-historical context.

F. Wax

Encaustic

Wax

Use "wax" or "colored wax" to describe any wax medium.

Colored wax (encaustic) on paper

G. Luminescent and Lustrous Colors

Luminescent colors

After listing the color, identify luminescent paints as "fluorescent" or "phosphorescent."

Green phosphorescent paint on paper

Lustrous colors

List the color and the appropriate modifier when describing a lustrous paint.

Opaque watercolor, gold metallic and pink pearlescent paints on paper

IV. MANIPULATIONS AND REDUCTIVE TECHNIQUES, TRANSFER TECHNIQUES, AND COATINGS

A. Manipulations

Use the form “[medium] with [gerund]” to describe the manipulation, not the implement.

Pastel with blending and erasing on paper

Manipulations Used To Move the Media: Stumping, Smudging, Blending

Use “with stumping” to describe the use of a stump to soften lines.

Use “with smudging” to describe the use of fingers or softer materials to soften lines.

Use “with blending” to describe the blending of two or more media.

Reductive or Subtractive Techniques: Scraping, Scratching Out, Blotting, Erasing

Use “with [reductive manipulation technique]” as appropriate to describe the removal of media.

Watercolor with scraping and blotting on paper

Masking Out

Use “with masking out” to describe masking out of media.

Dry Media Manipulated with Water

Use “with wet brush” to describe discrete areas of manipulation.

Use “wash” to describe broad or overall manipulation.

White Corrections by the Artist

Use “with corrections by the artist in [medium]” to identify white corrections

B. Transfer Techniques

Incising

Use “incised for transfer” following the support to describe this technique.

Pricking

Use “pricked for transfer” following the support to describe this technique.

Squaring

Use “squared in [medium]” to describe a grid used to transfer or resize a design.

C. Coatings: Glazes, Varnishes, and Fixatives

Identify coatings only when used selectively, for artistic effect.

Glazing and Varnishes

Use “with selectively applied glaze” to describe a colorless, glossy coating used to saturate underlying media.

Use “varnish” to describe a colorless, glossy coating used as a standalone design medium.

Fixatives

Use “with selectively applied fixative” to identify the presence of a fixative used only for artistic effect.

COLLAGE AND MATERIAL ADDITIONS

Collage Categories

A. Collage of Paper

Use “collage of” when describing paper additions; list in order of visual dominance.

Collage of cut printed papers on board

B. Drawing, Painting, or Print with Collage of Paper and/or Material Additions

Where applied media outweigh the collage elements, list the media or print processes first.

Watercolor with collage of cut printed paper on board

C. Collage of Paper and/or Material Additions with Drawn, Printed, or Painted Media

Where collage elements outweigh the applied media, list the paper or material additions first.

Collage of cut printed paper and watercolor on board

For collages made from cut or torn works of art on paper, include the type of artwork.

Collage of torn color lithograph and screenprint on paper

D. Material Additions

List non-paper elements separated by commas, without the phrase “collage of.”
Sequins and string on board

E. Methods of Attachment

When the form of attachment is not visible, do not include it in the media description.
Collage of cut printed papers on board

When specific forms of attachment are visible, describe them using the past participle.
Collage of cut printed papers stapled on paper

When both visible and invisible forms of attachment are present, use “adhered” to indicate hidden forms of attachment.
Collage of cut printed papers stapled and adhered on paper

F. Detailed Description of Collage Elements and Fabrication

Use a technical notes field to record more extensive observations regarding collage elements.

PRINTS: IDENTIFICATION AND CHARACTERIZATION OF MATERIALS AND TECHNIQUES**I. PRINT CATEGORIES****A. Relief Prints and Processes*****Types of Relief Prints***

Identify the specific relief printing technique when it can be determined.

e.g., woodcut, wood engraving, collagraph, linocut, metalcut, potato print, ink stamp, letterpress, etc.

Use “relief print” if the specific relief printing technique cannot be determined.

B. Intaglio Prints and Processes***Types of intaglio prints***

Identify the specific intaglio printing technique(s) when they can be determined.

e.g., engraving, drypoint, mezzotint, or etching and associated techniques

Use “intaglio print” if the specific intaglio printing technique(s) cannot be determined.

C. Planographic Prints and Processes***Types of planographic prints***

Identify the specific planographic printing technique when it can be determined.

e.g., lithograph or monotype

Use “planographic print” if the specific planographic printing technique cannot be determined.

D. Stencil Prints and Processes***Types of stencil prints***

Identify the specific stencil printing technique when it can be determined.

e.g., stencil print, screenprint, or photoscreenprint

Use “stencil print” if the specific stencil printing technique cannot be determined.

E. Photomechanical Prints and Processes***Types of photomechanical prints***

Identify the specific photomechanical printing technique when it can be determined

e.g., photolithography, photogravure, photoetching, photomechanical metal relief printing, or photopolymer intaglio or relief printing

Use “photomechanical print” when the specific process is not known or cannot be determined.

F. Variations in Technique and Associated Print Techniques

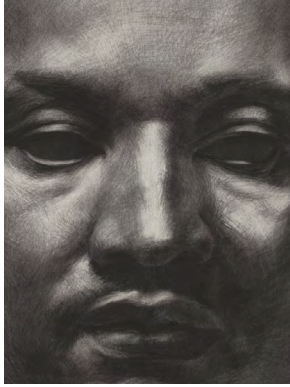


Fig. 43. Charcoal and charcoal pencil, with erasing and scratching out, on paper. Detail from John Woodrow Wilson, *Martin Luther King, Jr.*, 1981. PMA 2000-34-1 © John Woodrow Wilson/ Licensed by VAGA, New York, NY



Fig. 55. Metalpoint with graphite pencil on paper prepared with white ground. Detail from Joseph Stella, *Self-Portrait*, 1920s. PMA 1988-21-1

TECHNICAL NOTE: in this work the delicate brown lines are metalpoint and the gray lines are graphite pencil.



Fig. 62. Pen and brush with black ink and wash, with watercolor and graphite, on paper. Detail from William Blake, *A Destroying Deity*, c. 1820-25. PMA 1964-110-7



Fig. 88. Colored wax emulsion on paper. Detail from Arthur Garfield Dove, *Abstract Study with Orange, Yellow, Green, and Purple Curving Lines*, 1943-44. PMA 1986-4-14

TECHNICAL NOTE: FTIR analysis identified wax as primary medium; other media may be present

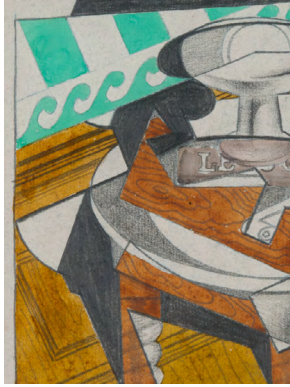


Fig. 75. Watercolor, opaque watercolor, graphite, black chalk, and varnish on paper. Detail from Juan Gris, *The Table*, 1916. PMA 1952-61-37

TECHNICAL NOTE: Varnish with yellow-brown discoloration (e.g., in lower left corner of the composition) is distinguished from other media by a lack of discernible pigmentation and relatively high gloss.



Fig. 28. Etching with unique inking (manipulated plate tone). Detail from John Marin, *Woolworth Building, No. 1*, 1913. PMA 1969-81-86



Fig. 108. Collage of torn colored paper with brush and black ink and graphite on paper. Detail from Jean (Hans) Arp, *Composition*, 1937. PMA 1947-88-4



Fig. 125. Color spit bite aquatint and soft ground and hard ground etching with flat bite, printed *chine collé*. Detail from Kiki Smith, *Still*, 2006. PMA 2006-151-1

APPENDIX 2: IMAGE LIST

GENERAL SYNTAX



Fig. 6

Félix Hilaire Buhot, French, 1847–1898

L'Hiver à Paris, 1879

Hard ground and soft ground etching, aquatint, and drypoint, with sulfur tint and roulette

Plate: 9 5/16 x 13 3/4 inches (23.7 x 34.9 cm) Sheet: 12 9/16 x 17 1/16 inches (31.9 x 43.3 cm)

Philadelphia Museum of Art: Gift of Ann E. and Donald W. McPhail, 2012-25-29



Fig. 7

Samuel Lewis, American, c. 1757–1822

A Deception, c. 1802

Pen and brush and black and brown inks, watercolor, blue-green matte opaque paint, gold metallic paint, and graphite, with scratching out, on paper

Sheet: 16 1/4 x 10 15/16 inches (41.3 x 27.8 cm)

Philadelphia Museum of Art: Gift of the McNeil Americana Collection, 2012-172-163



Fig. 8

Gaetano Gandolfi, Italian, 1734–1802

David with the Head of Goliath, c. 1790

Black chalk with red and white chalks over charcoal on paper

Sheet: 11 7/16 x 6 13/16 inches (29.1 x 17.3 cm)

Philadelphia Museum of Art: The Muriel and Philip Berman Gift, acquired from the John S. Phillips bequest of 1876 to the Pennsylvania Academy of the Fine Arts, with funds contributed by Muriel and Philip Berman and the Edgar Viguers Seeler Fund (by exchange), 1984-56-125



Fig. 9

Giovanni Francesco Barbieri (called il Guercino), Italian, 1591 - 1666

Samson and Delilah, 1646

Pen and brown ink (est. iron gall) on paper, mounted on paper

Sheet: 7 15/16 x 9 9/16 inches (20.1 x 24.3 cm)

Philadelphia Museum of Art: Purchased with the Alice Newton Osborn Fund, the Lola Downin Peck Fund, and the John D. McIlhenny Fund, 1994-83-1



Fig. 10

Giuseppe Nicola Rossigliani, known as Niccolò Vicentino, Italian, 1503–1540

The Adoration of the Magi, Mid-16th century

Chiaroscuro woodcut, printed in gray-green, light olive, and black inks from three blocks

Sheet: 6 5/16 x 9 5/16 inches (16 x 23.7 cm)

Philadelphia Museum of Art: The Muriel and Philip Berman Gift, acquired from the John S. Phillips bequest of 1876 to the Pennsylvania Academy of the Fine Arts, with funds contributed by Muriel and Philip Berman, gifts (by exchange) of Lisa Norris Elkins, Bryant W. Langston, Samuel S. White 3rd and Vera White, with additional funds contributed by John Howard McFadden, Jr., Thomas Skelton Harrison, and the Philip H. and A. S. W. Rosenbach Foundation, 1985-52- 2093

APPENDIX 2

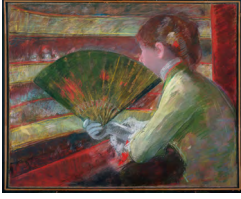


Fig. 11
Mary Stevenson Cassatt, American, 1844–1926
In the Loge, c. 1879
Pastel with gold metallic paint on canvas
Sheet: 25 5/8 x 32 inches (65.1 x 81.3 cm)
Philadelphia Museum of Art: Gift of Mrs. Sargent McKean, 1950-52-1



Fig. 12
Max Ernst, American (born Germany), 1891–1976
Rara Avis, 1942
Wax crayon on orange paper
Sheet: 18 x 12 inches (45.7 x 30.5 cm)
Published by VVV, New York
Philadelphia Museum of Art: The Louise and Walter Arensberg Collection, 1950-134-973
© Artists Rights Society (ARS), New York / ADAGP, Paris

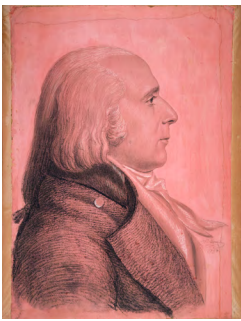


Fig. 13
Charles Balthazar Julien Fevret de Saint-Mémin, French (active United States), 1770–1852 *Portrait of John Sitgreaves (1763–1798)*, 1798
Black and white fabricated chalks over graphite on paper prepared with pink ground
Sheet: 19 3/4 x 14 3/4 inches (50.2 x 37.5 cm)
Philadelphia Museum of Art: Bequest of Helen Hope Montgomery Scott, 1996-196-2



Fig. 14
James Castle, American, 1899–1977
Farmscape, view from inside shed through shed door, Date unknown
Soot and spit, stick-applied wiped, on found printed envelope
Sheet: 8 x 9 1/4 inches (20.3 x 23.5 cm)
Philadelphia Museum of Art: Gift of the James Castle Collection, L.P., Boise, Idaho, 2007-121-7



Fig. 15
Paul Thek, American, 1933–1988
Untitled (Butterflies) [diptych with 1992-131-1], 1988
Acrylic paint, gesso, and graphite on printed newspaper
Sheet: 21 x 27 inches (53.3 x 68.6 cm)
Philadelphia Museum of Art: Purchased with the Adele Haas Turner and Beatrice Pastorius Turner Memorial Fund, and with funds contributed by the Henfield Foundation and Harvey S. Shipley Miller, 1992-129-1
Not available online

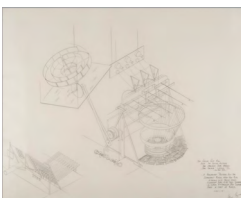


Fig. 16
Alice Aycock, American, born 1946
The Great God Pan, 1980
Graphite on polyester film (Mylar)
Sheet: 42 x 51 3/4 inches (106.7 x 131.4 cm)
Philadelphia Museum of Art: Purchased with the Hunt Corporation (formerly Hunt Manufacturing Co.) Arts Collection Program, 1981-36-1

**Fig. 17**

Antonio Frasconi, American (born Argentina), 1919–2013

Monterey Fisherman, 1951

Color woodcut printed on two sheets of paper (diptych)

Image (each): 19 1/2 × 16 1/2 inches (49.5 × 41.9 cm) Sheet (each): 21 × 17 1/2 inches (53.3 × 44.5 cm)

Philadelphia Museum of Art: Purchased with the Thomas Skelton Harrison Fund, 1952-31-48a,b

© Estate of Antonio Fransconi/Licensed by VAGA, New York, NY

**Fig. 18**

Paul Klee, Swiss, 1879–1940

Glance of a Landscape, 1926

Watercolor, sprayed through stencils and brushed, on paper mounted on board inscribed by the artist

Sheet: 11 7/8 × 18 1/8 inches (30.2 × 46 cm)

Philadelphia Museum of Art: The Louise and Walter Arensberg Collection, 1950-134-120

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DRAWING-SPECIFIC SYNTAX

**Fig. 19**

Edward Robert Hughes, English, 1851–1914

A Basket of Oranges (Portrait of George Mackay MacDonald), 1878

Watercolor and opaque watercolor with pen and brown ink over traces of graphite on paper mounted on board

Sheet: 14 1/8 × 10 1/16 inches (35.9 × 25.6 cm)

Philadelphia Museum of Art: The Henry P. McIlhenny Collection in memory of Frances P. McIlhenny, 1986-26-348

**Fig. 20**

Francesco Salviati (Francesco de' Rossi, also called il Cecchino), Italian, 1510 - 1563

Christ Disputing with the Doctors in the Temple, 1539?

Pen and brush and brown ink with white opaque watercolor on paper toned with brown wash

Sheet: 10 11/16 × 16 5/16 inches (27.1 × 41.5 cm)

Philadelphia Museum of Art: The Muriel and Philip Berman Gift, acquired from the John S. Phillips bequest of 1876 to the Pennsylvania Academy of the Fine Arts, with funds contributed by Muriel and Philip Berman and the Edgar Viguers Seeler Fund (by exchange), 1984-56-78

**Fig. 21**

Grant Wood, American, 1891–1942

Plowing, 1936

Colored pencil with white opaque paint over charcoal on paper mounted on board

Sheet: 23 1/2 × 29 1/2 inches (59.7 × 74.9 cm)

Philadelphia Museum of Art: Gift of C. K. Williams, II, 2009-227-1

© Figge Art Museum, successors to the Estate of Nan Wood Graham/Licensed by VAGA, New York, NY

**Fig. 22**

Elizabeth Osborne, American, born 1936

Leslie, 1969

Compressed charcoal and charcoal wash on paper

Sheet (sight): 27 1/8 × 22 5/8 inches (68.9 × 57.5 cm)

Philadelphia Museum of Art: Gift of an anonymous donor in memory of Marian Locks, 2010-68-1



Fig. 23

José Jusepe de Ribera, also called Lo Spagnoletto, Spanish (active Naples), 1591–1652
Man in a Fantastic Hat, before 1652

Pen and brown and black inks and washes over black chalk on paper

Sheet: 6 11/16 x 4 1/8 inches (17 x 10.5 cm)

Philadelphia Museum of Art: The Muriel and Philip Berman Gift, acquired from the Pennsylvania Academy of the Fine Arts with funds contributed by Muriel and Philip Berman and the Edgar Viguers Seeler Fund (by exchange), 1984-56-8



Fig. 24

Giovanni Battista Tiepolo, Italian (active Venice, Udine, Würzburg, and Madrid) 1696–1770

Scherzo di fantasia (Three Figures and an Owl), c. 1735–40

Pen and brown ink (est. iron gall) and wash over traces of black chalk on paper mounted on paper

Sheet: 8 11/16 x 6 9/16 inches (22.1 x 16.6 cm) Mount: 10 11/16 x 8 3/16 inches (27.1 x 20.8 cm)

Philadelphia Museum of Art: The Muriel and Philip Berman Gift, acquired from the Pennsylvania Academy of the Fine Arts with funds contributed by Muriel and Philip Berman and the Edgar Viguers Seeler Fund (by exchange), 1984- 56-92

PRINT-SPECIFIC SYNTAX



Fig. 25

Paul Gauguin, French, 1848–1903

Mana'o tupapau (The Spirit Watches Over Her), 1894

Woodcut printed in black ink and color monotype, with touches of watercolor (hand coloring)

Sheet: 9 1/2 x 18 3/16 inches (24.1 x 46.2 cm)

Philadelphia Museum of Art: Purchased with the Lisa Norris Elkins Fund, 1950-129-16



Fig. 26

Stanley William Hayter, English (active England, France, United States), 1901–1988

Le pendu, 1983

Color hard ground and soft ground etching and engraving, printed intaglio in orange, green, and black inks and relief in blue and red inks (gradated inking)

Plate: 22 5/8 x 20 9/16 inches (57.5 x 52.2 cm) Sheet: 35 5/8 x 24 5/8 inches (90.5 x 62.5 cm)

Philadelphia Museum of Art: Gift of Ann E. and Donald W. McPhail, 2012-25-10

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Fig. 27

Kara Walker, American, born 1969. Printed by Burnet Editions, New York.

no world, 2010

Etching, lift ground and spit bite aquatint, and drypoint

Plate: 24 x 35 3/4 inches (61 x 90.8 cm) Sheet: 30 1/4 x 39 5/16 inches (76.8 x 99.9 cm)

Philadelphia Museum of Art: Purchased with the Marion Stroud Fund for Contemporary Art on Paper, 2010-142-1

© Kara Walker



Fig. 28
John Marin, American, 1870–1953.
Woolworth Building, No. 1, 1913
Etching with unique inking (manipulated plate tone)
Plate: 11 13/16 x 9 7/8 inches (30 x 25.1 cm)
Published by Alfred Stieglitz, American, 1864–1946
Philadelphia Museum of Art: The J. Wolfe Golden and Celeste Golden Collection of Marin Etchings, 1969-81-86
© Estate of John Marin / Artists Rights Society (ARS), New York



Fig. 29
Stanley William Hayter, English (active England, France, United States), 1901–1988
Cronos, 1944
Softground etching and engraving with scorper
Plate: 15 3/4 x 19 7/8 inches (40 x 50.5 cm)
Philadelphia Museum of Art: Gift of Bernard Davis, 1950-43-14
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Not available online



Fig. 30
Pablo Ruiz y Picasso, Spanish, 1881–1973. Printed by Roger Lacourière, French, 1892–1966
Blind Minotaur Guided by a Girl at Night, 1934
Aquatint and drypoint with scraping
Plate: 9 11/16 x 13 11/16 inches (24.6 x 34.8 cm) Sheet: 13 x 15 15/16 inches (33 x 40.5 cm)
Philadelphia Museum of Art: Purchased with the Lisa Norris Elkins Fund, 1950-129-110
© Estate of Pablo Picasso / Artists Rights Society (ARS), New York



Fig. 31
Winslow Homer, American, 1836–1910
The Life Line, 1884
Etching with scraping, burnishing, and selective wiping
Image: 12 1/4 x 17 1/4 inches (31.1 x 43.8 cm)
Published by C. Klackner, 17 East 17th St., New York, 1887
Philadelphia Museum of Art: Purchased with the Thomas Skelton Harrison Fund, 1941-53-157



Fig. 32
Frances Flora Bond Palmer, American (born England), 1812–1876
American Express Train, 1864
Lithograph with watercolor (hand coloring)
Image: 17 3/4 x 27 3/4 inches (45.1 x 70.5 cm) Sheet: 20 x 29 1/8 inches (50.8 x 74 cm)
Published by Currier & Ives, New York
Philadelphia Museum of Art: Gift of Kathy and Ted Fernberger, 2009-215-4



Fig. 33
Mary Stevenson Cassatt, American, 1844–1926
By the Pond, c. 1896
Color drypoint and aquatint
Plate: 13 1/16 x 16 7/8 inches (33.2 x 42.9 cm) Sheet (irregular): 14 7/8 x 18 5/8 inches (37.8 x 47.3 cm)
Philadelphia Museum of Art: Gift of R. Sturgis Ingersoll, Frederic Ballard, Alexander Cassatt, Staunton B. Peck, and Mrs. William Potter Wear, 1946-11-7

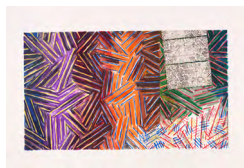


Fig. 34
Jasper Johns, American, born 1930
Between the Clock and the Bed, 1989
Color lithograph, printed in fourteen colors
Image: 19 5/8 x 34 inches (49.8 x 86.4 cm) Sheet: 29 x 42 inches (73.7 x 106.7 cm)
Philadelphia Museum of Art: Gift of the Friends of the Philadelphia Museum of Art, 1989-3-3
© Jasper Johns/Licensed by VAGA, New York, NY



Fig. 35
Hilaire-Germain-Edgar Degas, French, 1834–1917
On Stage III, 1876-77
Soft ground etching and drypoint with roulette, printed in red-brown ink
Plate: 4 x 4 15/16 inches (10.2 x 12.5 cm) Sheet: 5 3/4 x 6 3/4 inches (14.6 x 17.1 cm)
Philadelphia Museum of Art: Purchased with the John D. McIlhenny Fund, 1941-8-33



Fig. 36
Ferdinand Olivier, German, 1785–1841
Friday, Meadow outside of Aigen near Salzburg, 1818-22
Color lithograph, printed in black and tan inks from two stones
Image: 7 11/16 x 10 11/16 inches (19.5 x 27.2 cm) Sheet: 14 9/16 x 20 11/16 inches (37 x 52.5 cm)
Philadelphia Museum of Art: 125th Anniversary Acquisition. Purchased with the Lola Downin Peck Fund and the Carl and Laura Zigrosser Collection (by exchange), 1997-170-6



Fig. 37
Giuseppe Nicola Rossigliani, known as Niccolò Vicentino, Italian, 1503–1540
The Adoration of the Magi, Mid-16th century
Chiaroscuro woodcut, printed in gray-green, light olive, and black inks from three blocks
Sheet: 6 5/16 x 9 5/16 inches (16 x 23.7 cm)
Philadelphia Museum of Art: The Muriel and Philip Berman Gift, acquired from the John S. Phillips bequest of 1876 to the Pennsylvania Academy of the Fine Arts, with funds contributed by Muriel and Philip Berman, gifts (by exchange) of Lisa Norris Elkins, Bryant W. Langston, Samuel S. White 3rd and Vera White, with additional funds contributed by John Howard McFadden, Jr., Thomas Skelton Harrison, and the Philip H. and A. S. W. Rosenbach Foundation, 1985-52- 2093



Fig. 38
Virgil Marti, American, born 1962
Black Light Poster, Cycle Thief, 1994
Color screenprint, printed in fluorescent inks with black flocking
Philadelphia Museum of Art: Purchased with the Julius Bloch Memorial Fund created by Benjamin D. Bernstein, 1994-69-1

DRY DRAWING MEDIA

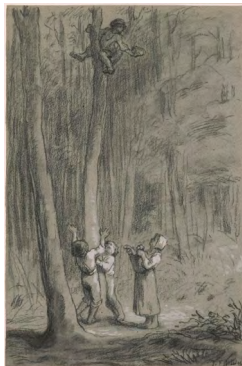


Fig. 39
Jean-François Millet, French, 1814–1875
Children Hunting Birds' Nests, c. 1850
Black and white chalks with white opaque watercolor on blue paper
Sheet: 9 1/2 x 6 1/4 inches (24.1 x 15.9 cm)
Philadelphia Museum of Art: Gift of Staunton B. Peck, 1950-33-1



Fig. 40
Pompeo Girolamo Batoni, Italian, 1708–1787
Studies for the Merenda Holy Family (Virgin's Drapery and Child), c. 1740
Red chalk with touches of white chalk, squared in red chalk, on paper toned with yellow wash
Sheet: 8 3/16 x 10 7/8 inches (20.8 x 27.6 cm)
Philadelphia Museum of Art: Bequest of Anthony Morris Clark, 1978-70-165



Fig. 41
 Sir David Wilkie, Scottish, 1785–1841
The Orderly of Sir David Baird and Three Companions, 1835-36
 Black and white chalks with touches of red chalk on brown paper
 Sheet: 11 1/4 x 15 3/8 inches (28.6 x 39.1 cm)
 Philadelphia Museum of Art: Gift of David Keppel, 1942-51-1

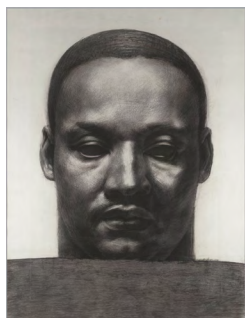


Fig. 43
 John Woodrow Wilson, American, born 1922
Martin Luther King, Jr., 1981
 Charcoal and charcoal pencil, with erasing and scratching out, on paper
 Sheet: 38 1/8 x 29 7/16 inches (96.8 x 74.8 cm)
 Philadelphia Museum of Art: 125th Anniversary Acquisition. Purchased with funds contributed by the Young Friends of the Philadelphia Museum of Art in honor of the 125th Anniversary of the Museum and in celebration of African American art, 2000-34-1
 © John Woodrow Wilson/Licensed by VAGA, New York, NY



Fig. 44
 Elizabeth Osborne, American, born 1936
Leslie, 1969
 Compressed charcoal and charcoal wash on paper
 Sheet (sight): 27 1/8 x 22 5/8 inches (68.9 x 57.5 cm)
 Philadelphia Museum of Art: Gift of an anonymous donor in memory of Marian Locks, 2010-68-1



Fig. 45
 Grant Wood, American, 1891–1942
Plowing, 1936
 Colored pencil with white opaque paint over charcoal on paper mounted on board
 Sheet: 23 1/2 x 29 1/2 inches (59.7 x 74.9 cm)
 Philadelphia Museum of Art: Gift of C. K. Williams, II, 2009-227-1

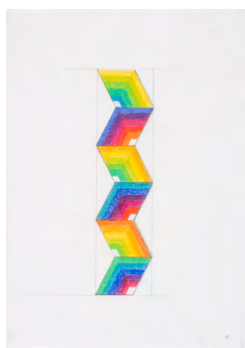


Fig. 46
 Edna Andrade, American, 1917–2008
Flip Flop, c. 1982
 Colored pencil and graphite on two sheets of paper (diptych)
 Sheet (left panel): 12 7/8 x 9 inches (32.7 x 22.9 cm)
 Sheet (right panel): 13 3/4 x 9 inches (34.9 x 22.9 cm)
 Philadelphia Museum of Art: Purchased with the Marion Stroud Fund for Contemporary Art on Paper, the Margaretta S. Hinchman Fund, and the Joseph E. Temple Fund, 2008-100-23a,b
 © Estate of Edna Andrade



Fig. 47
 Georges Seurat, French, 1859–1891
Trombonist (Study for "Circus Side Show"), 1887–88
 Conte crayon with white chalk on paper
 Sheet: 12 1/4 x 9 3/8 inches (31.1 x 23.8 cm)
 Philadelphia Museum of Art: The Henry P. McIlhenny Collection in memory of Frances P. McIlhenny, 1986-26-31



Fig. 50
 Martín Ramírez, American (born Mexico), 1895–1963
Untitled (Muleshoe Deer), c. 1952
 Wax crayon and graphite on paper
 Image and sheet: 17 13/16 x 24 1/16 inches (45.2 x 61.1 cm)
 Philadelphia Museum of Art: 125th Anniversary Acquisition. Bequest of Derrel DePasse, 2002-53-41
 © Estate of Martín Ramírez



Fig. 52
 Paul Cézanne, French, 1839–1906
Bowler Hat and Garment, 1885–1900, Page XXXVIII (verso) from *Sketchbook II*
 Graphite pencil on paper
 Sheet: 5 x 8 1/2 inches (12.7 x 21.6 cm)
 Philadelphia Museum of Art: Gift of Mr. and Mrs. Walter H. Annenberg, 1987-53-67b



Fig. 53
 Collin Gill, English, 1892–1940
Archers, c. 1926-27
 Graphite pencil with yellow and blue colored pencil on board (Bristol)
 Sheet: 14 7/8 x 12 7/16 inches (37.8 x 31.6 cm)
 Philadelphia Museum of Art: Bequest of Dean Walker, 2006-53-137



Fig. 54
 Jim Dine, American, born 1935
Drawing Lesson (2nd Version), 2008
 Graphite pencil and graphite wash on paper
 Sheet (irregular): 11 1/2 x 8 3/4 inches (29.2 x 22.2 cm)
 Philadelphia Museum of Art: Gift of the artist, 2014-45-5



Fig. 55
Joseph Stella, American (born Italy), 1877–1946
Self-Portrait, 1920s
Metalpoint with graphite pencil on paper prepared with white ground
Sheet: 30 3/16 x 22 3/16 inches (76.7 x 56.4 cm)
Philadelphia Museum of Art: Purchased with the Alice Newton Osborn Fund, the Katharine Levin Farrell Fund, the Margareta S. Hinchman Fund, the Joseph E. Temple Fund, and with funds contributed by Marion Boulton Stroud and Jay R. Massey, 1988-21-1



Fig. 56
Cy Twombly, American, 1928–2011
Drawing for "Fifty Days at Iliam," 1978
Paint stick and graphite on paper
Sheet (sight): 40 7/8 x 27 3/8 inches (103.8 x 69.5 cm)
Philadelphia Museum of Art: Gift (by exchange) of Samuel S. White 3rd and Vera White, 1989-90-12



Fig. 57
Cecilia Beaux, American, 1855–1942
Ethel Page (Mrs. James Large), 1890
Pastel on paper
Sheet: 14 1/2 x 11 1/2 inches (36.8 x 29.2 cm)
Philadelphia Museum of Art: Gift of Raymond J. and Margaret Horowitz, 2008-67-1



Fig. 58
Edward Ruscha, American, born 1937
Pool, 1968
Gunpowder with erasing on paper
Sheet: 22 15/16 x 29 inches (58.3 x 73.7 cm)
Philadelphia Museum of Art: Purchased with the Lola Downin Peck Fund and the Carl and Laura Zigrosser Collection (by exchange), 1998-155-1
© Edward Ruscha, courtesy Gagosian Gallery

INK



Fig. 59
Richard Pousette-Dart, American, 1916–1992
Head of Antiochus, 1930s
Brush and black ink and blue-green wash on paper
Sheet: 16 3/4 x 13 3/4 inches (42.5 x 34.9 cm)
Philadelphia Museum of Art: Purchased with funds contributed by C. K. Williams, II, 2012-61-1
© Estate of Richard Pousette-Dart / Artists Rights Society (ARS), New York



Fig. 60
 Giovanni Antonio Guardi, Italian, 1699–1760
The Apotheosis of a Saint (San Giovanni Capistrano?), c. 1730
 Pen and brown ink and wash over red chalk on paper.
 Sheet: 16 5/16 x 10 13/16 inches (41.4 x 27.5 cm)
 Philadelphia Museum of Art: The Muriel and Philip Berman Gift, acquired from the Matthew Carey Lea bequest of 1898 to the Pennsylvania Academy of the Fine Arts, with funds contributed by Muriel and Philip Berman and the Edgar Viguers Seeler Fund (by exchange), 1984-56-243

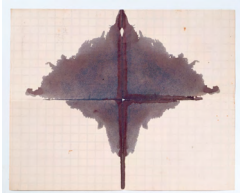


Fig. 61
 Joseph Cornell, American, 1903–1972
Untitled, c. 1942-53
 Blue-black ink, poured and blotted, on printed paper (graph paper)
 Object contained in Duchamp Dossier - 1990-33-1(1a,b--118): 14 1/4 x 12 5/8 x 3 1/8 inches (36.2 x 32.1 x 7.9 cm)
 Philadelphia Museum of Art: Gift of The Joseph and Robert Cornell Memorial Foundation, 1990-33-1(75)
 © The Joseph and Robert Cornell Memorial Foundation/Licensed by VAGA, New York, NY



Fig. 62
 William Blake, English, 1757–1827
A Destroying Deity, c. 1820–25
 Pen and brush and black ink and wash, with watercolor and graphite on paper
 Sheet: 8 1/8 x 11 3/4 inches (20.6 x 29.8 cm)
 Philadelphia Museum of Art: Gift of Mrs. William Thomas Tonner, 1964-110-7



Fig. 63
 Luigi Sabatelli, Italian, 1772–1850
The Madness of Orlando, c. 1795
 Pen and brown ink (est. iron gall) over traces of black chalk on paper
 Sheet: 16 7/8 x 27 7/8 inches (42.9 x 70.8 cm)
 Philadelphia Museum of Art: Purchased with the Print Revolving Fund, 1999-3-1



Fig. 64
 Rockwell Kent, American, 1882–1971
Untitled, c. 1943
 Brush and pen and black ink and black lithographic crayon over graphite, with corrections by the artist in white opaque paint, on paper
 Image: 7 5/8 x 8 3/8 inches (19.4 x 21.3 cm) Sheet: 8 7/8 x 8 11/16 inches (22.5 x 22.1 cm)
 Philadelphia Museum of Art: Purchased with the Lola Downin Peck Fund from the Carl and Laura Zigrosser Collection, 1971-2-125
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Fig. 65
 Alexander Calder, American, 1898–1976
Acrobat, 1932
 Pen and black ink on paper
 Sheet: 14 x 19 inches (35.6 x 48.3 cm)
 Philadelphia Museum of Art: Purchased with the Thomas Skelton Harrison Fund, 1941-53-127
 © Estate of Alexander Calder / Artists Rights Society (ARS), New York

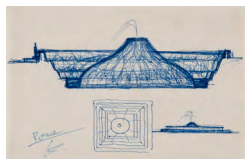


Fig. 66
 Frederick Kiesler, American (born Austria-Hungary), 1890–1965
Shrine of the Book: Conceptual Drawing, 1958
 Blue ballpoint pen on paper (from spiral-bound note pad)
 Sheet: 5 1/2 x 8 7/16 inches (14 x 21.4 cm)
 Philadelphia Museum of Art: Gift of Ronnie L. and John E. Shore, 2010-221-3
 © Estate of Frederick Kiesler, New York

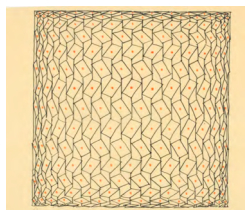


Fig. 67
 Edna Andrade, American, 1917–2008
Study, 1964
 Black and red porous point pens on paper (tracing paper)
 Sheet: 12 x 14 inches (30.5 x 35.6 cm)
 Philadelphia Museum of Art: Purchased with the Marion Stroud Fund for Contemporary Art on Paper, the Margareta S. Hinchman Fund, and the Joseph E. Temple Fund, 2008-100-12
 © Estate of Edna Andrade



Fig. 68
 Vincent Willem van Gogh, Dutch, 1853–1890
Haystacks, 1888
 Reed and quill pens and brown ink over graphite on paper
 Sheet: 9 1/2 x 12 1/2 inches (24.1 x 31.8 cm)
 Philadelphia Museum of Art: The Samuel S. White 3rd and Vera White Collection, 1962-229-1



Fig. 69
 Rockwell Kent, American, 1882–1971
The Comfortable Purists, c. 1909
 Pen and brush and black ink over graphite, with corrections by the artist in white opaque watercolor, on paper
 Image: 10 3/16 x 7 1/2 inches (25.9 x 19.1 cm) Sheet: 11 3/8 x 8 3/8 inches (28.9 x 21.3 cm)
 Philadelphia Museum of Art: Purchased with the Lola Downin Peck Fund from the Carl and Laura Zigrosser Collection, 1971-2-140
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PAINT



Fig. 70
 Charles Demuth, American, 1883–1935
In Vaudeville (Dancer with Chorus), 1918
 Watercolor and graphite pencil on paper
 Sheet: 12 11/16 x 8 1/16 inches (32.2 x 20.5 cm)
 Philadelphia Museum of Art: A. E. Gallatin Collection, 1952-61-18



Fig. 71
 Domenico Corvi, Italian, 1721–1803
Two Swiss Guards, Late 1760s
 Oil paint on brown paper
 Sheet (irregular): 20 13/16 x 10 5/16 inches (52.9 x 26.2 cm)
 Philadelphia Museum of Art: Bequest of Joseph F. McCrindle in memory of Frederic A. den Broeder, 2008-196-2



Fig. 72
 Richard Pousette-Dart, American, 1916–1992
Center of Remembering, 1960s
 Semi-gloss opaque paint (est. oil) over opaque watercolor, with glitter paint on paper
 Sheet: 11 5/16 x 11 7/8 inches (28.7 x 30.2 cm)
 Philadelphia Museum of Art: Purchased with Museum funds and gift of the Estate of Richard Pousette-Dart and Waqas Wajahat, New York, 2014-37-5
 © 2014 Estate of Richard Pousette-Dart / Artists Rights Society (ARS), New York



Fig. 73
 John Singer Sargent, American (active London, Florence, and Paris), 1856–1925
Venetian Interior, Before 1904
 Watercolor and white opaque watercolor over graphite on paper
 Sheet: 9 13/16 x 13 7/8 inches (24.9 x 35.2 cm)
 Philadelphia Museum of Art: John G. Johnson Collection, 1917, Cat. 1079



Fig. 74
 John Glover, English, 1767–1849
Pastoral Landscape with Herdsmen and Cows, 1805
 Watercolor with selectively applied glaze over traces of graphite on paper
 Sheet: 11 1/2 x 16 1/2 inches (29.2 x 41.9 cm)
 Philadelphia Museum of Art: Purchased with funds contributed by Boies Penrose, 1930-39-32



Fig. 75
 Juan Gris (José Victoriano González Pérez), Spanish, 1887–1927
The Table, 1916
 Watercolor, opaque watercolor, graphite, black chalk, and varnish on paper
 Sheet: 5 7/8 x 7 1/8 inches (14.9 x 18.1 cm)
 Philadelphia Museum of Art: A. E. Gallatin Collection, 1952-61-37



Fig. 76
 Paul Klee, Swiss, 1879–1940
Glance of a Landscape (Blick einer Landschaft), 1926
 Watercolor, sprayed through stencils and brushed, on paper mounted on board inscribed by the artist
 Sheet: 11 7/8 x 18 1/8 inches (30.2 x 46 cm)
 Philadelphia Museum of Art: The Louise and Walter Arensberg Collection, 1950-134-120



Fig. 77
 Sam Francis, American, 1923–1994
Untitled, c. 1962–1965
 Opaque watercolor, brushed and spattered, on paper
 Sheet: 18 5/8 x 24 11/16 inches (47.3 x 62.7 cm)
 Philadelphia Museum of Art: Gift of Vivian Springfield, 1967-287-2
 © 2014 Sam Francis Foundation, California / Artists Rights Society (ARS), NY



Fig. 78
 Pierre Joseph Redouté, French, 1759–1840
Joséphine's March Lily, Amaryllis josephinae, 1802–5
 Watercolor over graphite on vellum
 Sheet: 19 13/16 x 28 1/4 inches (50.3 x 71.8 cm)
 Philadelphia Museum of Art: Gift of Ira Brind, in memory of Myrna Brind, and in honor of David Brind, 2012-159-2



Fig. 79
 Bill Traylor, American c. 1853–1949
Man with Blue Pants, c. 1939–42
 Opaque watercolor and graphite on board
 Sheet: 12 7/16 x 9 1/8 inches (31.6 x 23.2 cm)
 Philadelphia Museum of Art: 125th Anniversary Acquisition. Gift of Nancy Green Karlins and Mark Thoman, 2004- 203-6



Fig. 80
 Julio Castellanos, Mexican, 1905–1947
Landscape with Animals (Study for a Mural), 1932
 Egg tempera over graphite, with scratching out, on coated board (scratchboard)
 Sheet (irregular): 40 1/8 x 30 1/4 inches (101.9 x 76.8 cm)
 Philadelphia Museum of Art: Purchased with the Lola Downin Peck Fund and the Carl and Laura Zigrosser Collection (by exchange), 2008-98-1



Fig. 81
 Charles Demuth, American, 1883–1935
Lancaster (In the Province No. 2), 1920
 Opaque watercolor and semi-gloss opaque paint (est. egg tempera) over graphite on board
 Sheet: 23 11/16 x 19 7/8 inches (60.2 x 50.5 cm)
 Philadelphia Museum of Art: The Louise and Walter Arensberg Collection, 1950-134-45

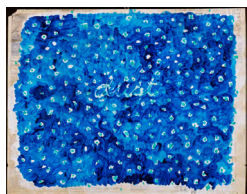


Fig. 82
 Paul Thek, American, 1933–1988
Dust, 1988
 Acrylic paint and gesso on printed newspaper
 Sheet: 21 x 27 inches (53.3 x 68.6 cm)
 Philadelphia Museum of Art: Purchased with the Hunt Corporation (formerly Hunt Manufacturing Co.) Arts Collection Program, 1992-128-1



Fig. 83
 Jane Piper, American, 1916–1991
Zahir, 1977
 Acrylic paint on paper
 Sheet: 40 x 32 1/16 inches (101.6 x 81.4 cm)
 Philadelphia Museum of Art: Gift of Mr. and Mrs. Jay Gross, 1977-50-1



Fig. 84
 Lamont Alfred “Old Ironsides” Pry, American, 1921–1987
Big Chief Blue Clouds, 20th century
 Opaque watercolor, enamel paint, and silver metallic porous point pen over ballpoint pen on corrugated cardboard
 Sheet irregular: 21-7/8 x 15-7/8 inches (55.6 x 40.3 cm) Mount: 29 x 22-1/2 inches (73.7 x 57.2 cm)
 Philadelphia Museum of Art: Gift of Nancy Karlins and Mark Thoman, 2011-160-9



Fig. 85
 Peter Attie Besharo, American (born Syria), 1898–1960
Face of Our Old Time Earth Moon, 1950s
 Synthetic polymer paint (house paint) on board
 Sheet: 23 x 25 3/4 inches (58.4 x 65.4 cm)
 Philadelphia Museum of Art: Gift of the Friends of the Philadelphia Museum of Art, 1998-19-30



Fig. 86
 Hilaire-Germain-Edgar Degas, French, 1834–1917
The Ballet Master, Jules Perrot, 1875
 Oil paint on brown paper
 Sheet: 18 7/8 x 11 3/4 inches (47.9 x 29.8 cm)
 Philadelphia Museum of Art: The Henry P. McIlhenny Collection in memory of Frances P. McIlhenny, 1986-26-15



Fig. 87
 Arthur Garfield Dove,
Abstract Study with a Yellow Spot on a Wavy Brown Stripe, 1943-1944
 Oil paint on paper
 Sheet: 3 1/16 x 4 1/16 inches (7.8 x 10.3 cm)
 Philadelphia Museum of Art: Gift of Mr. and Mrs. William C. Dove, 1986-4-6
 © Estate of Arthur G. Dove



Fig. 88
 Arthur Garfield Dove, American, 1880–1946
Abstract Study with Orange, Yellow, Green, and Purple Curving Lines, 1943–44
 Colored wax emulsion on paper
 Sheet: 2 15/16 x 4 inches (7.5 x 10.2 cm)
 Philadelphia Museum of Art: Gift of Mr. and Mrs. William C. Dove, 1986-4-14
 © Estate of Arthur G. Dove



Fig. 89
 Alfonso Ossorio, American (born Philippines), 1916–1990
Family Size, 1950
 Wax resist, opaque watercolor and pen and brush and black ink on paper
 Sheet: 30 x 1 1/2 inches (76.2 x 3.8 cm)
 Philadelphia Museum of Art, Gift of the artist, 1969-294-2
 Not available online



Fig. 90
 Artist/maker unknown, Italian or Spanish, Mid-19th century
Fan
 Opaque watercolor with metallic gold paint and gold leaf over lithograph on paper
 Length: 12 1/2 inches (31.8 cm)
 Philadelphia Museum of Art: Gift of Mrs. C. Jared Ingersoll, 1973-165-8

MANIPULATIONS AND REDUCTIVE TECHNIQUES, TRANSFER TECHNIQUES, AND COATINGS



Figs. 92, 94

Ford Madox Brown, English (born France), 1821–1893
Portrait of Emma Madox Brown, c. 1867
 Conte crayon and charcoal with stumping on paper
 Sheet: 15 1/4 x 14 7/8 inches (38.7 x 37.8 cm)
 Philadelphia Museum of Art: Purchased with the Alice Newton Osborn Fund, 1987-34-1
 Not available online



Fig. 93

Robert Arneson, American, 1930–1992
Rats, 1981
 Red conte crayon with smudging and wet brush, black conte crayon, oil pastel with blending, and black glossy opaque paint (est. acrylic) on paper
 Sheet: 33 x 44 3/4 inches
 Philadelphia Museum of Art: Purchased with the Hunt Corporation (formerly Hunt Manufacturing Co.) Arts Collection Program, 1982-111-1
 © Estate of Robert Arneson/Licensed by VAGA, New York, NY
 Not available online



Fig. 95

David Bomberg, English, 1890–1957
Acrobats, 1913–14
 Charcoal with erasing and conte crayon on paper
 Sheet: 18 1/2 x 22 7/16 inches (47 x 57 cm)
 Philadelphia Museum of Art: Purchased with the Lola Downin Peck Fund and the Fiske Kimball Fund, 1981-21-1



Fig. 96

John Martin, English, 1789–1854
The Expulsion of Adam and Eve from Paradise, 1843
 Watercolor with masking out and scratching out on paper
 Sheet: 9 1/8 x 13 1/8 inches (23.2 x 33.3 cm)
 Philadelphia Museum of Art: Purchased with the Director's Discretionary Fund, 1971-108-1



Fig. 97

Hilaire-Germain-Edgar Degas, French, 1834–1917
Two Dancers Resting, c. 1890–1900
 Red chalk and charcoal with wet brush on paper (tracing paper)
 Sheet: 22 1/4 x 17 1/2 inches (56.5 x 44.5 cm)
 Philadelphia Museum of Art: The Samuel S. White 3rd and Vera White Collection, 1967-30-20



Fig. 98

Rockwell Kent, American, 1882–1971
The Comfortable Purists, c. 1909
 Pen and brush and black ink over graphite, with corrections by the artist in white opaque watercolor, on paper
 Image: 10 3/16 x 7 1/2 inches (25.9 x 19.1 cm) Sheet: 11 3/8 x 8 3/8 inches (28.9 x 21.3 cm)
 Philadelphia Museum of Art: Purchased with the Lola Downin Peck Fund from the Carl and Laura Zigrosser Collection, 1971-2-140
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Fig. 99
Benjamin West, English (born America), 1738–1820
The Blind Belisarius, 1784
Pen and brown ink and brown and pale blue washes, incised for transfer, on light brown paper
Sheet: 17 1/8 x 19 3/4 inches (43.5 x 50.2 cm)
Philadelphia Museum of Art: Purchased with the Fiske Kimball Fund and the Marie Kimball Fund, 1966-9-1



Fig. 100
Attributed artist: Attributed to Giulio Campi, Italian (active Cremona), born 1500–1502, died 1572
St. Aloysius Gonzaga, 16th century
Pen and brown ink and wash and black and white chalks on paper, scored, pricked and pounced for transfer with red chalk
Philadelphia Museum of Art: The Muriel and Philip Berman Gift, acquired from the Pennsylvania Academy of the Fine Arts with funds contributed by Muriel and Philip Berman and the Edgar Viguers Seeler Fund (by exchange), 1984-56-225
Not available online

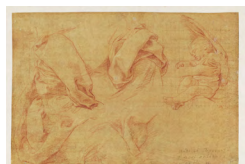


Fig. 101
Pompeo Girolamo Batoni, Italian, 1708–1787
Studies for the Merenda Holy Family (Virgin's Drapery and Child), c. 1740
Red chalk with touches of white chalk, squared in red chalk, on paper toned with yellow wash
Sheet: 8 3/16 x 10 7/8 inches (20.8 x 27.6 cm)
Philadelphia Museum of Art: Bequest of Anthony Morris Clark, 1978-70-165



Fig. 102
John Glover, English, 1767–1849
Pastoral Landscape with Herdsmen and Cow, 1805
Watercolor with selectively applied glaze over traces of graphite on paper
Sheet: 11 1/2 x 16 1/2 inches (29.2 x 41.9 cm)
Philadelphia Museum of Art: Purchased with funds contributed by Boies Penrose, 1930-39-32



Fig. 103
Alexander Porfirevich Archipenko
Figure in Movement, 1913
Collage of cut papers with red-brown and blue conte crayon and varnish on paper
Sheet: 18 3/4 x 12 1/4 inches (47.6 x 31.1 cm)
Philadelphia Museum of Art: Gift of C. K. Williams, II, 2011-171-2



Fig. 104
Giorgio de Chirico, Italian (born Greece), 1888–1978
Victorious Love, c. 1918-1925
Charcoal with erasing and stumping on paper
Sheet: 20 1/2 x 15 13/16 inches (52.1 x 40.1 cm)
Philadelphia Museum of Art: The Louise and Walter Arensberg Collection, 1950-134-37
Copyright: © Artists Rights Society (ARS), New York / SIAE, Rome

COLLAGE AND MATERIAL ADDITIONS



Fig. 105
 Georges Braque, French, 1882–1963
Musical Forms, 1918
 Collage of cut printed and painted papers, paper, and corrugated cardboard with charcoal and traces of graphite on painted board
 Sheet: 30 1/2 x 37 1/2 inches (77.5 x 95.3 cm)
 Philadelphia Museum of Art: The Louise and Walter Arensberg Collection, 1950-134-28
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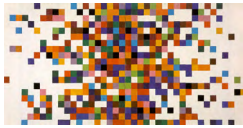


Fig. 106
 Ellsworth Kelly, American, born 1923
Spectrum Colors Arranged by Chance I, 1951
 Collage of coated and uncoated colored papers over graphite grid on two joined sheets of paper
 Sheet: 19 11/16 x 39 1/4 inches (50 x 99.7 cm)
 Philadelphia Museum of Art: Purchased with funds contributed by C. K. Williams, II (by exchange), 2007-30-3
 © Ellsworth Kelly

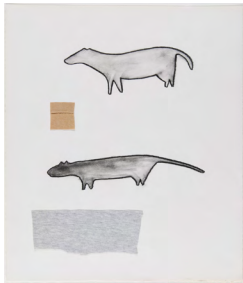


Fig. 107
 Bill Walton, American, 1931–2010
Sightings Creek #1, Undated
 Compressed charcoal over traces of graphite, with fabric swatches, on paper
 Sheet: 17 5/16 x 14 15/16 inches (44 x 37.9 cm)
 Courtesy of the Estate of Bill Walton and Fliesher/Olman, Philadelphia
 Philadelphia Museum of Art: Purchased with funds contributed by Morris and Donna Stroud and the Marion Stroud Fund for Contemporary Art on Paper, 2012-34-15



Fig. 108
 Jean (Hans) Arp, French (born Germany), 1886–1966
Composition, 1937
 Collage of torn colored paper with brush and black ink and graphite on paper
 Sheet: 11 1/2 x 12 3/4 inches (29.2 x 32.4 cm)
 Philadelphia Museum of Art: A. E. Gallatin Collection, 1947-88-4
 © Artists Rights Society (ARS), New York / VG Bild-Kunst, Bonn



Fig. 109
 Romare Bearden, American, 1914–1988
Blue Snake, 1971
 Collage of printed papers with paint, graphite, porous-point pen, and surface abrasion (sanding) on board with prepared ground
 Sheet (sight): 35 7/8 x 23 15/16 inches (91.1 x 60.8 cm) Framed: 43 x 31 x 2 1/2 inches (109.2 x 78.7 x 6.4 cm)
 Philadelphia Museum of Art: Gift of Priscilla T. Grace, 2003-226-1
 © Romare Bearden Foundation/Licensed by VAGA, New York, NY



Fig. 110
 Jess (Jess Collins), American, 1923–2004
The Sun: Tarot XIX, 1960
 Collage of cut printed papers (color lithographs) on paper, with window-shade pull
 Sheet: 80 x 50 inches (203.2 x 127 cm)
 Philadelphia Museum of Art: Purchased with the SmithKline Beckman Corporation Fund, 1984-78-1

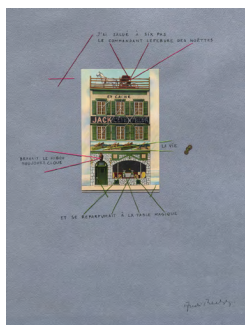


Fig. 111
 André Breton, French, 1896–1966
Jack the Ripper, (Jack l'éventreur), 1942
 Postcard (color offset lithograph), thread, sequins, pen and black ink, and silver metallic paint on paper.
 Sheet: 17 5/8 x 13 15/16 inches (44.8 x 35.4 cm)
 From VVV Portfolio (New York: VVV, 1942)
 Philadelphia Museum of Art: The Louise and Walter Arensberg Collection, 1950-134-972
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PRINTS



Fig. 112
 Israhel van Meckenem, German, 1440/45–1503
Self-Portrait with His Wife, Ida, c. 1490
 Engraving
 Sheet: 5 1/4 x 7 1/16 inches (13.3 x 17.9 cm)
 Philadelphia Museum of Art: 125th Anniversary Acquisition. Gift of Suzanne A. Rosenberg, 2002-59-1



Fig. 113
 Robert Mangold, American, born 1937
Green Column/Figure, 2003
 Color woodcut and soft ground etching, printed in yellow-green, green, and black inks
 Image: 18 15/16 x 4 3/4 inches (48.1 x 12.1 cm) Sheet: 20 1/8 x 16 inches (51.1 x 40.6 cm)
 Printed by Pace Editions, Inc., New York
 Published by Museum of Modern Art, New York
 Philadelphia Museum of Art: Gift of Harvey S. Shipley Miller, 2004-61-1
 © 2014 Robert Mangold / Artists Rights Society (ARS), New York

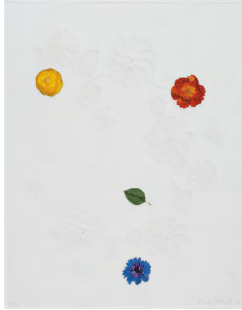


Fig. 114
 Virgil Marti, American, born 1962
Untitled, 2008
 Color inkjet and blind embossed print
 Image and sheet: 18 x 14 inches (45.7 x 35.6 cm)
 Printed by C. R. Ettinger Studio, Philadelphia, and Silicon Gallery Fine Art Prints, Philadelphia.
 Philadelphia Museum of Art: Gift of Joseph J. Rishel, 2011-62-1
 Not available online



Fig. 115
 Hans Baldung Grün, German, 1484/85–1545
 left: *Removal of the Pia Mater*; right: *Cross-section of the Brain*, 1541
 Woodcut with watercolor (hand coloring)
 Image (left): 7 3/4 x 5 1/4 inches (19.7 x 13.3 cm) Image (right): 7 3/4 x 5 1/8 inches (19.7 x 13 cm) Sheet: 11 7/8 x 15 1/8 inches (30.2 x 38.4 cm)
 Philadelphia Museum of Art: Purchased with the SmithKline Beckman Corporation Fund, 1982-40-1j,k
 Not available online



Fig. 116
 Ugo da Carpi, Italian, c. 1480–1532
Diogenes, c. 1527
 Chiaroscuro woodcut printed in four green inks from four blocks
 Sheet: 19 x 13 11/16 inches (48.3 x 34.7 cm)
 Philadelphia Museum of Art: The Muriel and Philip Berman Gift, acquired from the John F. Lewis Collection given to the Pennsylvania Academy of the Fine Arts in 1933 by Mrs. John F. Lewis, with funds contributed by Muriel and Philip Berman, gifts (by exchange) of Lisa Norris Elkins, Bryant W. Langston, Samuel S. White 3rd and Vera White, with additional funds contributed by John Howard McFadden, Jr., Thomas Skelton Harrison, and the Philip H. and A.S.W. Rosenbach Foundation, 1985-52-320



Fig. 117
 Jacques-Fabien Gautier-Dagoty, French, 1716–1785
Interior Muscles of the Face and Neck, 1745
 Color mezzotint with engraving
 Plate: 15 5/8 x 12 5/8 inches (39.7 x 32.1 cm)
 Printed Chez le Sieur Gautier, Paris
 Philadelphia Museum of Art: Purchased with the SmithKline Beckman Corporation Fund, 1968-25-79b

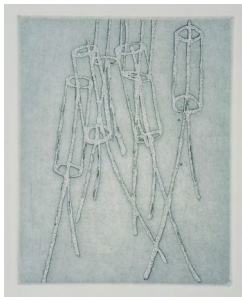


Fig. 118
 Robin Miller, American, born 1964
Bottle Rockets, 1989
 Sandpaper grain etching with open bite, printed in blue-black ink
 Plate: 6 x 4 3/4 inches (15.2 x 12.1 cm) Sheet: 15 x 11 1/8 inches (38.1 x 28.3 cm)
 Philadelphia Museum of Art: Gift of an anonymous donor, 1991-16-1
 Not available online

**Fig. 119**

Johann Anton Ramboux, German, 1790–1866

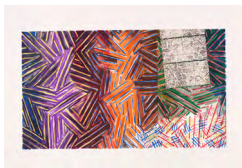
The Brothers Eberhard, 1822

Lithograph, printed in black and brown inks from two stones

Image and sheet: 12 9/16 x 13 11/16 inches (31.9 x 34.8 cm)

Printed by Joseph Anton Selb, German, 1784–1832

Philadelphia Museum of Art: 125th Anniversary Acquisition. Purchased with the Lola Downin Peck Fund and the Carl and Laura Zigrosser Collection (by exchange), 2000-119-1

**Fig. 120**

Jasper Johns, American, born 1930

Between the Clock and the Bed, 1989

Color lithograph, printed in fourteen colors

Image: 19 5/8 x 34 inches (49.8 x 86.4 cm) Sheet: 29 x 42 inches (73.7 x 106.7 cm)

Philadelphia Museum of Art: Gift of the Friends of the Philadelphia Museum of Art, 1989-3-3 Art

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**Fig. 121**

Dieter Roth, Swiss (born Germany), 1930–1998

Untitled, 1970

Color screenprint and photo-offset lithograph

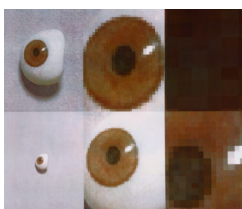
Image (a, recto): 19 1/8 x 27 1/8 inches (48.6 x 68.9 cm) Image (b, verso): 18 3/4 x 27 1/4 inches (47.7 x 69.2 cm)

Sheet (a, recto): 19 5/8 x 27 1/2 inches (49.8 x 69.9 cm) Sheet (b, verso): 19 5/8 x 27 1/2 inches (49.8 x 69.8 cm)

Mount: 19 1/2 x 27 1/2 inches (49.5 x 69.9 cm)

Printed by H. P. Haas, Korntal, Germany, and Staib & Mayer, Stuttgart. Published by Petersburg Press, London
Philadelphia Museum of Art: Purchased with the Lola Downin Peck Fund, James D. Crawford and Judith N. Dean Fund, and the Alice Newton Osborn Fund, 2012-57-1(4a,b)

© Dieter Roth Estate, Courtesy Hauser & Wirth

**Fig. 122**

Grenville Davey, British, born 1961

Untitled, 1993

Color photoscreenprint

Sheet: 32 7/8 x 28 3/8 inches (83.5 x 72 cm)

Computer work originated with Mark Lucas at After Image, London. Printed by Coriander Studio Ltd. Published by Charles Booth-Clibborn at The Paragon Press, London.

Philadelphia Museum of Art: Purchased with the Hunt Corporation (formerly Hunt Manufacturing Co.) Arts Collection Program, 1994-61-1

Not available online

**Fig. 123**

Victoria Burge, American, born 1976

New Orleans, 2010

Photopolymer intaglio print

Image: 9 5/8 x 8 inches (24.4 x 20.3 cm) Plate: 9 13/16 x 8 1/4 inches (24.9 x 21 cm) Sheet: 15 7/8 x 14 9/16 inches (40.3 x 37 cm)

Philadelphia Museum of Art: Gift of The Print Center, Philadelphia, 2011-175-1



Fig. 124

Fritz Janschka, Austrian, born 1919

Portrait of Stendhal (1783–1842), 1985

Color etching and photogravure, inked *à la poupée* in blue, black, and red-brown inks

Plate (irregular): 6 x 3 7/8 inches (15.2 x 9.8 cm) Sheet: 10 3/16 x 7 1/2 inches (25.9 x 19.1 cm)

From the series *Vom Denken der Dichter (From the Thoughts of Writers)*

Philadelphia Museum of Art: Gift of the artist, 2004-55-12



Fig. 125

Kiki Smith, American (born Germany), born 1954

Still, 2006

Color spit bite aquatint and soft ground and hard ground etching with flat bite, printed *chine collée*.

Plate: 20 x 24 7/8 inches (50.8 x 63.2 cm) Sheet: 26 1/2 x 31 inches (67.3 x 78.7 cm)

Printed by Emily York, Crown Point Press, San Francisco. Published by Crown Point Press, San Francisco.

Philadelphia Museum of Art: Purchased with the James D. Crawford and Judith N. Dean Fund, 2006-151-1

© Kiki Smith, courtesy Pace Gallery