Traditional Art in the Digital Age: Formats, Pixels and Vectors

Răzvan DRAGOȘ[1]

Abstract: *Traditional visual art, grounded in techniques such as painting, printmaking, and hand drawing, continues to inspire in the digital age. While traditional methods emphasize materiality and gesture, digital approaches offer speed and virtually limitless editing possibilities. Digital drawing has become a major means of artistic expression, preserving artistic sensitivity within a virtual environment. The pixel, as an image's fundamental unit, underpins raster graphics by defining detail through color and light. Vectors, by contrast, construct mathematical, precise, and infinitely scalable images, widely used in contemporary illustration. In today's digital arts, pixel and vector coexist and blend into innovative creations, allowing tradition and innovation to intertwine within a rich and complex visual language.*

Keywords: *Photoshop; pixel; vector; digital drawing; digital collage;*

Introduction

The transformations ushered in by the digital era have greatly expanded the possibilities for artistic expression while maintaining strong ties to the foundations of traditional art. Central to these changes are digital drawing and the digital transposition of plastic artworks, processes that enable the reinterpretation and adaptation of the classical visual language within virtual media. Digital pagination, the use of DPI and vector formats, and the implementation of filters and processing effects furnish artists with novel creative tools. Raster imagery produced on a graphics tablet, together with vector drawing via Bézier curves, defines essential methods for constructing contemporary images. This study aims to explore the connections between traditional and digital techniques, highlighting how technological advances influence and diversify the artistic act.

1. Rendering and Adapting Artistic Forms: From Classical to Virtual

The rendering and adaptation of artistic forms have undergone a major transformation from classical techniques rooted in material and gesture to virtual environments dominated by digital elements such as pixels and vectors. In the digital age, artists explore new modes of expression through software like the Adobe suite, particularly Photoshop[2], where traditional tools such as the brush and pencil are replaced by digital instruments. Consequently, classical forms are being reinterpreted, adapted, and integrated into contemporary compositions, preserving the essence of art while embracing technological freedom. The format becomes

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[1] Faculty of Arts, University „Ovidius", Constanta, dragos.razvanpetrisor@yahoo.com.
[2] Digital application intended both for creating drawings on the screen and for organically integrating elements taken from foreign sources into a unified composition.

flexible, and artistic creation shifts from paper to digital media without losing its expressive value.

1.1. Digital Reflections: Classical Language in New Technologies

Contemporary visual arts enjoy a vast palette of techniques and modes of expression in which tradition coexists with digital innovation. Within this plural universe, the artist may choose between the tactile materiality of paper and the luminous effects of the screen, between the vibration of colour on canvas and the razor-sharp clarity of digital detail. Modern techniques enabled by digital applications such as those in the Adobe Creative suite, especially Photoshop allow not only the faithful rendering of forms but also their reinterpretation in an entirely new visual language. Thus, the distinctive qualities of charcoal drawing, watercolour, or engraving can be replicated, combined, and amplified in the virtual realm, preserving the subtleties of the artistic gesture while providing a precision and flexibility impossible to achieve in classical media. The image becomes fluid and malleable, and the classical idiom is reflected in the mirror of pixels, reborn within a technological context that enriches the creative act.

For the visual artist, the sketch has been and remains one of the main stages in constructing a work of art the first gesture through which thought takes shape. From this initial structure, the artist refines a vision, exploring the rhythm of pagination, compositional balance, and the relationship among planes. One might say the sketch becomes the essential matrix, the nucleus from which the finished piece emerges while retaining the authentic breath of the original idea. Today, with the aid of technology and digital applications, a sketch can be effortlessly transferred from the traditional medium into the digital realm. With a simple action photographing and importing the drawing into an editing program the initial image gains a new life. Thus, the hand-drawn line becomes the foundation of an expanded creative process, where details can be adjusted, amplified, or reinterpreted according to the artist's vision, without sacrificing the authenticity of the initial expression. „*Digital image-makers scan, copy, and adapt from internet sources and transform images employing filters, into line drawing wich are in turn manipulated to mimic oil painting, a watercolor, pastel or graphite drawing. A mistake or „change of mind" is rapidly deleted with the upturned flip of the stylus*"[3].

Today, an artist can effortlessly metamorphose personal visions into a digital language. Once a single editing program is mastered, the creator gains the ability to accentuate details, to shape and layer compositional planes, and to orchestrate the visual field so that focal points resonate in harmony. With intuitive filters, functions, and parameters, the studio expands beyond paper, allowing ideas to assume a fluid, dynamic form.

1.2. Technical Methodologies for Converting Graphic and Pictorial Works to Digital Format

In contemporary visual arts, the computer serves both as a creative instrument and as a post-production studio, uniting drawing, painting, and advanced editing within a single interface. With specialized digital applications, the artist can non-destructively reconfigure compositional

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[3] Sue Field. 2024. *Scenographic Design Drawing: Performative Drawing in an Expanded Field*. London: Bloomsbury Press, p. 210.

planes, manipulating multiple layers of visual data drawn from diverse sources. Personal photographs, scanned traditional sketches, and earlier works become primary materials—ready for vectorization, color adjustment, and integration on the virtual canvas. Simultaneously, external images from archives, online collections, or reference libraries can be imported, cropped, and recontextualized as autonomous entities, undergoing transparency, masking, and reframing processes. Technical methodologies for digital conversion thus go far beyond simply transferring visual information; they create a dynamic framework in which disparate sources interact, and compositional coherence is achieved through the algorithmic harmonization of proportions, tonal values, and color palettes. Consequently, the computer emerges as a sophisticated mediator between the traditional gesture and the expanded possibilities of digital processing, enabling the artist to evolve from the author of a single object into the orchestrator of a polymorphic visual universe.

Despite the vast technological arsenal offered by the digital realm, the foundation of any high-quality visual work still rests on compositional principles, the artist's gesture, and the authenticity that animates the piece itself. No matter how much digital media simplify technical execution, the creative journey inevitably begins with the economy of lines in traditional drawing. Drawing is, in essence, a mode of thinking a visual philosophy that converts ideas into images. The computer merely facilitates this materialization, serving as a logistical ally to artistic vision without ever replacing the core of the creative gesture. „*To create composite and collage images, it is essential to value the history of compositing and understanding the basic vocabulary of your chosen art form*"[4].

Within the realm of digital visual arts, Adobe Photoshop has become the professional benchmark, preferred both for digitizing and processing works created with traditional techniques and for producing native drawings in a virtual environment an experience enhanced by the graphics tablet interface. „*The first thing you notice when you open Photoshop are the controls. They are everywhere, allowing you to adjust about everything you can possibly imagine in the image you edit. There are thousands of buttons, control, menu options, and other objects, and each has a specific purpose*"[5]. Within the Photoshop environment, the artist commands a broad array of expressive tools. One may begin with sketches and drawings executed in traditional media, convert them into digital elements through photography or scanning, and subsequently integrate them into virtual compositions. An alternative is to create these sketches directly on a graphics tablet, working in an entirely digital workflow. Photoshop offers an extensive palette of options and functions capable of supporting any artistic approach from figurative to decorative or abstract thus accommodating the full diversity of creative attitudes.

Transferring a drawing, pastel, or painting to a virtual medium generally starts with a faithful capture of the original surface. *Flatbed*[6] scanning is preferred for small- to medium-sized works with relatively flat surfaces. Professionals recommend resolutions of 600–1,200 DPI[7] and

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[4] Katrin Eismann & Sean Duggan & James Porto. 2012. *Photoshop Masking & Compositing*. London: Pearson Education Press, p. 18.
[5] Jason Cranford Teague & Walt Dietrich. 2004. *Photoshop CS at Your Fingertips. Get In, Get Out, Get Exactly What You Need*. California: Cybex Press, p. 3.
[6] Flatbed scanning is the process of digitizing a document or two-dimensional object using a scanner equipped with a flat glass bed. The item be it a photograph, engraving, drawing, or piece of text is placed face-down on this surface, and the optical carriage moves slowly across it, recording the image pixel by pixel at high resolutions.
[7] DPI is the acronym for dots per inch the number of pixels contained in one linear inch (2.54 cm) of a digital image. In practice, it indicates the density of visual information.

16-bit master TIFF files, in accordance with FADGI[8] cultural-heritage guidelines, which emphasize the need for a "compliance assessment" of the entire imaging workflow. For large canvases, textured surfaces, or sheets with glossy metallic leaf, copy-stand photography is the standard solution. The Smithsonian Institution advises an over-head camera system that captures a wider field of view and allows the use of polarizing filters to eliminate reflections[9].

From an aesthetic and ethical standpoint, the "*scan-and-edit*" approach to digitization is now widely endorsed. The method is seen as an extension of the traditional gesture, not a replacement for it: the artist retains the original matrix, while Photoshop becomes a laboratory where compositional planes can be rearranged, color amplified, or additional photographs and sketches integrated everything remaining fully reversible. Admittedly, some purist voices maintain that the "*aura*" of the physical object is unmatched, yet most contemporary visual movements regard digitization as a legitimate instrument.

Within software environments dedicated to visual art, applications such as Photoshop offer a vast range of processing and creation options, each tool precisely tailored to the artist's stylistic needs and optimized to streamline the workflow. Certain features provide advanced selection and cutting capabilities, extracting shapes from various images so they can be recomposed into a digital collage.

2. Collage Across Media: Traditional, Photographic, Digital

From the earliest material collages of the avant-garde constructed from newspaper, cardboard, and pigment to today's digital compositions built from layers of pixels, the technique of superimposition has remained a privileged laboratory for exploring pictorial space. This chapter follows collage through three key stages: the traditional variant, in which cut paper becomes a plastic relief; photocollage, which handles photographic fragments as semantic units; and digital collage, where planes merge within an infinite field of non-destructive transformations. We will examine how each medium shapes materiality, visual rhetoric, and compositional strategies, illuminating both the continuities and the aesthetic mutations brought about by technology. The goal is to demonstrate that, regardless of the support, collage endures as a critical and poetic tool for remodelling visual reality.

2.1. Material Collage: The Tactility of Superimposition in Traditional Practice

Traditional collage established as early as the Cubist avant-garde through the experiments of Picasso and Braque remains for visual artists an original technique of material superimposition, expressly devised to orchestrate compositional planes with near-architectonic precision. By cutting and pasting fragments of printed paper, canvas, photographs, or organic textures, the artist introduces discontinuous visual spaces that interweave upon the same surface,

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[8] The FADGI guidelines (Federal Agencies Digital Guidelines Initiative) are the technical recommendations adopted by U.S. federal libraries, archives, and museums including the Library of Congress and the National Archives to ensure high-quality digitization of cultural heritage. Launched in 2007, the initiative brings together two working groups, Still Image and Audio-Visual that establish shared, sustainable practices for photographic, graphic, and video materials. (https://www.digitizationguidelines.gov).

[9] Charles Heidi. 2018. *An Intern's Guide on How to Digitize a Field Book*. Retrieved May 5, 2025, from https://siarchives.si.edu/blog/intern%E2%80%99s-guide-how-digitize-field-book.

sharply delineating registers of depth. The glued layers thus become tangible markers of recession and advance: the cut edges trace firm contours, while the translucency of thin paper or open-weave fabric allows the subtle emergence of the lower plane. The result is an ongoing play of "*cladding*" and revelation, where emphasis falls on the relationship among texture, colour, and relative positioning rather than on pure illusionistic representation. Within this logic, the collage gesture functions simultaneously as a plastic intervention and as an analytic instrument: each addition compels the artist to recalibrate the visual hierarchy, imparting to the work an internal dynamism that reveals the compositional structure more clearly than a continuous pictorial treatment could. Thus, collage is not merely a decorative procedure but a system of visual thinking that turns the superimposition of forms into the primary vehicle for articulating and pacing the planes.

2.2. Photocollage – Sculpting Reality through Photographic Cut-and-Montage

Another branch of collage is the photocollage, which transforms the photographic image into a sculptable material by cutting recognisable fragments of reality and rearranging them into a new visual syntax. The cut-out shapes function as mobile semantic units: once removed from their original context, they gain formal autonomy and can generate unexpected associations when juxtaposed. The cut edge becomes an expressive contour, at once separating and linking planes, while variations in fragment scale heighten the sense of depth. The artist manipulates these modules to orchestrate the viewer's focus, guiding the gaze from one visual centre to the next, as the tension between the familiar and the uncanny activates the work's conceptual reading. Thus, photocollage is not limited to decorative effects; it opens an interpretive space where the cut form becomes a vehicle for narrative and visual critique. „Narowly speaking photocollage began with the cut and paste work of album makers such as Lady Filmer and the combination printing of photographers such as Oscar Rejlander. (…) Experimental artists cut pictures from magazines and newspapers and pasted them together in composite images whose jombeled scale and perspective challenged conventional expectations"[10].

Consequently, photocollage proves to be a technique at the crossroads of document and imagination, retaining its vitality from the first Victorian cut-outs to today's hybrid compositions. Both the material gesture of cutting and the conceptual montage that follows endow the artwork with a semantic density unattainable through a single photographic representation. Since the days of Lady Filmer and Oscar Rejlander, artists have continued to transform photography into a matrix of critical visual thinking, questioning the limits of perception and space. Today, the same method offers a living vocabulary through which reality is reshaped and the viewer is invited to uncover multiple meanings beneath an apparently fragmented surface.

2.3. Digital Collage – The Fluid Montage of the Image

In digital collage, the founding rules of superimposition the rhythm of forms, the tension between full and void, the hierarchy of planes remain the same as in traditional techniques; what

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[10] Mary Warner Marien. 2006. *Photography: A Cultural History* (2nd edition). USA: Laurence King Publishing, p. 245.

changes radically is the elasticity of the process. Once imported and aligned on-screen, visual fragments are not permanently fixed: they can be scaled, masked, recoloured, or even deconstructed into textures and vectors, setting the stage for multiple reconfigurations. Within this paradigm, the creative gesture does not end with the first arrangement; it evolves continuously, allowing the artist to test compositional variants, alter structural relationships, and explore alternative narratives without sacrificing the initial version. Collage thus becomes an ongoing visual montage, a space of negotiation between idea and form, where each layer can once again become raw material for new aesthetic mutations. „*Montage is, therefore, the act of assembling interrelated images into a single composition (as opposed to "independent" pieces, as in classic collage). The images employed refer to one another to create a unified work. At the same time, a montage is more formal than a collage and is usually structured around a theme*"[11].

Ultimately, digital collage transcends simple juxtapositions, evolving into a conscious montage in which fragments converse to sustain a single, coherent idea. Technological malleability allows each layer to be revisited, rewritten, and reintegrated, affirming an aesthetic of continuous process rather than a fixed outcome. Montage thus becomes the supreme form of visual orchestration more rigorous and thematically driven than classical collage while the digital studio opens into an infinite realm of iterations, where artistic thought evolves in tandem with the image itself.

3. Gesture and Geometry: Raster and Vector Explorations in Digital Graphics

In contemporary graphic practice, the digital medium has adopted and refined the structural vocabulary of classical drawing and painting, reproducing not only the texture of the stroke but also the layering of pigments, transparencies, and variations in tool pressure. „Creating and distributing art yourself is far easier and more possible than ever before. Nowadays, commercially successful digital artwork, design and video that has been produced in hime studios is common place. (…) Art-making, to me, is the act of suing the elements of the visual language toward the goal of expressing a quality or emotion"[12]. The graphics tablet, equipped with pressure and tilt sensors, has become the natural extension of the artist's hand: a portable, responsive, and infinitely reconfigurable surface that converts the analog gesture into a highly faithful digital signature. In parallel, specialized software from professional suites such as Adobe Photoshop or Corel Painter to vector engines like Illustrator and Affinity Designer now offers rendering engines capable of interpreting every variation in rhythm and speed, either simulating traditional materials or inventing entirely new ones.

In the pages that follow, we will examine two major orientations in digital drawing. The first is the raster approach, centered on pixels and channels, where the tablet reveals its tactile virtues by allowing painterly modelling of the surface through dynamic brushes, grain, and real-time colour blending. The second is vector drawing, based on Bézier curves, which privileges mathematical precision and infinite scalability, providing rigorous control over contours and a non-destructive workflow. By comparing these two paradigms, we will highlight how each responds to the artist's expressive needs from the spontaneity of the painterly gesture to the graphic clarity of conceptual forms.

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[11] Aura Evelina Radu. 2024. *Analiza elementelor de artă vizuală*. Timişoara: Editura Eurostampa, p. 14.
[12] Scott Ligton. 2010. *Digital Art Revolution*. USA: Watson-Guptull Publishing, pp. 18-19.

3.1. The Art of the Digital Brush: Raster Drawing Methodology

Raster drawing unites the entire arsenal of traditional artistic gestures within a single environment, allowing the digital creator to orchestrate ideas through layered planes, chromatic juxtapositions, and subtle variations of line, wash, or dot. The pivot of this process is the brush an instrument found in nearly every graphics application whose parameters can be tuned to replicate the texture of charcoal, the vibration of graphite, the precision of a liner pen, or the fluidity of watercolor. With a single adjustment, the same stroke can shift from saturated opacity to velvety transparency, opening an almost unlimited range of effects. Each brush configuration may be saved and reused, becoming a genuine library of personal gestures. This malleability means that digitally created works can reflect, more than ever, the individuality of each artist and the freedom to explore varied stylistic directions.

Although tablet-based digital drawing promises seemingly boundless spontaneity, the strongest results still arise from following classical stages of work. A preliminary sketch whether on paper or executed with a digital tool clarifies intent and sets the overall rhythm of the composition before details become a distraction. „Every stroke, every correction, every pause represents a transaction between the hand, the eye, the imagination and the chosen medium, measuring the intention against the result. An incredible algorithm judges instant by instant whether that last stroke its objective, and prompts the next to take corrective measures."[13] Next comes the study phase, in which tonal values, the chromatic palette, and scale relationships are tested through rapid variations to ensure the image's internal coherence. Only after this controlled exploration does the artist move on to the final execution, leveraging digital advantages layers, masks, non-destructive adjustments without endangering the conceptual foundation. Respecting this progression shields the work from ad-hoc decorative solutions and endows it with a robust visual architecture in which every element arises from a deliberate choice.

3.2 Vectors and Bézier Curves: The Scalable Language of Digital Drawing

Vector art offers a distinct paradigm within digital drawing, founded on mathematical descriptions of shapes rather than pixel densities. In applications such as Adobe Illustrator, CorelDRAW, or Affinity Designer, lines and surfaces are represented by Bézier curves segments governed by nodes and directional handles that can be dragged, rotated, and readjusted endlessly with no loss of quality. This feature confers true scalability: the same illustration can be printed at postage-stamp size or across a building façade while retaining perfect clarity.

This scalability explains vectors' appeal for branding, product-design, and packaging industries, where logos, icons, and typographic graphics must serve both micro-display contexts (mobile interfaces) and macro-print needs (outdoor billboards). Vector objects can also be arranged in parametric layers, stacked according to precise rules of order, opacity, and blending mode. By combining planes shadow shapes, stylised textures, bold outlines, or chromatic accents

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[13] Laura Allen & Luke Caspar Pearson. 2016. *Speculations in Contemporary Drawing for Art and Architecture*. London: The Bartlett School of Architecture University Collage Publishing, p. 208.

artists create compositions that marry rigorous structural logic with a plastic versatility comparable to collage techniques.

Editing nodes becomes a quasi-sculptural experience: slight shifts of the handles alter a curve's tension, setting up a subtle visual rhythm. Meanwhile, systems of global swatches and colour profiles allow the entire gamut to be adjusted with a single command, easing adaptation to print standards or HDR-screen specifications. Once the basic geometry is established, artists can quickly export files in formats such as SVG, PDF, or EPS ready for web animation, laser engraving, or screen printing while preserving the integrity of the original data. Thus, vectors constitute not merely a technical tool but a modular visual language capable of meeting industrial demands without sacrificing artistic inventiveness.

4. Conclusions

Taken as a whole, the preceding chapters have shown that the shift from material formats to pixels and vectors does not nullify but rather expands art's vocabulary. Whether we examine the rendering of classical forms in virtual media, the technical methodologies for converting painting and graphic works, or material, photographic, and digital collages that reconfigure compositional planes, the conclusion is consistent: the substrate may change, yet the principles of composition, gesture, and visual reflection remain the pillars of creation. In the digital realm, the artist commands two complementary axes the raster brush, with its painterly freedom, and the Bézier curve, with its scalable geometry allowing a fluid oscillation between gestural spontaneity and formal rigor. Digital collage proves that superimposition, cut-and-paste, and montage can be re-orchestrated ad infinitum, while non-destructive processes give the creator an elasticity impossible to achieve on paper.

The inevitable conclusion is that digital media are not an end in themselves but merely instruments that extend the imagination. They do not diminish artistic legitimacy; they amplify it, offering the author an open field of experimentation in which traditional gesture and algorithm reinforce each other. Beyond format pixel or vector, collage or virtual painting the idea remains sovereign: the contemporary artist's right to assert a vision is not limited by the materials employed but is empowered by the multitude of avenues through which that vision can be expressed.

5. References

o   Allen, Laura & Pearson, Luke, Caspar. 2016. *Speculations in Contemporary Drawing for Art and Architecture*. London: The Bartlett School of Architecture University Collage Publishing.
o   Cranford, Teague, Jason & Dietrich, Walt. 2004. *Photoshop CS at Your Fingertips. Get In, Get Out, Get Exactly What You Need*. California: Cybex Publishing.
o   Eismann, Katrin & Duggan, Sean & Porto, James. 2012. *Photoshop Masking & Compositing*. London: Pearson Education Publishing.
o   Field, Sue. 2024. *Scenographic Design Drawing: Performative Drawing in an Expanded Field*. London: Bloomsbury Publishing.

o Heidi, Charles. 2018. *An Intern's Guide on How to Digitize a Field Book.* Retrieved May 5, 2025, from https://siarchives.si.edu/blog/intern%E2%80%99s-guide-how-digitize-field-book.
o Radu, Aura, Evelina. 2024. *Analiza elementelor de artă vizuală*. Timișoara: Editura Eurostampa.
o Scott Ligton. 2010. *Digital Art Revolution*. USA: Watson-Guptull Publishing
o Warner, Mary, Marien. 2006. *Photography: A Cultural History* (2nd edition). USA: Laurence King Publishing.