SCRIPTA MANENT;

EXPLORING THE WRITING HAND IN THE ART OF NINA PAPACONSTANTINOY

by

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ABSTRACT

This research paper is a case study on the creative process of an artist who uses handwriting to copy well-known books in layers on one surface, page by page, in order to weave illegible textual patterns that intrigue the audience and beckon the eye to look closer and the mind to see writing as an image. The initial purpose of following the original artwork of Nina Papaconstantinou was to gain a deeper understanding of how she comes up with ideas and techniques that allow texts to illustrate themselves and to see how she makes creative use of handwriting among other tools of her artistic repertoire. However, the educational program based on her major solo exhibition, led to further research and allowed implications for children’s literacy to appear that were too important to ignore. Thus was added a second part that emerged naturally from the findings and attests how N.P.’s Art is also educationally and socially significant in the digital era. In the second part of the paper it is argued that to use Art as a means of preservation and creative invigoration of handwriting is not only possible but urgent and necessary in view of recent neuroscientific evidence.

Keywords: creative process, handwriting, Art and language, hermeneutics, children’s literacy, reading pleasure, educational programs, multi-modal literacies, Zen
To my sister, Γεωργία.
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CURRICULUM VITAE
1. INTRODUCTION

Although my interest in how artists work dates back to my childhood museum days, the decision to follow the art of Nina Papaconstantinou is rather more recent. Her work struck a personal chord in me and I identified with it immediately, as it is about books and literature and layers of cryptic writing. Moreover because we belong to the same age cohort and have done similar studies in the University of Athens, and because I have known her for years as my sister’s best friend, I have a sense of affiliation with her special artistic language and was amazed at the emergence of her creative persona. The fact that she uses handwriting as the main technique for many of her drawings intrigued me. It was exactly the joy, the labour and the time allocation that I saw in Nina’s work that sparked a childhood memory of my own effort to write my As and Bs, and after talking with the art historian K. Ch. (Anina) Valkana and doing some initial research, it has turned into questions haunting me since I began this report: How is it possible to preserve handwriting in the digital age? How can I use Art as a means to convince the disbelievers that it is more than an individual “fingerprint” or a cultural trait of a dying era? From this point on, the handwriting art of Nina Papaconstantinou acquired a broader meaning that -to my mind- exceeded the sphere of the Arts: it became a fountain of knowledge, of insights, to be decoded and considered for a potential educational proposal on children’s literacy.

It is in this light that I attempt to follow and deconstruct the creative process of an imaginative and original artist. This paper is not merely about learning her techniques, but by studying her work it is about how ideas emerge and how they are creatively applied when it comes to using handwriting. Chapter 2 is a literature
review starting with the overarching and elusive topic of creativity, what it consists of and how it is disclosed, and goes on to present various theories of the creative process, deductively leading to how visual artists create, and eventually focusing on the conceptual artists. Chapter 3 presents the conceptual art of Nina Papaconstantinou, the techniques she uses to illustrate different genres of texts, the reception of her work by Art critics and the challenges her Art presents to the researcher.

The fourth Chapter poses the research question “How does Nina Papaconstantinou use handwriting to create Art?” breaking it down to sub-questions that aim to shed light on aspects of her personality, her environment, how raw materials and the making of artworks guide her process and how these aspects correlate within the given period of this research. The methodology consists of a case study arts-informed approach, where I used interviews, observation, inquiry and triangulation to see which aspects of her process fitted with the theories of the creative process and which didn’t. In other words, I used the tools which would allow the data to inductively form a theory of the individual, but would also allow generalizability for visual artists and creative people in a broader sense. During the research I was aware of how reflexivity might affect the results and accepted that the final paper will encompass the relationship of the subject and the object of the research, in its varying subtleties and trajectories. Early on, I realized that the very nature of Nina Papaconstantinou’s art, which is a visual exploration of the gaps and failings in communication, of the elusive essence of the message, demanded a post-structuralist paradigm, which deals with the radical approach of the language, challenging its communicative ability and inviting multiple interpretations. Within the
same frame fits post-modern Art criticism that sees all drawing as writing in a new *topos* that exceeds traditional boundaries of both art and writing.

Chapter 5 analyzes the results of the research on how the artist creates and in what way she is like all creative people, like some creative people and like no other, using a combination of narrative and hermeneutics. Gaps and scope for further research are identified especially when it comes to personality idiosyncrasies in creativity and the understanding of how the visual brain of a conceptual Artist functions. Some questions are indeed challenging but need brain imaging tools in order to be explored. The open-endedness of the research is one of my reasons for wishing to pursue these questions further.

Finally, in Chapter 6 I use Anina Valkana’s program for children as a link between Nina’s art and the implications it has for children’s literacy. The same metacognitive approach applies to the educational program based on Nina’s work, “Instead of Writing”, where Mrs. Valkana decoded the elements of the artist’s work to facilitate the understanding of her drawings for children and engage them to use techniques and materials pertaining to handwriting, copying, reading pleasure, the preservation and the historicity of texts, to mention but a few. The evidence points to a favourable acceptance of handwriting as an artistic language by young pupils and teachers alike, and allows grounds for further exploration to preserve manuscript writing in children’s literacy. The chapter finishes with my recommendations on how such a program can be extended to incorporate multimodal literacies for grades 3 and 4, learning disabilities, remedial practice and other age groups in primary and early secondary education, as handwriting is still developing at grade ten.
The Conclusion summarizes the findings and the implications of this case study for the given amount of time, as I have come to realise there is no closure to this research.

2. LITERATURE REVIEW

2.1 CREATIVITY

A journalist once asked Picasso: “What is creativity?” “I don’t know”, replied the artist, “but even if I did, I wouldn’t tell you.” Numerous publications nonetheless have tried to demystify the elusive –even to Picasso himself- concept of creativity, ever since 1950, when, in his parting speech as president of the American Psychological Association, Guilford pointed the need for more research into “creative imagination”. In the sixty-year discourse that ensued, the meaning has exceeded the purely artistic or scientific sphere to include inventiveness, divergent thinking and idea generation, under the emergence of interdisciplinary creative practices and neohumanistic rhetorics (Nelson, 2010, p. 49; Robinson, 2011, p. 81) owing to the very nature of creativity that combines both intuition and reason (Richards, 2010, p. 199). Pressure from the corporate world has influenced education policy makers and creativity has evolved from a “glamour term” (Koestler, 1964, p. 15) to a “science” and even a crucial factor for the survival of our species and for environmental sustainability in times of overwhelmingly rapid changes (Chávez-Eakle et al., 2012, p. 76; Puzzio & Cabra, 2010, p. 146). The attempt to understand it though, runs in parallel with the evolution of its definitions and theories (Richards, p, 228), a fact

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2 For a summary of the theories, see Lubart, 2010, Runco, 2008 and The Cambridge Handbook of Creativity (Kaufman & Sternberg Eds), 2010, p. 27.
that accounts for the flurry of diverse and often contradictory publications under various disciplines and paradigms. Lately, scholars gravitate towards Stein’s (in Runco & Jaeger, 2012, p.92; Prabhu et al., 2008, p.53) proposal: “Creativity is the ability to make something new\(^3\), appropriate and of value” (Moran, 2010, p. 74; Nijstad et al., 2010, p. 35; Robinson, 2011, p. 151; Runco & Jaeger, 2012, p. 92; Sternberg & Lubart, 2010, p. xiii; Wallace & Gruber, 1989, p. 28). Depending on the discipline and the adopted perspective, theories of creativity have tackled different aspects and combinations of Rhodes’ four “p”s (Kozbelt et al., 2010, p. 24; Puzzio & Cabra, 2010, p. 149; Runco & Albert, 2010, p. 22): **person** (personality psychologists), **product** (aesthetics psychologists), **place** (social psychologists) and **process**\(^4\) (cognitive psychologists) (Prabhu et al., p. 53). This proposal will opt for the latter “p”, which is deemed by many as “the real work of art” (Sawyer, 2000, p. 153) by exploring the creative process of an artist who lives and works in Greece, without excluding how it relates to the other the other three “p”s (as prompted by Barron & Harrington, 1981, p. 456), her personality traits such as motivation and mood, her work and how it is received, and why it is appropriate or socially valuable, based on Wallace’s statement that “a theory of creativity must be about the unique and unrepeatable” (Wallace & Gruber, 1989, p. 3) as manifested in the individual creator.

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\(^3\) The novelty may lie in the mind of the individual or the whole of previous history (Boden, 1998, p. 347).

\(^4\) Two more p’s were proposed: persuasion (Simonton in The Cambridge Handbook of Creativity, p. 25) and potential (Runco, id, p. 24).
2.2 THE CREATIVE PROCESS

Historically speaking, the creative process and in particular, its epiphany stage, is an old topic. The religious and mystical connotations surrounding creativity were primarily related to inspiration, that is to say, the moment when an idea suddenly springs to mind, appears new and original and manifests itself as a concrete or abstract product that may sooner or later surprise the world, including its creator (Briskman, 1981, p. 131). The ancient Greeks spoke of the visitation of the Muse, or a “daemon” - an inner voice (Csikszentmihalyi, 1996, p. 112; Hillman in Piirto, 1998, p. 69; Gilbert, 2009; Kaufman & Sternberg, 2010, p. 175, 384) - a distinct entity that chose to possess the person and torment them with an intoxicating restlessness until they formulate their thoughts into a theory, a work of art or an invention. Despite the Arts dominance regarding creativity from the Romantic period and onwards (Robinson, 2011, p. 97; Runco, 2008, p. 2), it was thinkers such as Nietzsche, Helmholtz, Poincaré and B. Russell, that is, philosophers and mathematicians, who pondered on how ideas occur (Bindeman, 1998, p. 69-71; Patrick, 1955, p. 4-5, 14, 52-54; Storr, 1993, p. 60), bringing forth the notion of the creative process, eventually defined as the “cognitive organization of resources and sub-processes and how they combine in time” (Fürst et al., 2012, p. 283). In 1908, Poincaré spoke of stages of conscious and unconscious work preceding the “sudden illumination”, which was then followed by more conscious work. Wallas’s 1926 keystone work on the four stages of the creative process, preparation, incubation, illumination and verification (in Arieti, 1976, p. 15; Lubart, 2000, p. 296; Richards, 2010, p. 201; Runco & Albert, 2010, p. 30), focused on what preceded the Eureka experience, as it became apparent that the “thunderbolt” presupposed a long, in most cases, preliminary

Wallas’s four stages, which were by no means linear, nor regular, but dynamic and recurrent (Arieti, 1976, p. 19; Lubart, 2000, p. 304), were to be elaborated, directly or indirectly through ensuing models, by psychologists, psychoanalysts, artificial intelligence engineers, neuroscientists and evolutionary biologists. A period of demystification of the creative process ensued by scrutinizing, analyzing and dissecting the phases to include various cognitive activities or merging others to see the process in cognitive levels rather than stages (see Appendix A., Table 1, Koestler). It would seem that by the second half of the twentieth century, the Muse was dethroned and emphasis was given to what preceded and followed the Aha! moment (Guilford in Lubart, 2000, p. 299).

The above notion is already apparent in Ghiselin (1954, p. 1-17), who defines the stages of the process as cognitive schemas. A precondition of any creative action is for the person to have more than ordinary mastery of their domain’s skills. To start with, a long and laborious period precedes creation, one that usually goes unacknowledged by the creators as they regard it as craft, not as pure creative act. Next comes a vague hunch or yearning or feeling of approaching resolution (an “aura” in Wallace & Gruber, 1989, p. 7). The search may be triggered by something trivial (Doyle calls it a “seed incident” in Lubart, 2000, p.298), that -however unimportant- opens the creators’ minds and fills them with enthusiasm. What others call “exploration” phase, Ghiselin sees as automatism (Csikszentmihalyi’s “flow”), and emphasizes blind and random procedure though trial and error as well as selection
according to prior standards of appropriateness. The procedure is vague, yet purposeful. Sheer will facilitates convergent work, and many times this phase manifests itself as a “trance”, an extreme watchfulness. Illumination occurs when the creator finds a clue or an economical movement towards completion. Ghiselin argues that the moment of revelation can be sudden or a series of successive insights. He recommends patience for gestation to occur and advises “holding the fleeting moments without insistence” (1954, p. 15). It is then followed by repetitive selection of viable ideas and blind proceeding until the initial goal is met. The operation can be disrupted by delays and periods of defocused attention. When the excitement is dissipated, the creators keep a distance from their work, to evaluate it more objectively (cp. Cawelti et al. in Lubart, 2000, p. 298).

Ghiselin’s theory was a more integrated approach to the creative process, whose expansion and conceptual broadening was still too superficial to grasp its essence; a closer look into specific tasks in a domain became necessary in order for the researchers to delve deeper into whether the creator has certain mental agendas to cope with a problem, whether they stem from the conscious, the unconscious or even the preconscious (Kubie in Arieti, 1976, p. 25, p. 28; Patrick, 1955, p. 49; Richards, 2010, p. 201) part of the brain or the quality of raw material itself (Brown and Garrido in Kozbelt, 2009, p. 36; Robert Cohan in Robinson, 2011, p. 153; Mace & Ward, 2002, p. 186), to what degree the compound manifests itself during every phase, and what motivates the creator so as to activate it. The intricate correlations between personality, place and product and their various factors produced a wealth of studies tackling domain or task creativity.
Even from the dawning of the digital age, artificial intelligence and the process of exploration and selection done by computers in the problem-solving phase (Fürst et al., 1992, p. 284), rekindled analogies between human intelligence and sophisticated computing, in that computational processes can help us understand and articulate generative principles as to how a mind creates (Boden in Bindeman, 1998, p. 75). An example is Finke’s *Geneplore* theory, a combination of the Generation and Exploration process, which monitors the ongoing ideation of the brain until the task goals are met (in Blink & Marsh, 2000, p. 70; Fürst et al., p. 292; Runco & Albert, 2010, p. 32; Ward et al., 1999, p. 191). *Geneplore* may now be popular in organizational creativity, but in other domains, i.e. the Arts, problem-finding rather than problem-solving is said to distinguish the artist from the crafter (Sawyer, 2000, p.154). Boden’s (1998) computational theory about the creative mind, which defines creativity as the transformation of conceptual spaces resembles Koestler’s theory of *Bisociation*, defined as “the mental occurrence simultaneously associated with two habitually incompatible contexts” (Arieti, 1976, p. 17) which creates a new context. Still, to this day, creativity is seen as an essential human trait, as computers cannot yet modify themselves to change their thinking style (Boden in Bindeman, 1998, p. 75; Pereira, 2007, p. 1, p. 3) neither can they persuade us that a transformational creative action of theirs can be of value (Boden, 1998, p. 355). The evaluation of a novel idea remains an ability of the gatekeepers in the human communities. However, the potential of the rapidly developing Computational

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5 Margaret Boden gives an interesting definition in that “true creativity takes place when its results are recognized as having been simply impossible” (in Bindeman, 1998, p. 75).
Creativity may even redefine Creativity itself, as, computing systems exhibit creativity, “but not as we know it” (Colton & Wiggins, 2012, p. 25).

The more theories of creativity involved psychology, neuroscience and artificial intelligence, the greater the need for an interdisciplinary approach to the creative process (Holm-Hadulla, 2013, p. 294; Sawyer, 2010, p. 378). Koestler (1964, p. 35), who coined *Bisociation* thought that the spontaneous variabilities a creative person shows might owe to the fact that the “connections between dendritic endings in the human brain are likely to have a huge number of alternatives”. That the connections happen in pairs and form a fractal pattern has been proposed by brain researcher Tsang (2012), and bring to mind psychologist Lubart’s notion of creative thought as “high-speed short interactions between modes of thinking” (2000, p. 297). It is gratifying how, in many cases, the manifest approach of creativity by psychoanalysts has been verified by recent research in neurosciences and computing.

Other theories reiterate their older notions with the newest evidence drawn from neuroscience. Within a unifying theoretical frame Holm-Hadulla (2013, p. 293-295) proposes a dialectic model of creativity that alternates between “order and chaos, coherence and incoherence, stabilization and destabilization, construction and deconstruction” based on scholars who had already spoken about the ability of creators to converge and diverge, to focus and refocus (Csikszentmihalyi, 1996, p. 58; Fürst et al., 2012, p. 285) imaged by the loosening and tightening of neural networks to form new patterns. The Gestalt theory offers its insight at this point, as the reintegration of existing materials of knowledge – presently called neuron synapses - form a combination that is greater than its sum of parts (Stein in Runco & Jaeger,
2012, p. 95; Blink and Marsh, 2000, p. 64; Wallace & Gruber, 1989, p. 26). Prior knowledge is emphasized by the Investment Theory (Sternberg, 2012; Runco & Albert, 2010, p. 11) according to which a creator “buys” low and “sells” high, that is, takes an obsolete idea and presents it to the world in a new light, which affirms that within the creative individual there exist structures that define novelty (Blink & Marsh, p. 70; Nijstad et al., 2010, p. 39). Moreover, brain specialists currently think that the secret to understanding creativity may lie in the corpus callosum, the primitive part of the limbic system that sustains life itself (Feist, 2010, p. 125; Glazek, 2012, p. 165; Kaufman et al., 2010, p. 219-220; Robinson, 2011, p. 117, p. 184), a discovery that may echo Carl Jung, who defined creativity as the instinctive animation of the archetypes hidden in our collective unconscious (in Arieti, 1976, p. 26). It seems that neurobiological evidence, facilitates those who seek a universal theory of creativity, but, to my mind, this depends on our perspective; the closer we focus, the more complex the mechanics of the creative process and as we take a step back, plausible generic patterns can be discerned.

Even if new scientific data shed some light on how the neurons connect and on what parts of the brain are activated and when, the question still lingers: why those and not other connections? What ignites the connectivity and keeps it going? Concerning the first question, the theory of evolution (Briskman, 1981, p. 147; Koestler, 1964, p. 131; Simonton, 1999) favours the blind variation and selective retention of ideas, applicable to the individual as well as to the historic aspect of creativity. The adaptation of the Darwinian approach to creativity might have been challenged (Gabora, 2005), but we must allow for the random factor implied in “blind variation” of the evolutionary theory to pertain to the state of ambiguity or -in other
words— the suspension of the immediate gratification of a mediocre solution, which creative persons can handle much better than others. When it comes to the second question, motivation is considered the key to unlocking the creative potential, with intrinsic motives overshadowing extrinsic motives (Csikszentmihalyi, 1996, p. 123; Prabhu et al., 2008, p. 61), without ruling them out altogether (Wallace & Gruber, 1989, p. 284-5).

This combination of motives has been examined in relation to the creator’s personality (Barron & Harrington, 1981, p. 450-476; Piirto, 1998, p. 26) with the conclusions converging to certain common characteristics, such as openness to experience, risk-taking, divergent thinking, cognitive independence, adaptability and flexibility (Arieti, 1976, p. 28, p. 349; Fürst et al., 2012, p. 284; Richards, 2010, p. 205). As already mentioned above, an interesting trait is the greater but not infinite tolerance of creators for ambiguity (Blink & Marsh, 2000, p. 75; Holm-Hadulla, 2013, p. 297; Puzzio & Cabra, 2010, p. 147), where ideas may exist in a half-baked state of potentiality, thus allowing them to be expressed in another form (Ranjan et al., 2013, p. 3254). Some may call that “flexibility”, to think outside the box, others probably refer to it as “perseverance”: not giving up when the solution might be lurking in some part of the brain6. Both of them are personality traits and bring the factor in the creativity question. Indeed, the way remote associations occur to the creative mind led scholars to examine the relation to schizoid and depressive behaviours. The plethora of cross-disciplinary articles have proven a biological association between creativity and depression or bipolar disorders (Akinola & Mendes, 2008, p. 7; Barron,

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6 A dual theory that combines both was published by Nijstad et al. in 2010.
1963, p. 127-128; Barron & Harrington, 1981, p. 457-459). Still, most creative persons are rather cyclothymic, shifting between moods, than mentally unstable (Fürst et al., 2012, p. 284; Richards, 2010, p. 196), and they are capable of choosing tasks that fit different moods and needs (Wallace & Gruber, 1989, p. 13). The literature has examined connections between mood and creativity (Baas et al., 2008) or personality and creativity (Chávez-Eakle et al., 2012), but there is a gap when it comes to the combination of mood and personality that boost creativity. Negative moods have been found to enhance it in some cases (Holm-Hadulla, 2013, p. 2013), especially in convergent tasks (Akinola & Mendes, p. 1, p. 8), but De Dreu et al. (2010) speak of activating and deactivating emotions, rather than positive, neutral or negative. Sadness or relaxation, for example, are not related to creativity, but elation, anger or fear activate the individual towards different thinking modes. Elation promotes “global” thinking and fear produces “local” processing. When the individual is activated and engaged in creating, the promotion focus allows productivity to flourish by thinking broadly, “globally”. On the other hand the prevention focus, which protects the person from potential threats like failure or ridicule, also benefits creativity by persistent convergent work (p. 206). The conclusion of Fürst et al. (2012, p. 290, p. 292) that there is no significant relation between mood and process or personality and process, may owe to the dynamics of the group that participated in the experiment or even cultural traits that inhibit the articulation of such feelings in public. Indeed, many of the experimental studies on group creativity were conducted in laboratory conditions (Akinola & Mendes, 2008; De Dreu et al. 2010; Forgeard, 7 Global processing is broad thinking, seeing the forest instead of the tree. Local processing is convergent, focusing on the tree (De Dreu et al. 2010, p. 203).
2011; Fürst et al., 2012; Ranjan et al. 2013) and need to allow for group dynamics to interfere with the analysis and correlation of factors and variables that make every artist unique (Mace & Ward, 2002, p. 179, p. 180). There is still ground for research into emotions seen as mixtures of negative and positive feelings in such a way that, combined with certain personality traits, they will boost a creative incident instead of impeding it. Perhaps a more authentic state of thinking and feeling can be explored by observing and talking to a single artist over a period of time, as I sought to do with this case study.

2.3 THE CREATIVE PROCESS IN VISUAL ARTS

As the creativity discourse grew to identify more phases and subprocesses in the creative practice, it became imperative to clarify what kind of creative process (cultural, group, or individual) and whose (artists’, scientists’, entrepreneurs’, novices’ or experts’) was examined. Patrick (1955, pp. 27-28) affirmed the cross-disciplinary and expertise-independent nature of the process and for a while scholars were striving for a general theory of creativity. Soon, however, the question arose whether the process was domain-specific (James & Asmus, 2001, p. 149; Runco & Albert, 2010, p. 30) or even task-specific (Lubart, 2000, p. 304; Ranjan et al., 2013, p. 3254) as there exist some indications that the level of cognitive ability required for creative tasks varies between disciplines (Menelly & Portillo, 2005, p. 163). A closer look is therefore needed into the creative process of a visual artist, namely a painter.

In their grounded research, Mace and Ward (2002, Appendix A, Table 2) present their model of the creative process of visual artists as a dynamic negotiation between the artists themselves and their work. Although the authors consider
creativity as much too complicated to be associated with one point or phase alone, they did however discern the following stages:

1. **Idea conception**, which is “the process of identifying an implicit or explicit idea or feeling that could be a potential artwork” (p. 182). The feelings can derive from within, where they lie as an integral part of the artist, who is unaware of them as separate entities, or explicit, that is, conscious ideas that lead to deliberate actions. The sources of these feelings or ideas can be external influences, an interplay of life experiences or the artist’s ongoing art-making enterprise (p. 183). It is hard to pinpoint a sole locus of creativity, however, as the concept may emerge from the making of other, either finished or unfinished artworks. The initial idea moves from being vague into something gradually clearer while it needs to be expressed in two dimensions. This is where stage one fuses with the second stage.

2. **Idea selection – Idea development**. The artists move through a range of experimentation, problem-solving, gathering information and making decisions to structure their idea. In this phase they make a lot of sketches to develop and expand it and some move to a three dimensional presentation of their concept. The length of this phase depends on the novelty of the initial idea; if it is part of an ongoing project, matters of form and material are dealt with faster. The artist restructures the idea, and if it is viable, proceeds or else, “shelves” it, probably in their notebook, for future consideration. The transition to the next phase is not always discernable, as sketching and experimenting continues but in a different level in the making of the artwork.
3. **Making the artwork.** Here, the basic composition is elaborated, while both the idea and the work itself constantly interact. In addition to the formation of the artwork come the raw materials that present their own challenges as problem-solving issues. In this process, there is one more factor that correlates with the others: the artist’s body of knowledge. When the artists create, the explorer in them is bound to emerge and both identities are in constant negotiation with each other and with the work under formation. This is a phase that also allows serendipity to occur, as the positive side of the random factor, present in all making of art. The artist needs to take a distance or short pauses from the work to evaluate its aesthetic qualities. Most artists have difficulty determining when the work is finished; usually it is an emotional or an intuitive decision (p. 186), and not, as a non-artist would believe, an aesthetic evaluation of the work. The latter is responsible for the rejection or abandonment of the work, though, which can also happen here.

4. **Finishing the work.** Whether because of an intuition or a necessity to meet a deadline, the artwork reaches an end. Other matters of aesthetic and practical importance, such as framing, exhibiting, and maintenance and possibly the safety of the viewers are dealt with (p. 187). With its completion, the artist has already entered phase one of emerging sub-projects or undertakes phase two of a shelved project. It is not rare for one endeavour to give birth to multiple ideas, aesthetic considerations or knowledge of new material the artist wishes to explore further.

Mace and Ward’s model is an elaborated variation of previous generic models of creativity (Appendix A, Table 1), but especially Galenson’s (2001, p. 63) three-stage
model of planning, working, and stopping. Such specified models of the artistic process in visual arts are seen through the perspective of visual aesthetics, and emphasize the field-specific nature of information-processing (Simonton in Galenson, p. 65), bringing up the question of how the materials also form the artistic process (Brown and Garrido in Kozbelt, 2009, p. 56). Mace and Ward’s (2002, p. 184) affirmation that the transition between stages is seamless and the process is not linear, but recurring (Serafin et al. call it “cyclical”, 2010, p. 327), as the artwork travels through a stage multiple times before going to the next one agrees with models (Getzel and Csikszentmihalyi in Lubart, 2000, p. 298; Kozbelt, 2008, p. 184) that are against compartmentalizing the creative process. The authors, however, disagree with the notion of problem-solving in art making; the artists don’t work to solve a problem as such, rather to formulate and achieve a new way of thinking and perceiving (Mace and Ward, 2002, p. 191). Contrary to Getzel and Csikszentmihalyi’s study (id, p. 180), a self-initiated project illuminates the motivational and emotional variables that contribute to an artist’s work, much better than an externally assigned project. They also think that their model sheds light on the nexus of making art, thinking and the on-going experience of the artist (also in Locher, 2010, p. 131), which they call “the body of knowledge”. The latter consists of the artist’s experience, values, personal interests and emotions, their skills, aesthetics and personal theories about art and their genre, as well as the historical and contemporary art knowledge. The body of knowledge is ever-present during the art-making, growing, assimilating new knowledge, transforming itself and shedding or storing unviable ideas. Mace and Ward see the process as a learning experience, where the artist grows from the minutiae of activity during the making of the art (p. 188). Their model can be used to
consider which factors that form the body of knowledge prevail or lurk in the background of the artist’s mind and interact at any given moment with the work of an individual visual artist.

Let us, for example, consider the genres in the region of Modern Art. According to Galenson (2001, p. 50-51), there are two methods of innovation in the history of Modern Art: the aesthetically motivated experimentation and the conceptual execution. Artists that belong to the first group are empiricists, they draw their principles from observation and experimentation, based on visual factors of their work. They seldom make preparatory sketches, but rather imitate themselves, working on an artwork for years, leaving their work open-ended. This causes them to suffer from a perfectionist’s frustration, not being able to attain closure. Their work peaks in later years, gradually and not as one single piece but as a body of work. One can easily recognize here the agonizing creation of Cezanne, whom Picasso called “the father of us all.” Picasso himself belongs to the second method of execution, which is the conceptual\(^8\). The work is preconceived, the goals are set \textit{a priori}, and all the major decisions are taken before the painting is made; hence the many and detailed sketches. They seldom experience frustration for the same reason as above, because their work finishes once the precise mental image that triggered it is expressed visually. Breakthrough may come as a result of a single work, and it usually comes in early stages of their career. This general presentation of the two methods is not meant to create unsurpassable borders between the two ways. A conceptual artist is as perfectionist and exploratory as the others but he or she may scrutinize

\(^8\) Not to be confused with a member of the Conceptual Art group of the sixties, to which the idea behind the work was more important than the tangible artwork itself.
facets of an overarching idea visualized in separate works, rather than in the same work. As Sol LeWitt put it (in Galenson, 2001, p. 63) “one way is to make decisions in every step, the other is by inventing a system to make decisions.”

3. THE CONCEPTUAL ART OF NINA PAPACONSTANTINO

Nina Papaconstantinou is a Greek artist who uses a variety of techniques to copy texts, novels, poems, scripts and famous studies onto a single canvas. Her most typical work is done by handwriting whole novels on one surface, line by line, using carbon paper as a medium. The result is an illegible pattern that invites the viewer to look closely and to discover more than initially meets the eye: a condensed book, “shelved” along with the other favourite readings of the artist in her collection entitled *Vivliothiki* (Bookcase) (Appendix B, Image 1). By rotating the text and taking a microscopic or macroscopic view of letters, embossing them or tracing between the lines, she creates new landscapes, all potential answers to her ongoing question: “How can a text illustrate itself?” (Georgakopoulou, 2011; Pandi, 2012, p.5; Papaconstantinou, personal communication, August 2014).

In her laconic biographical note (Nina Papaconstantinou, official website), the artist informs us that she was born and lives in Athens, and that she studied Greek Literature in the University of Athens (1992) and Visual Arts and Drawing in Camberwell College of Arts in London (2001). From the list that follows on her webpage, we gather that her work has been exhibited in Greece, in the UK, China, Italy, New York as well as Paris, France, in a period of thirteen years. She has been given four solo exhibitions and has been described as “an important artist of the new
generation” (Pandi, 2012; Valkana, 2011, p. 2), as the director of the Kalfayan gallery assured me in person. Despite her growing recognition, Nina remains nevertheless a “faithful and dutiful child of Art”.  

Nina’s art can be seen as a resonance of the Art and Language movement of the late sixties to the late seventies in Britain and the U.S., which used language as raw matter to create visual images (Harrison, 2002) and brings to mind Griselda Pollock’s quote that any attempt to interpret such an art is not about optics anymore but about graphics, about “a social mind and a physically-shaped body which ‘writes’ upon its materials to produce a series of signs which have to be read like hieroglyphics or deciphered like complex codes” (in Heywood & Sandywell, 1999, p. 106). Almost an exact visualization of Pollock’s words is Nina’s own Journal, a series of relief self-portraits that show the artist while writing her diary (Appendix B, image 2). Despite some similarities and a common ground with the Language and Art creators (Appendix B, images 3 and 4), Nina’s art is original in its concept, as it is intriguing in its multiple manifestations, techniques and combination of tools; whereas the British and American conceptual artists used writing as an image and a carrier of meaning, Nina obliterates the visibility of the latter and triggers an act of recognition inside the booklovers’ subjective awareness, who “read” the book in their minds and marvel at the patterns it makes. Her art uses letters as its raw material but ironically challenges or reinterprets the post-modern notion that knowing is not always reducible to language, yet the image of the all-in-one-page book evokes the reading experience, whose chief attribute is the text, the words.

9 Title of her work #2104. A Faithful Dutiful Child of Art, 2013, drawing on carbon paper, diptych. The phrase belongs to the Greek modern poet, Cavafy (1863-1933), as the artist informed me.
But there is more than that. The artist, who has studied medieval and modern literature, assumes the ways and the intentions of the monks who set out to preserve the work of classical Greek and Latin authors. The Western Culture owes a lot to the anonymous devotees who sat for endless hours making copies of texts in careful handwriting, and who complained of back problems and sore eyesight from overworking and at the end of their script thanked the Lord they were able to finish the heavy task. In attempting her own version of copying whole books, Nina relates herself to a long tradition of *scriptores*. Her 2011-2012 exhibition in the Museum of Contemporary Art in Athens was entitled “Instead of Writing” (*Andi Grafis*), which in Greek is a play on words between “copying” (*andigrafi*) and “copiers” (*andigrafeis*). A careful eye can discern the humility with which she approaches texts, such as *The Book of Revelation*, *Dante’s Inferno*, *Pericles’ Epitaph*, *Defoe’s Robinson Crusoe*, *Foucault’s Des Espaces Autres* and so many others, to speak of her other creations. In copying them, she also appropriates them (Pandi, 2012, p. 6) but most importantly pays homage to a part of the history of writing. To create her textual palimpsests she scratches, erases and leaves traces as a mannerism in tribute to her predecessors and yet, unlike them, who scratched and erased the surfaces to rewrite on the expensive scroll (Appendix B, Illustration 6), her mimetic action gathers all layers in one dense level. Instead of the quill and scroll, in a delightful modernistic twist, she uses a commonplace pen or a crayon, correction fluid, inkless pen and carbon paper to make her own diptychs (Appendix B, Illustration 5). She then uses the photocopier to magnify her illustrations to the point of seeing the line in its

10 In a Bradburian (*Fahrenheit 451*) sort of way, but instead of memorizing them as the outlaws in the book do, she copies them. This can be seen in conjunction to Emma Kay’s recalling whole texts on a canvas from memory. (Fortnum, 2007, p. 105-111). Legibility is the differentiator with Nina’s art.
mathematical essence: as a series of dots with no beginning and no end. That gave her the idea to trace its dots one by one to produce the line IN the letter IN the word (Appendix B, Illustration 3). When she intertwines the minuscule letters of Arthur Miller and Anais Nin’s copied correspondence (Appendix B, Illustration 7), we are reminded that the text is *texere*, i.e. *to weave* (Flusser, 1987, p. 37; Kritikou, 2013, p. 8, Tonfoni & Richardson, 2000, p. 42-43) and that the written line literally serves as the woof and the warp to create a pattern. For the past ten years that woven pattern has been the central point of her artistic dialect (Appendix B, Illustration 6). What is more, when she sews or pierces words on paper that resemble traditional Greek embroidery or imitation baroque tapestries, she evokes collective memories for our common age cohort, the Greek children of the eighties (Appendix B, Illustrations 9, 10). Our mothers’ embroideries, the bucolic cushions on the sofa, the festive tablecloth; it’s all there. These cultural elements are spun into her work, but they may not be discernable to the audiences worldwide. They remain, however, open to multiple interpretations, which the artist welcomes (Papaconstantinou, Personal communication, August 2014).

4. THE CASE STUDY

4.1 THE RESEARCH QUESTION

A substantial body of the literature boils down to a conclusion that is neither new nor surprising: creativity is a complex phenomenon and cannot be studied by isolating its elements. We can attempt to gain a deeper understanding by choosing which factors of the personality, the product, the place and the process interact at
given times. Lubart (2000, p. 305) is well aware of the six-decade discourse on creativity when he writes that “the challenge lies in studying intraindividual and interindividual variability in the creative process”. What I attempt, therefore, to establish with this research is “a theory of the individual”\(^\text{11}\) (Newell & Simon in Wallace & Gruber, 1989, p. 3) by seeking to answer:

A. What sequence does the artist follow in her creative endeavours? Are stages and subprocesses discernable? Do they overlap?

B. What is the relation between her personality, her mood and her motivation to create? How does this combination of factors affect trajectories in her creative process?

C. How does the artist perform under contextual variables, such as time, competition, pressure, external evaluation, feedback? (Lubart, p. 305)

D. What further insights can be gained in relation with handwriting as an image, a gesture, a cultural trait?

There is a cluster of questions relating to the ones mentioned above. “A.” for example needs to clarify whether the so-called “stages” of creativity apply to a single project or can be generalized as to the artist’s development over time or whether the cognitive subprocesses involved are task-specific. Since time is an important aspect of her oeuvre, “to understand the temporal shape of the creative process we must consider the intricate relations among difficulty, duration and purpose”; Wallace’s (1989, p. 14) statement seems to reflect Nina’s art perfectly. “B.” needs to explore

\(^{11}\) Where “theory” goes back to its initial meaning from the Greek word θέα: view and ὑπῆρ: see, ergo an overview of the individual as a whole, rather than a set of ideas applicable to the majority of the peer group.
the artist’s intrinsic and extrinsic motives and how they fluctuate or not according to her mood and personality. It also touches upon the complexity of emotions that appear negative but have been found to enhance creativity. “C.” needs to take into account the social milieu of the artist, family factors and peer relations. Finally “D.” is the most open ended and exciting part where the researcher might witness the emergence a new aspect in the artistic language of Nina. Or not.

4.2 METHODOLOGY

Murray & Kluckhohm have pointed out (in Wallace & Gruber, 1989, p. 26) that “any individual is like all the others in some respects, like some others in some respects, and like no others in some respects”. Wallace & Gruber go further to examine the whole that is created by the sum of these variables with the case study of twelve creative individuals. In order to gain a deeper understanding of how my research subject used handwriting as an art form, I adopted an arts-informed qualitative paradigm to address the artist and her work as a whole, while exploring how she is like other creative people and in what ways she is unique as an Artist (Wallace & Gruber, p. 27). To do so by I employed a fusion of “languages, processes and forms of visual art with the expansive possibilities of scholarly enquiry” (Knowles & Cole, 2008, p.59) to advance knowledge on the individual manifestation of creativity, that may in fact be closer to deciphering it than any general theory which, in its search for a universal pattern, underplays the unique.

4.3 TOOLS AND PARTICIPANTS: On getting the formal approval for my research proposal from the UNB Research Ethics Board (REB), I started gathering my data for
the main body of this research, which is the creative process of an individual artist. For this purpose I used Case Study methodology tools, such as semi-structured interviews with Nina Papaconstantinou in and out of her house. In addition I visited along with the artist the gallery that had hosted her 2013 solo exhibition “My Dear Viscount” and was shown her works that were kept stored by Mr. Kalfayan, the director of the gallery. This part as well as the interview with Mrs. Valkana were conducted in the month of August 2014 in Athens. Back in Canada, for obvious practical reasons I corresponded with Nina twice a month for the following eight months in an informal tone, to clarify points in our discussions and keep up with what she was doing. Since our time in Athens didn’t allow me to observe the artist while she was working, we agreed I should record her twice for twenty minutes using a webcam via Skype, to observe the movement of her hands while she is creating, as the gesture is closely related to her conceptual artistic language (interview to Georgakopoulou, 2011; vHERBE100, 2013). The mixed approach of observation, communication and interviews was guided by the need to remain open to serendipity. As Ewing and Baguley (2013) put it, to employ the standard behavioral science methods of planning everything ahead when it comes to artistic production in the making, we undermine the possibility of “implicit connections becoming evident while immersing in the enquiry process” (Knowles & Cole, 2008, p. 61, p. 63). This openness in serendipity is especially important in research on the visual arts, where “the images and processes of the artistic creation are at least one step ahead of the reflecting mind” (Ewing & Baguley, 2013).

In the information letters preceding the interviews, I explained to the interviewees what they should expect and how long the data will be preserved, as
well as what kind of questions I would ask them. All interviews were recorded. The transcripts were mailed to them both and I received Nina Papaconstantinou’s feedback. In her case, instead of following a strict thematic order the questions aimed to build trust and allow the artist to express herself freely. Being old acquaintances this was not hard to accomplish. Indeed, in this case, personal knowledge was an advantage, as Wallace and Gruber (1989, p. 30) point out as it provided “a degree of understanding that is not accessible to others” in a well-balanced combination of intimacy and distance. A semi-structured interview also applied to the one encounter I had with Mrs. Valkana in the Museum of Contemporary Art in Athens.

In the not-so-early stages of my research, and during the transcription of the artist’s interviews, an idea came to mind: to copy a text in the manner of Nina Papaconstantinou. Finding grounds to support the endeavour in Cole and Knowles wherein the form is the main element of Arts-informed research, and may emerge as either as an aesthetic element or a technical element in the representation (Knowles & Cole, 1998, p. 62), I set out to copy the first draft of this paper to immerse in the toil of handwriting, eager to see what I miss in Nina’s paintings: the possible in-between appearance of the text before it is completed and the questions it would raise. I photographed the evolution of the text-as-image every few pages (Appendix B, image 22). In doing so, I adopted the authors’ assurance that the researcher’s presence and artistry is predominant although not central to the study (id., p. 61). Moreover, I needed to remind myself how handwriting can be time-consuming and laborious, before considering my own educational proposal on handwriting (see Chapter 6.2). Last but not least, I would get an embodied experience of Nina’s artistry
instead of only observing it. In this way, I hoped to achieve an important goal of Arts-informed research: to unify the inquiry and its representation. The results (Appendix B, Illustration 21) are discussed in Chapter 3.

4.4 DATA INTERPRETATION: For the data interpretation of Mrs. Papaconstantinou’s interviews I employ the post-constructivism paradigm, which utilizes reflective thought to understand radicalized language and meaning as employed by the conceptual artists. De-construction helps create a topos, a non-site where both artist and the researcher can see themselves as Other (De Freitas, 2008, p. 472), but also invites the product with its multi-layered dynamics and the audience as co-constructors of meaning. Starting with the observation of Nina’s drawings and the reading of critiques on her work, I was able to gain insights from the deconstructive approach of Anina Valkana’s educational program for children “Andi Grafis”, to peel the artist’s multilayered artworks, which touch upon personal instances, visualization of the written work and literary criticism, post-modern reflections on the effectiveness of the message, the history of writing and the handedness of her technique. The artist’s own reflection of her creative process\textsuperscript{12} invited a visitation of her prior finished work as well; Nina’s website, where she uploads her creations in chronological order, allows an overview of her work and her artistic development. Data such as photographs and videos taken during this research were called upon to provide a better understanding of the interview transcripts. During this process the ongoing literature review fed into the growing body of knowledge, bringing about

\textsuperscript{12} According to Mace and Ward (2002), artists usually report their incipit theories instead of their own creative process (p. 180), and Indurkhya & Ogawa (2012, p. 1787) think that artists realize their micro-processes much later than the execution of their work.
new challenging questions such as “In what way is an abstract painting a reflection of brain activation of an artist?”, which led to further readings. Hermeneutic tools such as radical semiology and narrative were used to the extent they contribute to the appreciation of the artist’s work, rather than dissect it with anatomical scrutiny. In interpreting the data I kept in mind what Sontag calls “the erotics of art” (in Heywood & Sandywell, 1999, p. 21), which to me is about maintaining the initial affective quality the artwork triggered in the soul while a deeper understanding formed itself during the enquiry. This understanding took the form of serendipity, when an unforeseen socially significant aspect came out of the educational program inspired by the artist’s work: the haptic element of Nina’s handwriting technique and its importance in an age of mechanical dominance, carries the potential of inviting a broader audience to engage with the findings, namely, education policy makers, parents and teachers, who can see the dying practice of handwriting in a new light of creative invigoration for children’s literacy. This kind of interpretation, which is one of the most important contributions of Arts-informed research to knowledge (Baden & Winpenny, 2014, p. 10; Knowles & Cole, 2008, p.61-62), or teaching and learning is discussed in Chapter 6.

4.5 LIMITATIONS. Given the limitations of every research proposal, or indeed of the researcher herself, I wish to mention that I have no intention of attempting a psychoanalytical approach; I am neither an artist, nor an Art historian and I certainly am a novice to the basics of neuroscience. Yet, I used interdisciplinary elements in

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13 This may be a departure from Sol LeWitt’s “manifesto” Paragraphs of Conceptual Art (June 1967), but as Heywood points out “after a quarter of a century of ‘new’ criticism we are in a good position to take stock of gains – and losses.” (p. 21)
my holistic approach to Nina Papaconstantinou’s work, based on the conviction that any deciphering of creativity benefits from the shared wisdom of cross-disciplinary practice (a view also shared by Bindeman, 1998, p. 76; Holm-Hadulla, 2013, p. 293) in spite of the latter’s want for rigidity and coherence in the initial stages of its formation.

Although I had a month to gather the data in Greece, August was the summer period during which people take leaves and are away on vacations, so I had to meet my interviewees whenever they were available. Both were extremely understanding and accommodating, but there was less time than planned to observe the artist in person.

During the interviews and the observations I am only too aware of how my presence may have had an effect on the artist’s work, however small. I was concerned, for instance, how untimely answers to my questions on Nina’s process might disturb the fermentation of ideas in the preconscious stage for her. The final draft may embed the history of the relationship between the researcher and the subject (Wallace & Gruber, 1989, p. 30) as well as the potential systemic tribulations caused by my presence in the artist’s family life, by adding one more obligation to her busy schedule. To record the degree of these tribulations and evaluate them I kept a log of our meetings and discussions, but I also aim to ask the artist, who has shown considerable meta-cognitive abilities in presenting her own work (Gagarin, 2004) to reflect on this topic towards the end of the research. This way I hope to maintain an ethical relationship with the Other (De Freitas, 2008, p. 470).
5. THE RESULTS

A. What sequence does the artist follow in her creative endeavours? Are stages and subprocesses discernable? Do they overlap? Do so-called “stages” of creativity apply to a single project or can be generalized as to the artist’s development over time or are the cognitive subprocesses involved task-specific?

What differentiates Nina from the other artists (vHERBE100, 2013) that are using Language are the concepts of illegibility, handwriting, handicraft and cryptic, that stand as the key words of her art. Her overarching project is to explore what lies behind words that is articulated in the question: “How can this text illustrate itself?” (Georgakopoulou, 2011; Pandi, 2012, p.5; Papaconstantinou, Personal Communication, August 2014). A second, but equally important theme is how to visualize the elusive nature of communication.

Part of what forms her “Body of Knowledge” (see p. 17) needs a reference to the artist’s development. This can be traced back to her childhood, when she had a callus on her finger from pressing the pencil – the callus is still there to witness the painstaking effort she puts into her work- and her need to write in straight lines, which is, according to Rosenblatt and Winner (1988, p.12) a sign of the gifted child, whose “drawings are repeated explorations of the same theme”. The emergence of her as a reader, the encouragement by some teachers in early years to draw, and her idiosyncratic habit to copy the book she had to learn for her University entry exam three times to appropriate it, are significant episodes in her development. To discover it, however, did not come easily. During the third year of her studies in Camberwell College of Arts, she was given a project, where she incorporated the
manner of copying and weaving into the illustration of a fairy-story: the Grimm brothers’ *Hansel and Gretel*. Instead of drawing the figures and the woods and the witch’s house she tried writing the story on canvas, turning the canvas clockwise and repeating the whole process, until she had written the story four times in a manner similar to weaving (Appendix B, Image 7). When Nina finished the piece, her husband Costas’ surprise was genuine: “Can a text really create that pattern?” *Hansel and Gretel* (2001) was a turning point in her career. It initiated the ongoing project of the *Bookcase*, and it was further explored in *Four Landscapes of Hansel and Gretel* (2001-2010) where her illustrations of the story were blown up, traced on transparent paper in successive layers that concealed the figures, resulting in an enigmatic cloudy landscape that seems to move but momentarily keeps still for us.

The *Hansel and Gretel* drawing seems like a beginning, but should be seen as the Aha! moment of a long preparatory phase. It belongs to the Artwork Conception (Lochel, 2010, p. 132) or Idea Conception (Mace & Ward, 2002, p. 182) that encompasses Wallas’s Preparation and Incubation stages (see Appendix, B, Table 1). In admitting that she dreams but not seeing how dreams affect her in a creative way, Nina agrees with Csikszentmihalyi’s findings on creative people and the unconscious (1996, p. 262). On the contrary, the so-called preconscious stage, where ideas exist unarticulated, can well be the realm of her creative thoughts: “A good idea loses its value when I write it down in my log. I wish I could keep a more unconventional log, where I could write my thoughts as they occur, without all the rules we were taught at school” (Papaconstantinou, Personal Communication, August, 2104). In the sphere of the preconscious, where the “magic synthesis” occurs (Arieti, 1976, p. 12) by joining two different matrices, text and image, Nina has performed what Koestler
(1964) called Bisociation, the essential act of creativity. When, however, she copies the texts in superimposed layers, she performs what Rothenberg (1980, p. 26) called homospatial thinking, which is consciously and intentionally fusing separate pages of a written text into one surface, a fact that the artist emphasized more than once in our discussions. The scholar and the artist are both present in her exploration of the visual manifestations of texts, with either role prevailing on occasions (Pandi, 2008), in a Janusian\textsuperscript{14} type of creative process that allows two unrelated unities to coincide (Rothenberg, 1999). The same goes for connecting the text with handicraft, such as embroidering (or piercing, the trace of the act of sewing) and weaving strips of text. In each case, the text dictates the method of approaching it. In the variable texture of the copied texts of her Bookcase, Nina combines what Tonfoni and Richardson (2000, p. 13-14) say about the artist and the writer:

> Just as an artist chooses a canvas with an appropriate texture, a writer has to decide how much “texture” the text will have. The texture of text has to do with the density of information conveyed by it. [...] Not only does the metaphor of canvas carry the property of texture, it also implies a visual context for the process of writing. After choosing a canvas with the right texture, an artist prepares to draw or paint by organizing [sic] the space on the canvas. The artist establishes a perspective, point of view, focus, even a cliché for the drawing or painting.

The content also guides the way the text is visualized. Sylvia Plath: the Missing Journal, was written with inkless pen on white sheets of paper sewn together, and stands for the silent protest of a log burnt by her husband, the poet Ted Hughes, after her suicide. In Anais and Henry (2011), the correspondence of authors Nin and Miller was copied by hand, cut in strips and glued together in a random way, as a manifestation of their erotic and intellectual relationship. For texts whose words

\textsuperscript{14} From the Roman god Janus, who had two faces on his head, allowing a simultaneous vision in opposite directions.
“pierce us” (Georgakopoulou, 2011), Nina used piercing to trace the letters or to emboss figures that protrude from the textual background, as in de Sad’s *Justine* (2010), that appear only under a certain light or angle. Foucault’s *Des Espaces Autres* (2007), was copied on a 15x5 ft. vinyl surface using glue and exhibited outdoors, to allude to the “light, ethereal and transparent” variation of Heterotopia in the philosopher’s article (Foucault, 1984). In all her works, the titular clues are part of the enigmatic drawings (Gilman, 2011, p. 1), using language both as an illegible image and as a readable title, the latter standing outside the paintings’ bounds as a point of reference.

As stages of the creative process usually overlap, the artist may have entered the next phase of “Idea Development” by a constant interplay between her “body of knowledge” (as an artist, a scholar and a reader) and her raw material (the books) that present new challenges for illustration. Various ideas are noted in a sketchbook (Appendix B, Image 11) for immediate implementation or future consideration, confirming that Generation and Selection occur in all stages of the creative process (Blink and Marsh, 2000, p. 64; Fürst et al., 2012, p. 284). The artist herself told me she does not create in a linear fashion, rather a radial one, which shows the open-endedness of her work.

Further ideation takes place during the Making of a Drawing or Conscious Work stage. As an essentially conceptual artist, Nina “assists” the text to illustrate itself by maintaining steady parameters and allowing serendipity as the random factor that keeps her motivated and curious about the result: “When I keep these things unchanged, then the differences inherent in the text will emerge. The finished
work is always a surprise. It is not what I have made, by making aesthetic choices—a little more black here, a little more white there—but what the drawings themselves reveal. I find that fascinating!” (Personal Communication, August 2014). In the Bookcase series, for instance, Nina keeps the same pen, the same type carbon paper, and as I came to realize by attempting to copy a text in her manner, a regularity in other choices, which along with the discipline and focus (which I myself lacked in the execution), ensure a highly aesthetic result. During the making of the drawing, time and concentration promote a “Zen condition”, as the artist calls it, where “What if?” questions may emerge. What if the text is rotated, what if a bigger surface, a different color carbon, smaller letters or a different alphabet are used next time? As Ben Shann (in Briskman, 1981, p. 139) said:

Painting is both creative and responsive. It is an ultimately communicative affair between the painter and his painting, a conversation back and forth, the painting telling the painter even as it receives its shape and form.

It does not mean, however, that all ideas retain their value for the artist. On revisiting an older idea, Nina found it had lost its interest, a fact she attributed to the particular contextual variables that gave birth to it. A different sub-group consists of the works she calls “errors”, where something didn’t go as planned. The artist enjoyed telling me the story of the random word she copied out of the Greek Constitution, written in Braille. She picked a word, magnified it, and traced it, without giving thought to what it meant. She was ultimately told that the word was “Creation” without the “n”! Four months after our initial discussion, the idea of using the double carbon “error” to create lighter texts than the original ones had turned into a new series of artworks, whereas the colophon drawings, white tracings on a
black carbon, showed that not only Bisociation, but a process of visual reversal that
produced a drawing’s “negative” was enabled by an x-ray perception of the artist
(Appendix B, Image 12. See also p. 42). Other “errors” were interesting enough to
consider later. Such a one was when the text she copied on carbon paper was erased
and what remained was the logo of the carbon paper. That was a project that had
lived, breathed and got rid of what it didn’t need. “It made me think that physical
deterioration is part of the project’s history,” she pondered, “as it is part of the
human condition. We fear and avoid it because the Art market has to do with
preservation more than anything else” (Papaconstantinou, Personal Communication,
August 2014).

Indeed, some of the embossed works of Nina’s have changed over the years,
they have flattened, under her careful inspection, a fact that is hardly discernible to
the observer. Yet they bring the Time issue to mind. Multiple temporalities are
present in Nina’s work (Pandi, 2012, p. 4, p. 10) from the time allocated to copy a
large book, to the trajectories in her creative process, to the lifespan of her artefacts.
The time and effort it takes to make her drawings is underlined in all the Exhibition
Catalogues (Bahtsetzis, 2008; Gilman, 2011; Pandi, 2011) as well as articles
(Georgakopoulou, 2011), not to mention the impression made on the young
audience that participated in an educational program on her 2011-12 exhibition:
“What ever does she do all that work for?” (Valkana, Personal Communication, 2014).
The artist told me she works faster when she is interested in what she is reading, to
the point that she reads ahead sometimes, and comes back to the text as she is
copying, adding: “Isn’t that another approach to reading?” An order may take a
longer time—and more effort—which could well fall in line with the findings (Kozbelt, 2008, p. 181; Mace and Ward, 2002, p. 191) that self-initiated projects are more motivational than assigned projects.

Although it is said that micro-processes are difficult to trace in long-term studies, and are too unrestrained and divergent in short-term research (Indurkhya & Ogawa, 2012, p. 1787), some cognitive mechanisms are manifest in Nina’s work, even without sophisticated eye- or hand-tracking devices. Big scale drawings or tracings of magnified letters, invite eye-movement patterns that are closer to the dots constituting the handwritten line (Appendix B, Illustration 3) and its idiosyncracies. Tracing of these blown-up letters dot for dot entails a different visuomotor procedure than the copying of a book that involves the act of reading. The first one is a meticulous labour, an act of patience, compared to the second one that allows reading pleasure to affect the speed of the drawing, according to the degree of interest the text raises for the artist. Moreover, the time and effort relate to the tools and materials, as tracing on rice paper has a different force and temporal requirement, adding to the laborious act. A mixed procedure of tracing with a more representative drawing, such as the series with Readers from famous Masters’ paintings (2013), involves some of the usual processes of a visual artist, but only in the preparatory stage (i.e. sketching). On observing her as she worked, I saw that she read the original text, copied it on carbon paper—using soft tissue on top to avoid blotches done by dragging the hand on the surface (Appendix B, image 13)—but did not read what she copied, as I initially thought and mistakenly tried to emulate. The eye shifted between two surfaces: both the original text and the writing surface (the
carbon copy), reversing the visual encoding from the legible to the illegible transformation of text-to-image, and finally the new perception of the image that stands in lieu of a text. It is an intended trip from clarity to obscurity, from knowing to unknowing, and to rediscovering the pre-reading phase of children and illiterate people, which is full of wonder, fear, even mystery.

When it comes to hand output, the movement of Nina’s hand differed from the usual handwriting gestures in that the artist held the tip of her pen down while lifting her right hand and placing it in the new writing position. The movement, which is not of a typical scribbler, is necessary as she can’t read what she is writing on the carbon paper and must maintain strict linearity. Her secondary (left) hand, rested partly on the desk and partly on the paper, in the usual writer’s position, changing from time to time, as she regulated the spacing of the film script she was copying. Her eye movements from the copied text to the carbon surface lasted from five to ten seconds, with her working memory sometimes exceeding ten seconds (probably because she had already read the script). Her head followed the movement of writing lifting gradually as the hand reached the end of the line and tilting again in the beginning of the new line. By watching her there is no doubt that we see a visual artist at work; this goes beyond copying, as such parameters are kept (size of text, size of lettering, density etc. Pandi, 2007), that will ensure an aesthetic result. What makes her Art unique though, is the act of reading throughout the whole process. Her dedication to the written text goes to the point where, if she makes a mistake, she goes back on the line and corrects it, even though the copied text has become
illegible to her. Staying true to the book is of utmost importance and verifies the conceptual nature of her work.

The artist’s signature is written on the back of her drawings, but for transparent paper and 3D objects it comes with a certificate of authenicity. The framing of the drawings does not take time, as she collaborates with a certain professional. Museum-quality glass is used to protect the drawing from UV radiation and for its anti-reflective coating. After the exhibition, the drawings move to their new destination, if they are purchased, or remain as the property of the gallery. That is what Gardner (in Bindeman, 1998, p. 75) calls the “afterlife” in the creative process. Nina admitted that she has come to terms with the thought of her drawings existing in another place; the few that were left are displayed in her own house (Appendix B, image 14).

B. What is the relation between her personality, her mood and her motivation to create?

Although this part of the research question requires a longitudinal study that exceeds the time limit of this report, I will endeavour, nonetheless, to shed some light into how her personality traits, like her motivation and her mood, may produce a creative outcome. Nina describes herself as an exacting person, when it comes to her work, “a perfectionist” who works in solitude, in a quiet and orderly studio. It takes precision and accuracy, patience and toil to make her artworks, all traits of a converger. When asked whether she ever tires of using a repetitive technique for some of her drawings, she replied bemused: “It’s just who I am.” (Georgakopoulou, 2011). She gave me the same reply when it came to the cryptic character of her art.
It is not, however, because she has more insecurities than certainties that she hides behind a self-reflective art making (Papaconstantinou, Personal Communication, August 2014), but because, I feel, she is an essentially private person, and her high standards would accept nothing average or mediocre, had she decided to write herself. The artist could well copy something of her own in illegible layers, but by choosing great literature and classic texts, mostly out of her personal library, she partly reveals herself though the books she has read (Pandi, 2012, p. 6) – she herself called it “a kind of psychoanalysis” – and in addition includes layers of meaning that engage the Readers in her audience, who delight in seeing a book in one surface, as well as a manifest History of Writing. A part of her may want to be discovered, as Rank (in Smith, E., 2012, p. 134) notes about the often conflicting individual and the social aspect inside the artist, but only by the ones among the audience sharing a passion for books and writing – to her they are closely bound or having the patience to search for meaning behind the textured drawings.

It is a truism within Aesthetics that the artist’s works partly reflect aspects of their personality. Nina could very well be a little girl about to face danger inside one of her fairy-tale landscapes, an abstract renderings influenced by her favourite engraving of Little Red Riding Hood by an anonymous artist (Appendix B, Image 15). The ambiguous state between visibility and obscurity, is something that interests her “like when you wake up in the middle of the night and you think a garment tossed on a chair is something else”. The emphasis she gives on the middle state between seeing and recognizing and her preference for illegibility of the texts she copies is reminiscent of the pre-reading stages in children’s literacy (see Chapter 4) that maintain the visual quality of the words. The densely written surfaces of her
Bookcase were initiated by her love for straight and orderly lines, but by the end of the book, the emerging pattern is an image that has moved from order to disorder, but on close inspection reveals subpatterns, according to the orientation of the copying procedure, cascades and voids, that witness the entropic character of her art. The need for order and disorder in artists has already been pointed out (Csikszentmihalyi, 1996, p. 58; Fürst et al., 2012, p. 285; Pandi, 2012, p. 5), and the autopoietic capacity of the brain to move from imbalance to balance (Arieti, 1976, p. 348; Csikszentmihalyi, p. 263; Holm-Hadoula, 2013, p. 293) as well as the artist’s “radial” procedure, so close to the way the neurons make synapses, invite daring analogies with Nina’s art. Semir Zeki maintains that abstract artists are “neurologists, unwittingly reflecting the organization of the visual brain in their paintings”, adding that they “see” with their cerebral cortex rather with their eyes, even if they don’t realize it (Tibbetts, 2001, p. 389; Zeki, 1998, p. 77). On looking at works like Hansel and Gretel (Appendix B, image 16) I wondered if the drawing is such a case of “inner vision”.

Research on the creative personality has emphasized the importance of intrinsic motivation. The very same applies to Nina, who frequently uses the phrase “this deeply interests me”, and admits that a challenging discussion capable of opening new perspectives is what motivates her. Her inquisitive and explorative nature may have taken a while to emerge, but it sparked her instructor’s “hard-won, that priceless acclaim”15 when she saw a video work based on the first drawing of Four Landscapes from Hansel and Gretel (2001): “Now that is original. Do you realize

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15 Constantine Cavafy (1863- 1933). Greek poet. From the poem “The Satrapy”.
how important it is to be the first to think about it?” Once she came to her own, she felt confident enough to question what she did, why and how. “As an artist I should constantly ask if what I am doing is good enough” says Nina, “that is the compass to keep track of my art.” This disquiet, stemming from finding herself as an Artist, which agrees with Maslow’s definition of creative force as self-actualization (in Richards, 2010, p. 193), is an integral trait of her character and manifests itself as continual self-questioning. Nina recounted an instance that gave birth to a new idea. When she was bedridden some years ago, she looked at random objects in her room, only to “see” symbols and letters, a different kind of alphabet embedded in the most mundane things. Years later, as she was walking on the Athenian pavements with her young daughter, she noticed something interesting on the tiles (Appendix B, Image 17), confessing that she didn’t know yet what to do with it, but that she had in fact started from the concept of embedded texts in objects and would move “backwards”, as she put it, to the creation of the artwork. This remark reinforces the findings in the literature about activating moods rather than negative moods leading to creativity (Baas et al., 2008; De Dreu et al., 2010), although I think that combinations of moods that are activating relate to personality traits and need further research.

C. How does the artist perform under contextual variables, such as time, competition, pressure, external evaluation, feedback?

Nina Papaconstantinou may be one of the most important Greek artists of the new generation, but she is also a very busy wife and mother. When asked where she finds the time and mood for creative work she said: “You just have to make time. It’s your job and that’s all there is to it.” She may get up very early in the mornings to work on her drawings, but when the concept of her drawing is clear to her and she is
in the execution stage, her type of art allows her to fall in a Zen condition “just like meditating” that minimizes the ego and allows space for the viewer in the interpretation of the drawing, emphasizes the non-verbal and allows “happy incidents” to occur, while by alternating perception invites the artist’s mind “to stretch” (Shlein, 1999, p. 750). Growing up with two artists as parents, her six-year-old says as she is getting ready to make her own drawings: “Now I’m going to do some work”, because that is what she hears from them. “What we do is inseparable from our life”, Nina assures, coming from a family where all siblings used to draw, and which had a lineage back to Greek painter Giorgos Roilos (1867-1928). It took Nina a long time – as she says - to find her niche as an artist, but now she finds herself “out of the maze” into her proper field of Visual Arts. In an older interview (Georgakopoulou, 2011), the journalist remarks that Nina remains humble to the fact that her works are exhibited with a well-known painter. My own surmise that there is no sign of competitiveness in her, stems from her own high demands from her art, as well as her true artistic nature, which is open to experience and criticism, and is intrinsically motivated. Besides, her inability to understand or accept the market-oriented artists who made a name for themselves, is a true trait of “ naïvité”, that sometimes comes with dedicated and focused creative people (Csikszentmihalyi, 1996, p. 58; Piirto, 1988, p. 141).

It has also been said that creative people thrive under pressure or constraints, such as deadlines or externally assigned projects (Robinson, 2011, p. 152, 221, 226). This might be true for certain kind of constraints, which allow creative freedom. When it comes to Nina, it also touches upon her professionalism; during our meetings, I could see how she coped with the pressure of her many obligations; as a
dependable person, she brings this efficiency into her work, even if certain works take considerably more time and effort to be finished. As I hurriedly tried to copy my own text, I saw how easily I could cover a mistake in the dense writing or how the quality of handwriting suffered from hastiness, and gained new respect for her art.

D. What further insights can be gained in relation with handwriting as an image, a gesture, a cultural trait?

By immersing in the dreamlike world of Nina Papaconstantinou I was able to appreciate her artistic dialect and its originality, and to acquire new perspectives about language as an image. For one, the changes of scale in writing made me think of a Reader in Wonderland, who grows like a telescope to find tiny texts and shrinks again to distinguish the blown up letters. Furthermore, the rotations of the text at the borders of the paper, were proof of the vast unexplored artistic potential of the written language (Loisidi, 1996). An epiphany that emerged during the research concerned the colour reversal: the white tracings on the black carbon paper, turned from a medium to the central artefact, as if “a whole bookshelf was x-rayed and the image created was comprised of the colophons, the books’ ‘identity’ on the last printed page” (Papaconstantinou, Personal communication, December 2014). The conceptual art of Nina Papaconstantinou is thus pregnant with meaning and invites the audience to revisit her work.

That is apparent in comparing Nina’s art with other works that use lettering, language and texts. Max Wechsler, for example, whose work from the same Paris exhibition La Plasticité du Langage (2013), uses language, making it illegible by blurring and manipulating the textured dark canvas (Appendix B, Image 18), to question its communicative value, whereas Nina layers the text, either in her
monochrome *Bookcase*, or in text-as-foreground versus text-as-background. Molnar’s computer art that reproduces a fraction of her mother’s handwriting results in drawings that move from order to disorder (Appendix B, Image 20) in contrast to Nina’s handcrafted variety, although both artists are fascinated with the curves and idiosyncracies of the human trace on paper. In short, Nina Papaconstantinou’s art is – among other things - all about the hand and its movement to form or trace letters (Papaconstantinou in *vHERBE*100, 2013, Roland in Badmington, 2008, p. 2) but contrary to Dimitris Kondos’ *Roman Pictorial* (1963), a novel without words or images, (Appendix B, image 19), that is said to restore the primeval source of writing as motion and rhythm before it was codified (Barthes in Loizidi, 1996), illegibility is a result of a conscious manipulation of the text for Nina and not an aniconic act of tracing.

It is precisely the toil and time taken for the handwriting that defines Nina’s *Bookcase* series. In the beginning of this research I thought it was about the hand and how it held the writing tools. Soon I discovered that handwriting is not only a gesture, it is a whole-body and mind action, sitting, leaning, bending, involving eyes, head, breath, balance and pace. Perhaps that is why the artist is interested in portraits of young ladies writing from the Flemish Masters of the 17th century or her own portrait in her Log is a whole-body presentation (Appendix B, Image 2).

In the educational program based on Nina’s 2011 exhibition in the National Museum of Contemporary Art, Mrs. Valkana (2011, p. 18) invites young students to compare the artist’s posture with the medieval scribes. The leaflet elicits from the
young minds the importance of preserving the written heritage, as the monks did with such dedication, and alludes to the historical significance of handwritten texts.

There is a wealth of techniques coming from decoding Nina Papaconstantinou’s artistic handwriting. Letters can be altered by changing their scale and then traced on a transparent paper, they can be used as materials (pasta letters) for murals, they can make environmental- (and eye-) friendly graffiti. Texts can be copied in a variety of ways with different tools. They can be rotated and recopied on a surface, written in layers to produce an image, from right to left and vice versa, they can alternate with representative drawings that illustrate the text, written, erased and rewritten to create a palimpsest like ancient scrolls, or filled with scribbles between the printed lines. Inkless pens can be used to produce a double-sided text, both impressed and embossed (Sylvia Plath’s lost journal), the paper can be pierced in a Braille-like way (Valkana, 2011, p. 14), even sewn with imaginary symbols that illustrate it (the log of Robinson Crusoe). The text can also be printed, cut in strips and woven according to its content (The Six Swans by the Grimm Brothers) to create a three-dimensional pattern. Carbon papers, copier machines, scanners and shredders are re-invented to become artistic tools in this kind of Art.

The changing of perspective and the way we see is one of Nina Papaconstantinou’s greatest gifts to the viewer. If her art invites a closer scrutiny and mental reconstruction of the image, it also presents insights that need to be further explored. During our discussions, such new understandings emerged, like the fact that handwriting concerns not the hand alone, but the whole body, and—of course—the mind, which needs silence and time to focus on the act of copying. The latter
activity is inextricably bound to the act of reading, while copying. There must be reading pleasure to copy a whole book, or even a short poem. Handwriting witnesses the joy of the mind and the soul when it immerses in the narrative of a well-written story, a poem or an essay: the care, labour and time allocation mentally and then physically copying the written word produces beautiful letters, neat lines, a well-organized manuscript, in the lineage of medieval scribes. Even the fact that Nina does not “see” what she copies on the carbon paper is a challenge to engage the mind’s eye, to move to the realm between visibility and unrecognition. The appropriation of the ideas goes hand in hand with the historicity of the texts, however, Nina Papaconstantinou, a worthy modern scribe, does not share the notion of preserving forever; one of her embossed drawings has already flattened, and the question of a “disappearing” text arose as a philosophical issue as well as a new artistic concept, as she remarked that looking at the artwork she displayed for me during the first interview in her house. Texts, like people, have a life span. “They live, breathe -like us- and cease to exist” (Nina Papaconstantinou, Personal Communication, August 2014).

6. IMPLICATIONS AND RECOMMENDATIONS

6.1 IMPLICATIONS FOR CHILDREN’S LITERACY

The idea of disappearance and preservation, discussed in relation to Nina Papaconstantinou’s art, and specifically the preservation of handwriting, is too important to dismiss as mere romantic nostalgia. The history of Writing may well be full of transitions, but before the invention of the typewriter, which induced predictions of handwriting’s demise as early as 1873 (Burns, 2009, p. 172; Rock,
2013), the tracing of the hand on a surface was the main writing practice for centuries (Guidelines for Handwriting Instruction, 2012, p. 4). In less than forty years digital technology has affected traditional handwriting practice, to the point where the latter faces abolishment from formal education. Finland (BBC, 2014), regarded by many as a leading force in contemporary education has given up teaching manuscript. The U.S. and Canada seem to try to make up their minds by offering schools a choice (Hanover Research, 2014, p. 1). Others are bound to follow, sooner or later. Within the “Handwriting or keyboarding?” debate, there arises the question if Art can be used as a means to extend the life span of a fading, yet important, human activity, such as manuscript writing. This idea emerged naturally from the findings on the creative process of Nina Papaconstantinou and its educational potential put to use in the program of the National Museum of Contemporary Art in Athens. In this chapter I will briefly present the current opposing views on teaching handwriting in North America, how this practice can be seen in the light of the burgeoning neuroscientific evidence and what challenges it presents to curriculum makers, teachers and parents. Finally, I will consider the results of this research to propose the making of an educational program for children’s literacy, based on the techniques and insights of Nina Papaconstantinou’s work.

Whether handwriting is relevant to today’s world has been in dispute for some years now. Either printing (also called manuscript) or cursive, handwriting is seen as a dying practice by educators and parents anxious to prepare the children for everyday life in all its technological glory. North American educational policies for K to 5 have been changing every twenty or so years, with reading and writing dominating in the sixties and seventies at the expense of making meaning and solving
problems, then getting neglected in the eighties and nineties in favour of composing (Berninger, 2012; Dineheart, 2014, p. 8). Improved understanding of learning disabilities along with a student-centered shift to the individual learning styles in the classroom have challenged traditional practices. This may not be unrelated to the implicit preference for skills over knowledge as formed by the neoliberal influences on the education system (Nelson, 2010, p. 23; Franklin, 2013). All things considered, keyboarding is a necessary skill for 21st century students; children come to school already familiarized with digital devices and the majority has tried keyboarding. Furthermore, some forms of dyslexia and dysgraphia are treated by pressing keys rather than forming letters (Burns, 2009, p. 179-180; Konnikova, 2014; Pollock & Missiuna, 2005) and there is the undeniable fact that the blind and paralyzed, who cannot write by hand can communicate by touch (Rock, 2013). Many parents are the force behind keyboarding, thinking that handwriting is a waste of precious time in the overloaded daily schedule of their children and it is not a requirement for standardized tests (Hanover Research, 2014, p. 3). “Generations later people will laugh at us. Why don’t we teach washing by hand and the Morse code while we’re at it?” a reader comments (Hallows, 2009; Thornhill, 2013).

On the other hand, proponents of handwriting argue that it is an important fine-motor skill that involves more complex workings of the neural system than keyboarding does, that it is an individualized human trait with cultural and historical connotations (Burns, 2009, p. 154, Guidelines for Handwriting Instruction, 2012, p. 4, 6), that, far from hindering, it remedies learning disabilities and boosts cognitive development that leads to academic achievement (Dinehart, 2014, p. 1; Hanover Research, 2014, p. 3; Peverly, id, p. 11 ). They argue that handwriting is still practiced
in University exams and used for medical prescriptions and is an integral part of social etiquette as well as a technology breakdown backup. “In a world where literacy and electricity are far from universal, access to older technologies remains vital”, Baron points out (2009, p. 239; Burns, 1998, p. 184). A quick look at users’ comments on YouTube videos on handwriting apps that turn the human trace on a touchscreen to a digital text, shows that, at least for the time present, people are still judged by the quality of their handwriting\footnote{An indicative example is found in https://www.youtube.com/watch?v=PHvzBRe7hlc}.  

As converging evidence points to a neurological basis underlying handwriting, a closer look is needed on how writing affects the cognitive, graphic and visuomotor development of the child. The moment an infant picks a writing tool and makes a mark on a surface, around ten months (Berninger, 2012; Luria in Tolchinsky, 2003, p. 55), is said to be the beginning of writing, which in the early stages is indistinguishable from drawing. At age two, usually grasping the writing tool with the whole palm, children draw vertical strokes and around two and a half they draw horizontal ones. At four, the pencil has moved to the first two fingers and the thumb and they can imitate a cross, at five they can copy a square and around five and a half they manage the oblique cross, which is a sign of reading readiness (Dinehart, 2014, p. 3; Rosengren & Braswell, 2003, p. 57). By four their visual brain is highly developed and has acquired much knowledge about the world, despite the technical simplicity of their sketches (Zeki, 1998, p. 81). Children attempt to write letters of the alphabet before they realize that letters encode phonemes.\footnote{In my training as a kindergarten teacher, I was amused to hear five-year-olds be told to “draw” their names.} These early spellings are either
random (according to the phonological tradition) or they reflect patterns known to youngsters from their own experience according to Pollo’s et al. 2009 variation of the constructivist tradition, which are universal patterns children use in the pre-reading phase. Superordinate features, appearing in early handwriting regardless of macro- or micro-cultural milieu, language or socio-economic group, such as linearity, directionality, distinguishable units and regularity of blanks, have been seen as an indication of the inherent knowledge constructed by preschoolers about writing (Dinehart, p. 3; Tolchinsky, p. 58), whereas I believe that the stroke from top to bottom in letter forming is closely linked with children drawing their figures head first. In the meantime, their drawings incorporate circles and lines to form the first representational depictions of people (“tadpoles”) and in pre-school they have entered the stage of pre-symbolism in their graphic development, drawing floating figures that stand for important others in their lives. At five or six, when they have acquired the “tripod” grip, they have a whole repertoire of symbolic shapes for people; the “trunk-people” with limbs extruding as hands and feet are indicators of whether or not the child needs more exercises for kinesthetic awareness, which also affects writing skills. In this phase children draw things they can see in their environment and they introduce the baseline to organize the elements in their drawings (Roland, 2006), reaching what Piaget called the Concrete Operation Stage, the mature age for children to practice manuscript in the western world. Haptic skills, like pencil gripping, and fine motor skill practice then become more important, up to the age of ten, when the child’s cortico-spinal tract that reaches the fingertips is fully developed (Handwriting in the 21st Century?, 2012, p. 5; Yu et al., 2012, p. 52). The close drawing-handwriting relation, which is considered a natural process to
children’s literacy, is maintained in the Toronto Montessori schools (Brand, Ctv, 2013), implying that the abolishment of handwriting in favour of keyboarding would erase an important developmental stage in learning.

There are trajectories as well as gender differences in writing development: the first two grades in primary school are crucial and by the age of eight (when visual metaphors also appear in children’s drawings) handwriting reaches a plateau of organization and automaticity, and is ready to use for higher-order skills. What is interesting, though, is that handwriting ability develops even in middle school years (Feder & Maijerner, 2007, p. 313; Rosengren & Braswell, 2003, p. 59). Where gender is concerned, boys are found to be slower in writing than girls in their seventh year and have less regular trajectories than girls. Finally, right-handers were found to write faster than left-handers (Graham et al., 1998, p. 49).

Handwriting is an early predictor of motor, fine motor and learning difficulties, although the roots of these difficulties are multifactorial and not easily associated with any one clinical population, such as dyslexic, dysgraphic or pupils with ADHD or DCD among others (Bonoti et al., 2005, p.252; Dinehart, 2014, p. 12; Feder & Maijerner, 2007, p. 315; Rubin & Henderson, 1982, p.24). Handwriting is indeed a complex mechanism that involves bilateral and visuomotor integration, motor planning, visual perception, kinesthesia, sensory modalities and components of self-regulation, among which are impulse-control and working memory. Children face a difficult task: they must learn to shift and rotate the pencil, regulate pencil pressure, plan ahead to write in boundaries, recall the letters in their mind’s eye and copy or

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18 Attention Deficit Hyperactive Disorder and Developmental Coordination Disorder.
transport what they see into manuscript writing. Moreover, they must sit in a certain way, as some difficulties are related with writing ergonomics. Developmental variability among same-age children questions the formal plateau regarding their handwriting development (Rosengren & Braswell, 2003, p. 60), adding to the complexity of the matter. Much is also said about whether manuscript or cursive is preferable, with opinions gravitating towards a hybrid combination that allows the hand to rest according to the person’s idiosyncracy (Burns, 1998, p. 159; Pollock & Missiuna, 2005, p. 3).

Although a complete understanding of the brain’s writing system remains elusive, the areas associated with this complex mechanism are the pars triangularis of the Inferior Frontal Gyrus (IFG), also responsible for the phonological process of words, and Exner’s area, responsible for letter retrieval and movement sequences for generating letters. Neuroimaging has shown that children are slightly more bilateral than adults, who use the left hemisphere to write (Gimenez et al., 2014; James, 2012); in fact children reach left lateral capacity between 10 and 12 years old, an interesting point when it comes to handwriting instruction. In 2005, Longcamp and her colleagues (2005, 2008) found that handwriting “provides on-line signals from several sources, including vision, motor commands, and kinaesthetic feedback, which are closely linked and simultaneously distributed in time” adding that no such spatio-temporal pattern occurs in typewriting (Longcamp et al., 2005, p. 77). In a highly cited and ongoing experiment using functional MRI (fMRI) for real-time brain activity, Karin James from the University of Indiana has shown, working with five-year-olds, that handwriting positively correlates to brain activation through the ventral and the dorsal visual processing streams after they practiced handwriting. These streams
stand for action and perception neural systems and stress the role of active experience with the real world in guiding the connections among the systems. Handwriting is such an active, self-generating experience, and what is more, it requires executing sequential strokes to form a letter, whereas keyboarding involves selecting a whole letter by touching a key. Three decades after Vygotsky maintained that reading and writing are not mere motor skills, but tools that produce deep changes in the mind (in Tolchinsky, 2003, p. 55), brain imaging confirms his belief with raw data: Berninger (in Bounds, 2010), who has been conducting experiments with five- and six-year-olds, assures that sequential finger movements activated massive regions involved in thinking, language and working memory. Others (Gimenez et al., 2014) found that good handwriting associated positively with grey matter. In other words, early school children who practice handwriting have a greater brain activation than their peers who are trained in keyboarding or not at all (Appendix B, Image 21).

While Berninger holds that handwriting is a holistic activity, an interplay between the brain, environmental and cultural factors, others (Mueller & Oppenheimer, 2014; Sülzenbrück et al., 2011, p. 250) go further by implying that exclusive use of computers will have a negative toll on fine motor skills and on more general features of the human behavioural repertoire, that are likely to shape the neuromotor foundations of skilled performance.

Keyboarding supporters make the assumption that their children will continue to use a keyboard as adults. Yet there is a growing market for cursive apps that maintain the individual human trace. From toddlers scribbling on touchscreen devices to Margaret Atwood’s virtual autograph, new software and hardware is developed that invigorate—or replicate—cursive. The need for legible handwriting
remains nevertheless important: some of the apps cannot recognize bad cursive to transform it into a digital font, and to this day sophisticated software like CAD has not been able to replace the freehand design in the initial concept. In fact such software tools tend to inhibit creativity instead of fostering it (Locher, 2010, p. 139). Neuroscientific data and the glitches of technology show that the “dying” practice of handwriting will have to be given a significant life support (Dinehart, 2014, p. 9).

Even if the whole debate about handwriting preservation may well prove futile, as handwriting is mutating rather than disappearing (Burns, 2009, p. 186; Handwriting in the 21st Century?, 2012, p. 2, 5), most researchers agree that both handwriting and keyboarding should be taught in primary school (Berninger, 2012; Guidelines for the Instruction of Handwriting, 2012, p. 4; Handwriting in the 21st Century?, id.; Sassoon, 2007, p. 151), which is appropriate since we live in a hybrid world between two ways of writing (Zubrzycki in Guidelines, p. 11). Certain endeavours (Calame & Palomo, 2013; Kritikou, 2010; Valkana, 2011) have used Art in relation to language, consciously extending this transition to the benefit of the younger generation. These workshops use different approaches: some include turning the text into an image and vice versa, where emphasis is not put on the final product rather than the process, which includes verbs like “listen, feel, imagine, remember, dream, draw, cut, create, compose, learn” and the nouns “work, line, colour, harmony, pleasure” (Calame & Palomo, p. 3). Others, like the metacognitive approach of Iris Kritikou, explore writing as an image, a code, as music and as silence, as drawing, as a symbolic gesture, and finally, as a mnemonic. Both very creative workshops dealt with fine motor skills, as children were asked to use their hands to
write, draw and cut, but present interesting notions in including pleasure and memory in their goals.

In the same line of informal learning Nina Papaconstantinou’s 2011 exhibition in the National Museum of Contemporary Art inspired two educational programs, one for primary schoolers and one for teenagers. Intrigued at how a conceptual form of Art could be made accessible to a younger audience, I met with Mrs Kleanthi-Christina (Anina) Valkana (Personal Communication, August 2014), the creator of the program designed for grades 4, 5 and 6, to find out more. “When we first saw Nina Papaconstantinou’s work, we were at a loss to see how we could get it across to pupils and their teachers”, Anina told me. “Hers was a repetitive technique that could even discourage adults, let alone children” she said, referring to the artist’s densely layered and enigmatic drawings. As she started decoding Nina’s artistic language, she found a wealth of possibilities to work with, deriving both from the written language and its visual aspect. Letters, punctuation, words, sentences and paragraphs acquire artistic potential. Writing tools and mundane objects, such as the correction fluid or the paper shredder became Art tools. The nearly extinct carbon copy was introduced to the younger generation as a means that brings the element of surprise to the writing-drawing activity. The eye was invited to decipher the image according to the genre it copied (fairy tales, poems, logs, novels, scripts) and the hand was prompted to copy a favourite text in the manner of Nina Papaconstantinou or create word mosaics, like her weaved texts, from newspapers and magazines. Through the discussion of the exhibition and the ensuing activities, complex notions, like the relationship of a text to weaving (see p. 21), the connection between form and content, as well as aesthetic elements were introduced naturally; light and darkness,
dimensions and size, the significance of monochromy and even the arrangement of the Bookcase drawings in a certain way, beckoning the eye to move outside the artefact.

The goals of the program were dual: to establish a relation between the artworks and the curriculum, so that teachers would find it useful and to speak to the young audience. The method Anina used was to elicit thoughts, reactions, connections with prior knowledge and the children’s experience, so that they could find this Art relevant to them. By asking questions that were compelling for the visiting groups, she helped the pupils make sense of an initially “senseless” art. Ties to history, geography, language teaching and folk culture were recalled in short exercises and crafts. Multisensory approaches, like touching the embossed tracings of the texts, alternated with higher order skills, like analyzing and synthesizing elements of this Art into new, personal creations were an integral part of the program that aimed at older children, but that worked very well with first-graders too.

The exemplary design of this program was one thing; its implementation can turn out to be quite another. Having read that young children have a preference for vivid colours, recognizable representational drawing and deeper space representation while they don’t favour abstract Art (Kuscevic et al., 2014, p. 297-298), I wondered how they reacted on seeing the Bookcase series. “At first they were surprised and perplexed” Anina told me. “Then, as we started talking about it and doing the various activities, they liked it.” What impressed the pupils was the amount of work and time put in to copy whole books. This correlates with Ko’s and Maslowski’s (2001, p. 579) findings about young children’s perceptions on writing; it
was mostly about the labour in producing their own print, more than writing legibly or “like the teacher”. In any case, it triggered reflection about why they are made to copy by the teacher in Greek schools. The most popular activity was the one based on Robinson Crusoe’s log. The students were asked to trace whatever elements (text or image) they wanted from selected pages of an illustrated children’s version of the novel, using carbon paper. “At first they couldn’t cope with an open-ended activity with few guidelines”, remarked Anina, which didn’t really surprise me as an experienced educator. Once they understood what was asked of them, they were very creative in their output: there were drawings with a few letters and parts of the illustration, drawings made by rotating and copying the original, drawings made by both red and blue carbon papers, even drawings made by reversing the carbon paper. Anina showed me with apparent pleasure one of the drawings that contained a part of the text, and the mast of the ship, that looked like a cross, done by an older pupil, which indicated a mature sense of selection and composition. Another interesting instance was what went well with the first-graders: looking at letters and turning them into new objects, i.e. the letter A was made into a shoe. “Their imagination was boundless. They just couldn’t stop coming up with new meanings”, said Anina (Valkana, personal communication, August 2014). Although the program was designed for grades 4 to 6, Anina Valkana was flexible enough to accommodate younger ages, by adapting to the cognitive and emotional traits of that age. On the whole, it was shown in the National Museum of Contemporary Art in Athens that abstract Art can interest young students, as long as it is decoded and made relevant to them, and takes into account the school curriculum to give it a creative twist.
The significance of such programs is multi-faceted. Not only is understanding the visual language a key factor for 21st century culture (Kuscevic et al., 2014, p. 302), but in an age where creativity is sought to reactivate the potential in education and gradually help reform society (Robinson, 2011, p. 269, p. 266, p. 273), they are important tools for teachers, museum educators, librarians and occupational therapists. Art, as another way of knowing, can loosen tension caused by the struggle with handwriting that many pupils still experience. Its playful nature and openness allows self-expression, multiple perspectives and interpretations. It can integrate factual knowledge with perceptive and other cognitive abilities (Spaic in Kuscevic, id) and it invites hand labour in the process of creation. The understanding of children’s graphic development is a guide to any educational program concerning the Arts, and the same goes for a Handwriting program. I would consider grades 3 and 4 the target group for such an intervention, as, in order to facilitate children to think outside the box, they should first have learnt to think inside it. At eight, most of the children have learnt to write fairly fast, even though spelling and automaticity are still wanting. Drawing is still important to them as a means of expressing themselves and their environment, it is a complementary language that maintains its power until the period of Visual Realism (around the age of 10), when many children abandon it because their drawings don’t look “right” (Roland, 2006 p. 11).

6.2 RECOMMENDATIONS: USING ART TO PRESERVE HANDWRITING

Along with the excellent ideas in the National Museum of Contemporary Art program for children, there are still many elements in Nina’s Art that can be further explored in relation to reading and copying. For one, the element of surprise can be
integrated in writing activities to enhance the pleasure and along with kinesthetic awareness subtly introduce the themes of special needs and abilities (i.e. *Can you write a word with your eyes shut and then with your eyes open?* or its variation: *Try to write holding the pencil with the other hand / in your mouth/ with your foot!*) The play between legibility and illegibility (i.e. *Invent your own letters to write your name. Let’s make a new alphabet from everybody’s names!* ) is an initiation to the decoding of old scriptures and the idea of script as a code system. Nina’s densely layered writing can become an artistic experiment (i.e. *Copy your favourite story into the shape of a house, a car, a wavy line, a circle!* ). Changing direction in writing is a new challenge, for older children (grade 4 maybe?), who can be told about eastern scriptures, from right to left, like the artist’s *Babylon* series, and vertically, like Chinese scripts. Why not use a mirror scripture and explain how Leonardo Da Vinci wrote his own thoughts? The possibilities are endless: scribbling between the lines, using tools like an eraser to write on a drawing, writing texts, cutting and weaving them, like the *Six Swans*, writing on various surfaces (i.e. a mirror) and then taking photographs of its reflection – a remote reference to Nina’s *Des Espaces Autres* by Foucault. Huge words and tiny texts can introduce the pupils to another kind of Writing Wonderland. Sewing, carving and puncturing phrases enhance the haptic ability that is so important to handwriting, allowing the slow writers to catch up. Slowness (Burns, 2009, p.144) in opposition to the western culture’s demand for automaticity and speed in order to compose, can be practiced with foreign (therefore unknown) alphabets, in the manner of Chinese calligraphy, which has beneficial results on concentration and physiological slowdown, which in turn benefits the affective system (Kao, 2006, p. 285). Posture changes, like writing in an unusual and
funny position may help children realize how difficult writing can get, but doing things “wrong” can relieve the tension of formal instruction. From the *Aris Alexakis* series, where Nina zoomed and traced parts of the scholar’s handwriting as tribute to his memory, comes the idea of tracing grandma and grandpa’s letters or cards, and realizing the individuality of the human sign through one’s ancestors. Finally, combining Performing Arts with Visual Arts to produce a mystery story containing a riddle written with inkless pen, or to write a play where words have opposite meanings are some of the many creative possibilities of such programs. Lettering and calligraphy are not the main goals but could certainly be included in activities; the aim is to use handwriting as an artistic tool combining it with reading pleasure and Children’s Classics.

Since there is no telling what will happen in the future, any educational proposal about handwriting should take into consideration

a. the much more ephemeral nature of any such endeavour than its predecessors,

b. the need for greater flexibility of educational proposals in a rapidly changing world due to technology,

c. that handwriting instruction should be seen as part of an overall strategy that favours slowness versus hastiness\(^\text{19}\), and assists sustained attention, focus, precision and patience inherent in any manually related activity while it recognizes that developmental variability within same-age pupils may incorporate earlier stages of handwriting and

\(^{19}\) Slowness as the opposite of hastiness does not negate rapidity or automaticity that comes with practice. In fact, it is a precondition for automatic handwriting which is crucial to idea production.
d. inter-generational knowledge that would bring grandparents in the picture, not forgetting the reciprocal pedagogical benefits from involving middle-schoolers as Handwriting Helpers.

Although I envision the creation of such a program for “normal” grade 3 and 4 classes, the experience gained can open possibilities for remedial intervention, with younger or older students, as research results mention that handwriting is a developing skill up to grade 10. Handwriting apps should not be excluded either, but they could be considered in a second phase of the program, again leading to the paper and pencil practice.

Any effort to make a case for handwriting today needs to contain an awareness of its assumptions. Hence, I assume that a. handwriting is a dying human practice under the pressure of technology and dominant educational approaches in the western world that orientate to the future, underplaying the past b. handwriting may prove useful in view of yet undiscovered apps (a generalized evolution of the stylus perhaps?) c. policy makers and educators would be interested in practicing handwriting in formal and non-formal settings in programs for multimodal literacies for children and d. Art helps minimize the learning difficulties and alleviates the tensions that reading and writing has presented in the past for a growing sample of the pupil population.

To sum up, I firmly believe that the abolishment of handwriting leads to historical illiteracy, as the eye will not be able to discern the cursive in our ancestors’ writing, historic documents or the idiosyncrasies of famous a author’s signature. A devil’s advocate would argue that the same goes for medieval texts, Greek and Latin
inscriptions, or the Rosetta stone adding that paleography concerns the experts and has done little for the average citizen’s life. By neglecting handwriting, however, we are not dealing with a small literate group of scribes and scholars in periods of history when ideas took time to spread and change society. A lot more is at risk of being lost; it is an almost universal practice in an era where research results, filtered through social media, may form public opinion within the scope of a decade. The potential osmosis can create a new awareness of all things lost, a cultural ecology, so to speak. This awareness was certainly missing during the Gutenberg transition to the printed letter and, despite all the benefits that come with the groundbreaking invention of typography for literacy, humanity sacrifices something of its past by the estrangement to older scriptures. There are arguments pro and con practicing handwriting at schools, but between the technology enthusiasts and the believers in combined practices, it is a matter of who will have a louder voice. Newly-found benefits of handwriting as a practice for children at schools (and even ageing adults), brought about by brain sciences and graphonomics, deserve to be publicly known. The growing interest for creativity in education builds a favourable setting for a research that aims to use all forms of Art to preserve handwriting in young children’s literacy; but in the words of Sülzenbrück (et al. 2011, p. 250), “Potential researchers should hurry – this endangered species may soon become extinct.”
7. CONCLUSION

Following the art-making of Nina Papaconstantinou for a period of eight months is a journey into understanding the stages, sources and insights underlying her creative process, as well as a revisiting of my own past struggling with my first letters, knowing the world through books and later teaching the intricacies of literary analysis to teenagers. During the interviews, there were times when the artist coincided with the theories of creativity I had read, other times when the individuality of the study was more prominent. Nina has many traits of the creative person: intellectual curiosity, openness to experience, intrinsic motivation, naiveté, risk-taking through the exploration of new concepts in what lies behind the language as an image, flexibility to move between flat and narrow associations according to her mood and personality, between conformity and non-conformity. Nina resembles some creative people in her ability or desire to draw from a middle space called “the preconscious”, where concepts are half-formed and in being so, open-ended, a place where rationality or conscious thought does not intervene with the “magic synthesis” of unrelated matrices into a new way of seeing, which is manifested as original artwork. The indication that some of her more abstract drawings may indeed unwillingly reflect parts of the visual brain, where neurons form synapses, merits further examination that exceeds the limits of this paper. Although a macroscopic view of the procedure she follows in creating includes the basic stages of preparation, incubation, illumination and verification, a closer focus points to a radial process in creating new, open-ended projects, resembling more a tree structure than a serial procedure with recurring phases. The roots of this “tree” are the two major domains
she draws from: literature and visual Art, which form the “body of knowledge” that permeates her creation. The bark is the overarching question “How does a text illustrate itself?”. The projects that stem from the continuous exploration are the branches (illustrating through drawing, puncturing, embossing, sewing, etc.), which show how a project can produce new ideas that are suspended until the time comes to explore them.

Nina’s uniqueness as an artist lies in how she explores the ways a text can be visualized, according to its genre, in manipulating parameters like size, dimensions, colour, tools and materials, and in how her body of knowledge as a scholar, a booklover and a visual artist informs her artmaking, as the epicenter of her creative process. Of course, this schematic pattern may change in time. It would be interesting to do a follow-up study in ten years to find out. In any case, my interest in her work transcends the temporal restrictions of a Master’s report.

I will conclude the first part of my paper on how Nina Papaconstantinou creates, with the observation that deciphering her ongoing creative process is like one of her paintings: all the elements are visible, just like the words that constitute the texts she copies, on very close inspection. The stages are discernable behind the orderly way she writes in very straight lines and weaves textual patterns. But the big picture, an overview of her creative process, is an impressive cloudy landscape that challenges you to see the order behind its beautiful disorder. What is said is as important as what is left unsaid. The true answer lies within the paintings, a visual representation of how communication is often a struggle, a battle of shadow and light, like her Inferno or her Paradise, Dante’s classic masterpieces from the Divine
Comedy, that tower side by side like gates to a Derrida-like universe (Pandi, 2007), engaging the audience in the challenge of the hidden message.

Nina’s handwriting comes as a message to the future, as it takes place in the digital era, where keyboarding tends to replace the toil of the hand. Art historian Anina Valkana highlighted the important educational and cultural significance of Nina’s work in the program for children entitled “Instead of writing”, based on the artist’s exhibition by decoding layer by layer the intricate pattern of her drawings. Embedded with aesthetic criteria were the notions of handedness, copying as preservation, as a mnemonic tool and attention sustenance, the historicity of texts, the potential for multimodal literacies, and the individuality of the human trace. Burgeoning neuroscientific evidence shows that handwriting activates pathways in young children’s brains that cannot be energized in the same way by pressing a key or by solely reading without acting with our body. The time-related process that involves working memory and visuomotor skills indicates that by abolishing handwriting in favour of keyboarding as many schools in North America have hastily done, we may lose more than a motor skill; we may sacrifice a universal practice that relates to high-order skills for a deceptive notion of speed, we may renounce the gift of effort and slowness for instant gratification, disastrous multitasking and eventually an unconditional surrender to technology.

It is with a sense of newly-found optimism about the benefits of maintaining handwriting along with keyboarding in primary education, formal and informal, that I conclude this paper. My intention to use the cathartic nature of Art to invigorate the practice of handwriting, or extend its life to the benefit of younger generations is
strengthened by the fact that there is still a substantial portion of the population that believes in its value, that the creativity discourse -especially in education- is at its peak, and that the mishaps of handwriting practice can be healed by homeopathic treatment rather than total abolishment in favour of keyboarding. The observation of Nina Papaconstantinou’s Art indicates that if keyboarding is like piano-playing, then we must also allow the writing hand to perform its ancient slow dance.
8. REFERENCES


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## APPENDIX A - TABLE 1

**STAGES OF THE CREATIVE PROCESS**

<table>
<thead>
<tr>
<th>WALLAS (1926)</th>
<th>ROSSMAN (1931)</th>
<th>OSBORN (1953)</th>
<th>STEIN (1953)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Preparation</td>
<td>1. Observation of need or difficulty</td>
<td>1. Orientation</td>
<td>1. Preparation</td>
</tr>
<tr>
<td></td>
<td>5. Critical analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. New idea/Invention</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>7. Experimentation and perfection</td>
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</tbody>
</table>

### KOESTLER (1965)

**Unconscious Reasoning**
- Abstract reasoning
- Visual imaging
- Emphasis shifting
- Backward reasoning
- Diverse Analogies Generation

**Conscious Reasoning**
- Problem/task identification
- Preparation
- Idea Preparation
- Idea Validation
- Outcome assessment

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Fact-finding</strong></td>
<td>1. Fact-finding</td>
<td>1. Centering</td>
<td>1. Orientation</td>
<td></td>
</tr>
<tr>
<td><strong>Problem-finding</strong></td>
<td>2. Problem-finding</td>
<td>2. Working on New Ideas</td>
<td>2. Incubation</td>
<td></td>
</tr>
<tr>
<td><strong>Acceptance-finding</strong></td>
<td>5. Acceptance-finding</td>
<td>5. Taking distance</td>
<td>5. Communication</td>
<td></td>
</tr>
</tbody>
</table>

### SOURCES:
Mace and Ward (2002) p. 183: Diagram of the art-making process showing the four main phases, feedback loops, and moderating variables
APPENDIX B - ILLUSTRATIONS


2. Self-portait diary (detail from cover of Exhibition Catalogue). 2011. Relief drawing on paper. 20 x 30 cm. (7.87 x 11.8 in.)

   From the artist’s website


5. The Sovereign Sun, 2014 (detail). Diptych, carbon paper. 28 x 37 cm each (11x14.6 inches). From the artist’s website.


9. T.S. Eliot. Family Reunion. 2009. Pin pricks on paper. 70 x 100 cm (27.5 x 39.3 in.) From the artist’s website.

10. Hellenic embroidery

11. The artist’s sketchbook. By permission of N.P.

12. The Colophon drawing. By permission of N. P.

14. The artist reflected in one of her drawings in her house. Athens, August 2014.


17. The emergence of a new idea. The writing concealed inside the object. Skype session, December 2014.


21. Brain activation in children while keyboarding (left) and writing (right). Karin James, University of Indiana. From the video “Handwriting is a human right”.
22. The researcher’s attempt to copy a part of this paper in the manner of Nina Papaconstantinou.
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Kapodistrian University of Athens, 1988, BA in Philosophy
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“Scripta Manent; A Case Study on the Handwriting Art of Nina Papaconstantinou and its Significance for Children’s Literacy” (poster).
University of New Brunswick Graduate Research Conference, April 2015.