

Study
of . tools & .
innovative
techniques of
Calligraphy

Special Project

Guide: Prof. G.V.Sreekumar

Approval Sheet

“Study of tools and innovative Techniques of calligraphy”

Approved for the partial fulfilment of the
requirements for the degree of Masters in
Design at Industrial Design Centre (IDC),
IIT Bombay.

By

Harshvardhan V. Kadam

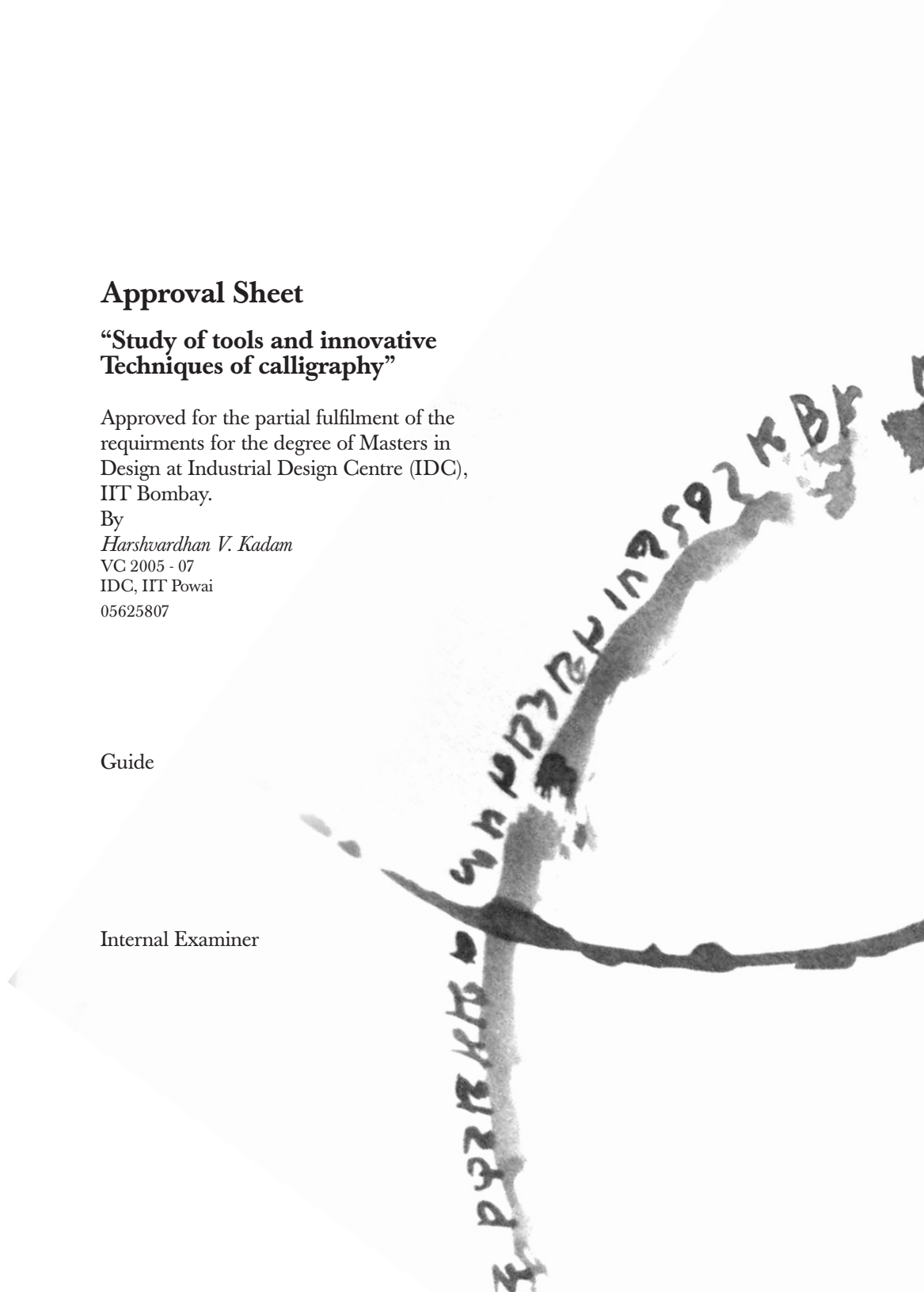
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Guide

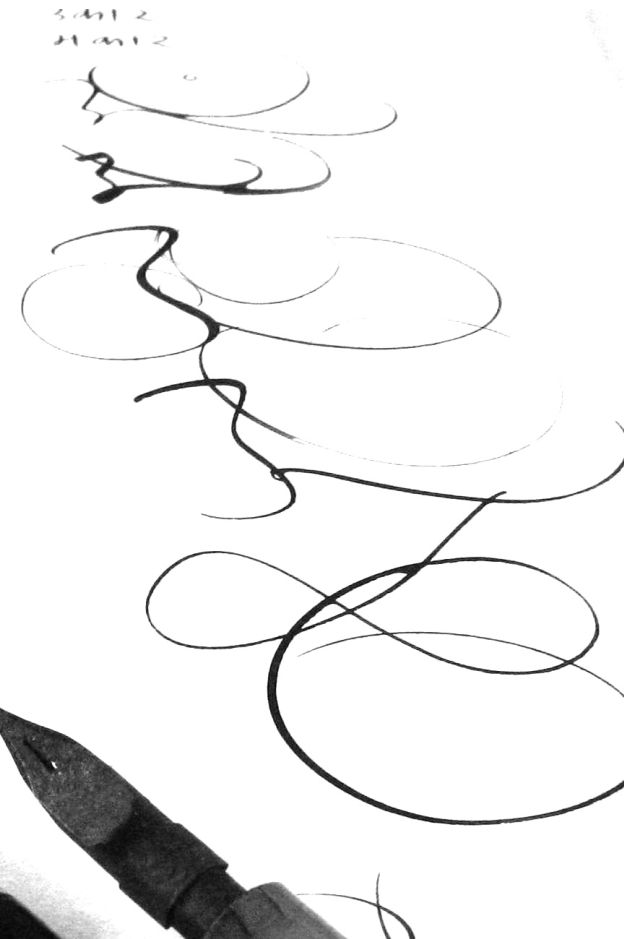
Internal Examiner



Contents

Acknowledgements

- 1 Introduction
- 2 Devnagari Script
- 3 Tools and Techniques
 - Soft Tools*
 - Hard Tools*
 - Experimental Tools*
- 4 Interactions with Calligraphers
 - Achyut Palav*
 - Santosh Kshirsagar*
 - Babu Udipi*
 - Manohar Desai*
 - Shrutganga Calligraphers*
- 5 Bibliography



Acknowledgements

I would like to express my sincere gratitude towards some people who have always inspired me with their work and words. This project is a collaborative effort and wouldn't have taken a shape without cooperation of some people. Those people are worth mentioning at the beginning as an ovation.

The ancestors who have given birth to Akshar and Aakar.

Late Vijay Kadam, my father and Guru.

Prof. R. K. Joshi, a mentor of Inspiration.

Prof. Kirti Trivedi for a lot of things.

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Shri Achyut Palav for his inspiring work.

Prof. Manohar Desai (SID, Pune) for his promising work in calligraphy on canvas.

Shri Neelam Nagarale, for his energising calligraphic expressions.

Note: All the photographs/artwork are taken with a prior permission of the calligrapher, artists and concern person,



Introduction

Early scripts in India, so far known are the Indus Valley pictographs. There are more than 700 seals found at the excavations consisting more than 288 signs and ideographic designs. As stated by Sudhanshu Kumar Ray, Indus script is the ancestor of both the secular Brahmi as well as the traditional vernacular scripts of India... traditional scripts of India are the direct descendents of Indus script whereas Brahmi was a diversion from the mainstream introduced to serve religio-political purpose of the Imperial Mauryans. (*Typography of Devanagari Volume I, Bapurao Naik pg 37, 38*)

Calligraphy since ages has been evolving its original form. So have its functions. But the basic requirements of calligraphy have always remained there, and are mutually dependent. Calligraphy is incomplete without these essentials i.e. the tool, the medium and the surface. Calligraphy since ancient times has remained as a medium of visual communication, communicates a message (s) for the sake of wisdom, and has not widened much. But there have been lot of experiments, reformations, cross cultural adaptations over the scripts of calligraphy like writing devanagari script with Japanese round brush, modification of steel tools to be ergonomic for Devanagari, installing a reservoir for ink in the tool itself, etc. Which have contributed in shaping a new dimension of calligraphy. The process of evolution of letter forms has deep spiritual roots. Akshar is an experience of a very highly profound meditation process. Calligraphy can be called a process in which your mind and body is involved towards attaining a simple goal, of akshar. Akshar means the one that will remain forever.

Devanagari Script

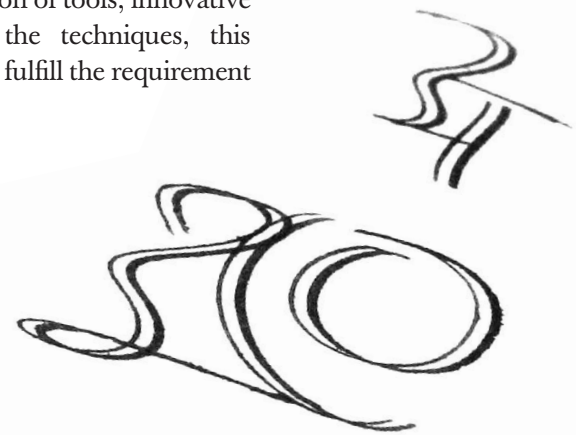
Lipi, a word derived from Sanskrit, literally means a script.

Devanagari is a script used to write several Indian languages, including Sanskrit, Hindi, Marathi, Kashmiri, Sindhi, Nepali, and sometimes Punjabi. Devanagari is a form of alphabet called an abugida, as each consonant has an inherent vowel (a) that can be changed with the different vowel signs. It is a close descendant of the Brahmi script that has been traced back to 500 BC. The Brahmi script is believed by the majority of scholars to have evolved from a Semitic script such as the Eastern Aramaic alphabet. There is, however, a generally unaccepted theory according to which the Brahmi script is derived from the Indus script that goes back to at least 2600 BC. Many other Indian languages are written using other scripts in the Brahmic family. So first it is the Indus Valley seals, and then the Brahmi, Kharoshthi, Gandhar, Mauryan symbolism, Panini's grammar, Sanskrit, and other Indian languages have evolved. The Tamra patra, Birch bark, wood, clay tablets, cloth, paper, till the ink and pen, the writing technique and aids has evolved.

The name Devanagari comes from the Sanskrit words Deva (god), and Nagari (city); together they mean, literally, the script of the "City of the Gods", where this city is the body of the individual. The philosophy behind it is that when one meditates on the specific sounds of the Devanagari alphabet, the written forms appear spontaneously in the mind. To write this script one needs to hold the tool at a certain angle, distance and pressure and specified proportions of the anatomy of the letters needs to be maintained. That is how one holds a tool and writes. The basic principles of holding the tools and the applications vary from script and tools. The devanagari alphabet is composed of thirty four consonants and fourteen vowels. In addition there are two modifiers (vowels) and two consonant compounds.

Roman script has been analysed in its graphic form into elements such as ascenders, descenders, serifs, counter, loop, break, etc. The devnagari script, unfortunately had not been subjected to such a graphic analysis until Br. Bhagwat attempted an anatomical description which is very interesting and enlightening. He classified the devnagari letters into groups and illustrated the classification by giving examples from Roman alphabet. (*Typography of Devnagari Volume I, Bapurao Naik pg 205*)

Traditionally, devnagari is written with a reed or a bamboo pen. The boru (reed/bamboo pen) is cut broad and slant, and the angle of the slant is kept at 45° (aligning to the horizontal grid) while writing. Since there needed a documentation of tools, innovative tools and similarly the techniques, this project might partially fulfill the requirement of documentation.





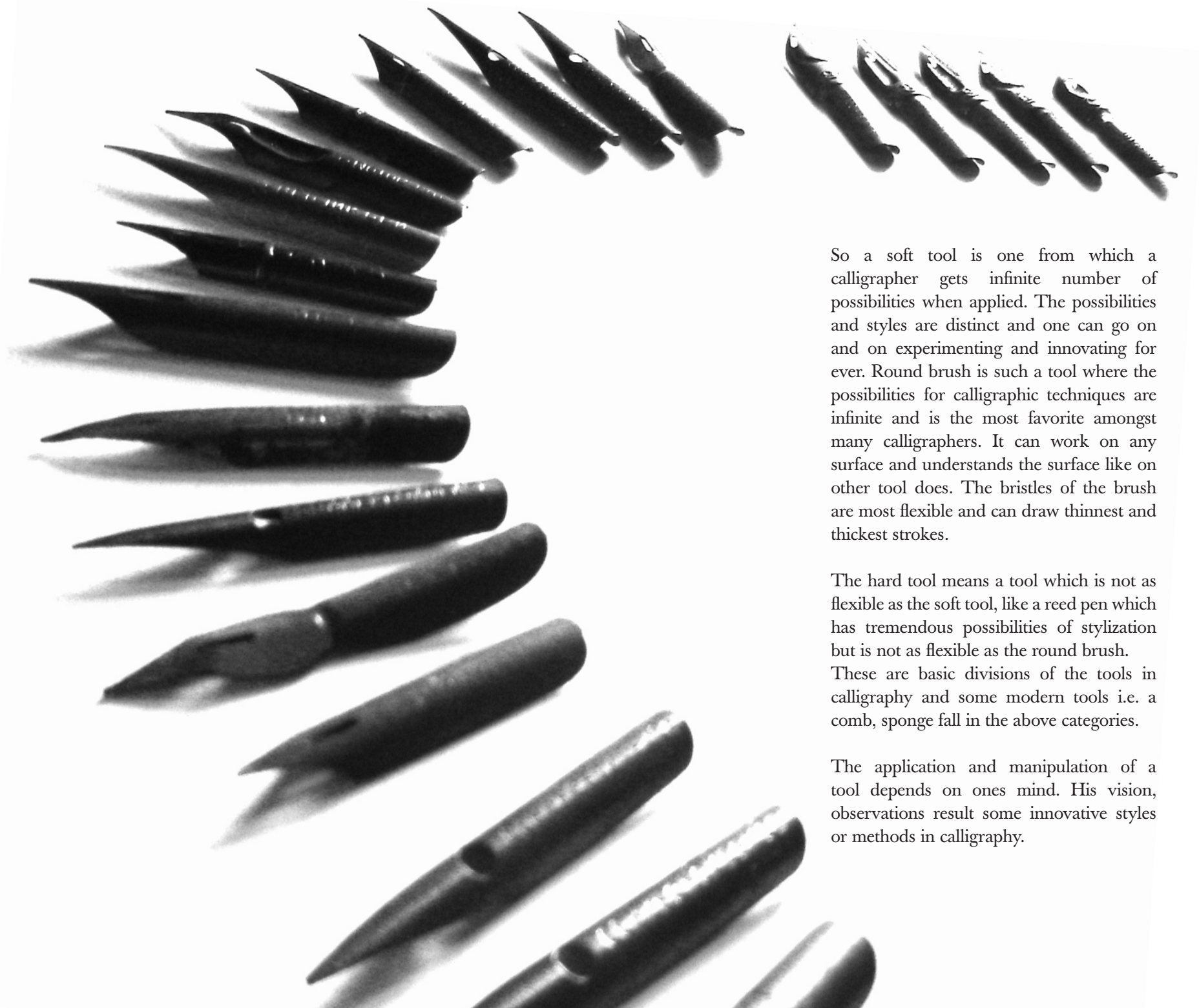
Tools

Tools in calligraphy play a vital role as they are called the immediate extension of our hands, as most of the calligraphers agree with the statement, which is very true. The cross cultural impressions have modified the tools and thus have resulted into unique styles and effects in calligraphy form. Now calligraphy has become more of a personal art form than a social responsibility of communication. We see more commercial use of calligraphy on various surfaces than just paper or cloth or walls. Tools of varied sizes have added on the proportions of the letter forms and space dimension.

A calligrapher always struggles to find a new reflection of himself through his work. It has given birth to lot of styles of calligraphy in every script. It reflects his character. Tools vary from sizes, shapes, lengths, widths, material, and are infinite. One can write with any possible thing which can play a function of communicating

The tools can be divided according to their applications. The hard tools and the soft tools (*according to Santosh Kshirsagar, Professor and ace calligrapher, Sir J.J. School of Art, Mumbai*) based on the way one sees them and applies them and the possibilities of 'n' infinite styles. Tools have been categorized based on the quality of material and number of possibilities. A tool has multiple numbers of ways to handle them. Santosh Kshirsagar divides the tools based on the possibilities of a tools application. When one applies a tool for calligraphy, there are numerous actions which take place in your body and the space around you. The external and internal factors around the calligrapher affect the vision, senses and the expressions. Such factors can be the music, temperature, energy, mood, etc. To express a master stroke, a calligrapher needs to be internally awakened. This awakening happens over a period of time, the maturity in the strokes, the consistency in the letter forms symbolizes ones conscious.





So a soft tool is one from which a calligrapher gets infinite number of possibilities when applied. The possibilities and styles are distinct and one can go on and on experimenting and innovating for ever. Round brush is such a tool where the possibilities for calligraphic techniques are infinite and is the most favorite amongst many calligraphers. It can work on any surface and understands the surface like on other tool does. The bristles of the brush are most flexible and can draw thinnest and thickest strokes.

The hard tool means a tool which is not as flexible as the soft tool, like a reed pen which has tremendous possibilities of stylization but is not as flexible as the round brush. These are basic divisions of the tools in calligraphy and some modern tools i.e. a comb, sponge fall in the above categories.

The application and manipulation of a tool depends on ones mind. His vision, observations result some innovative styles or methods in calligraphy.

कगहिनूर

Techniques

Techniques develop as one gets a complete control over the breath, mind, body, tool, action and surface. Techniques mostly are not deliberate efforts but a by-product of the above factors. Here, I have self experimented, gathered, artwork done by various calligraphers to document various techniques evolved after several years of practice and meditation. The work mainly focuses on devanagari letter forms.

Soft Tool

1. Round brush
2. Flat brush

Hard Tool

3. Reed pen
4. Crow quill nibs
5. Candy stick
6. Ruling pen
7. Steel pens
8. Markers

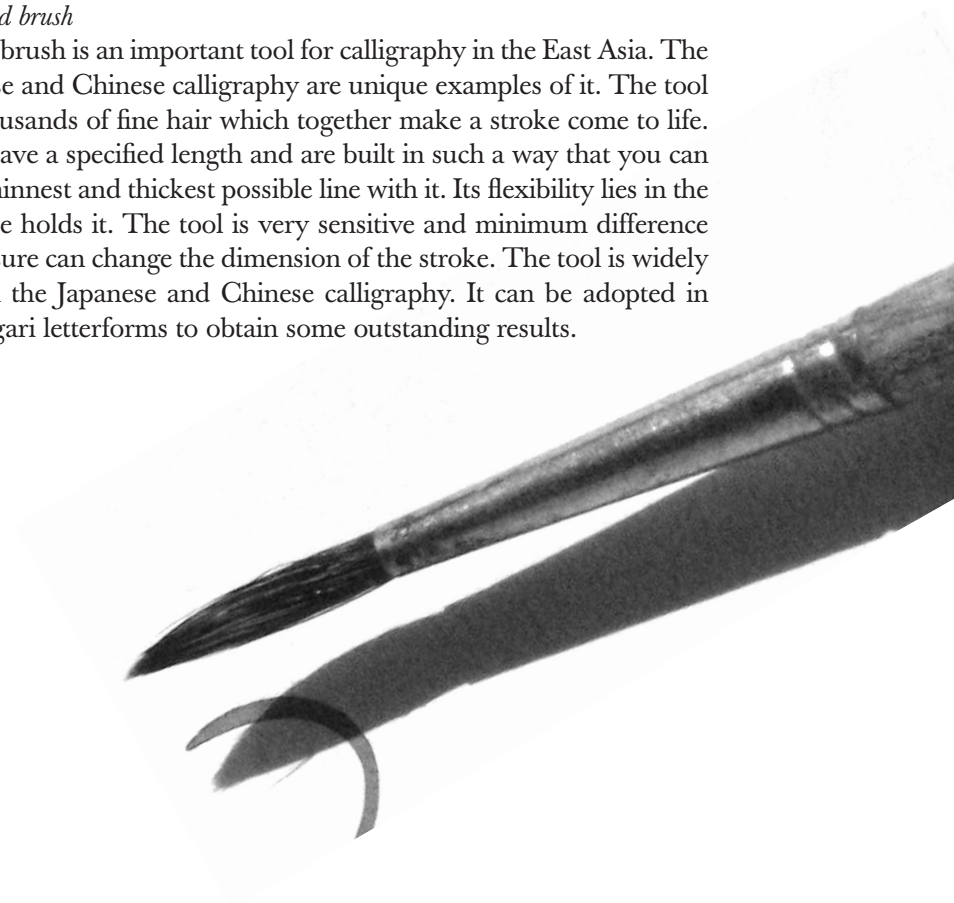
Experimental tools

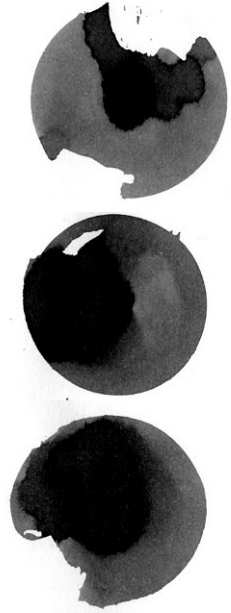
9. Clamp tool
10. Comb
11. Paper tool
12. Mount board tool
13. Sponge
14. Shaving brush
15. Injection
15. Brooms
16. Lipstick
17. Tooth brush
18. Camera
19. Threads
20. Wax & Candle
21. Straw

Soft tools

1. Round brush

Round brush is an important tool for calligraphy in the East Asia. The Japanese and Chinese calligraphy are unique examples of it. The tool has thousands of fine hair which together make a stroke come to life. They have a specified length and are built in such a way that you can draw thinnest and thickest possible line with it. Its flexibility lies in the way one holds it. The tool is very sensitive and minimum difference in pressure can change the dimension of the stroke. The tool is widely used in the Japanese and Chinese calligraphy. It can be adopted in Devnagari letterforms to obtain some outstanding results.





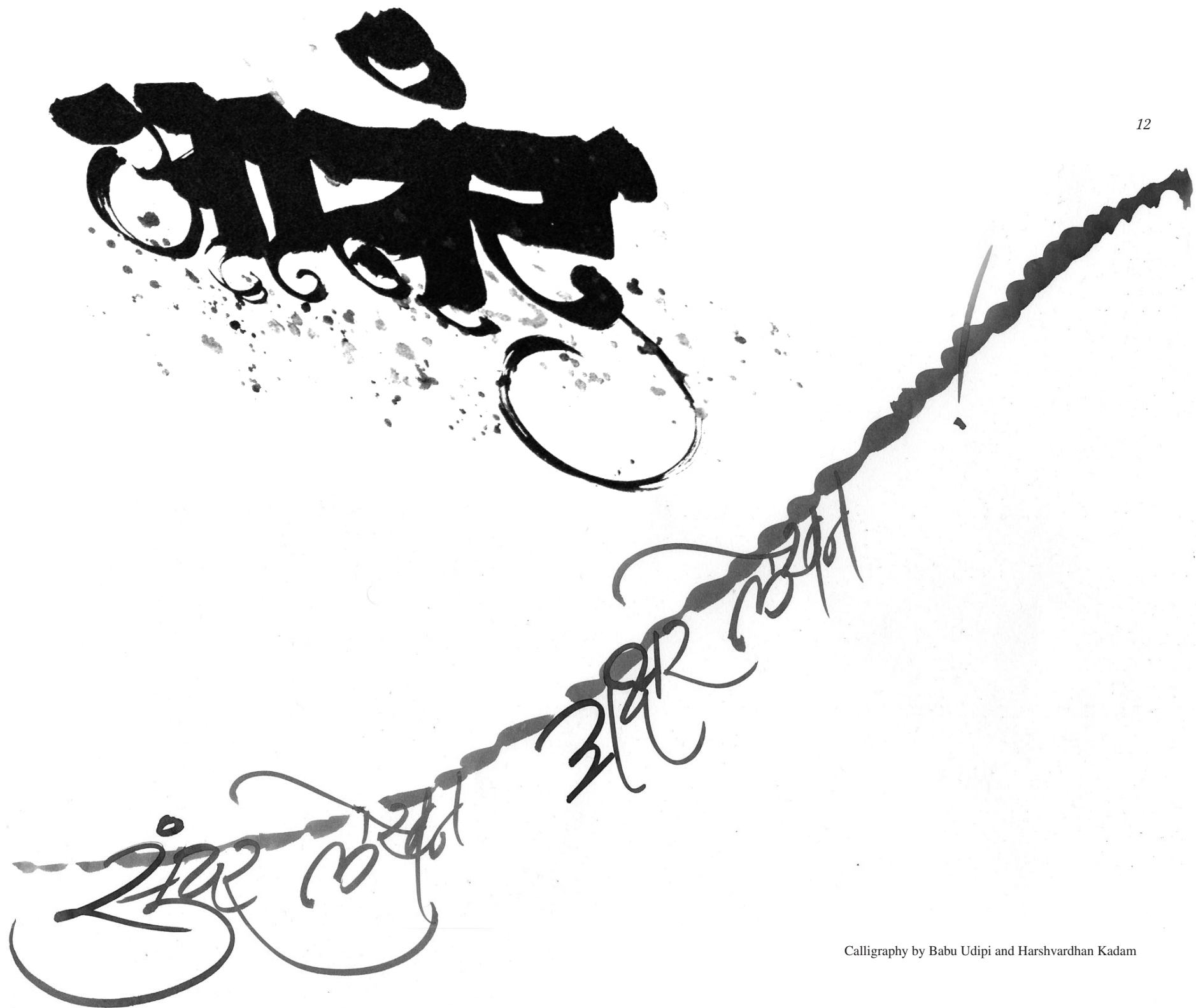
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Calligraphy by Manohar Desai





Soft tools

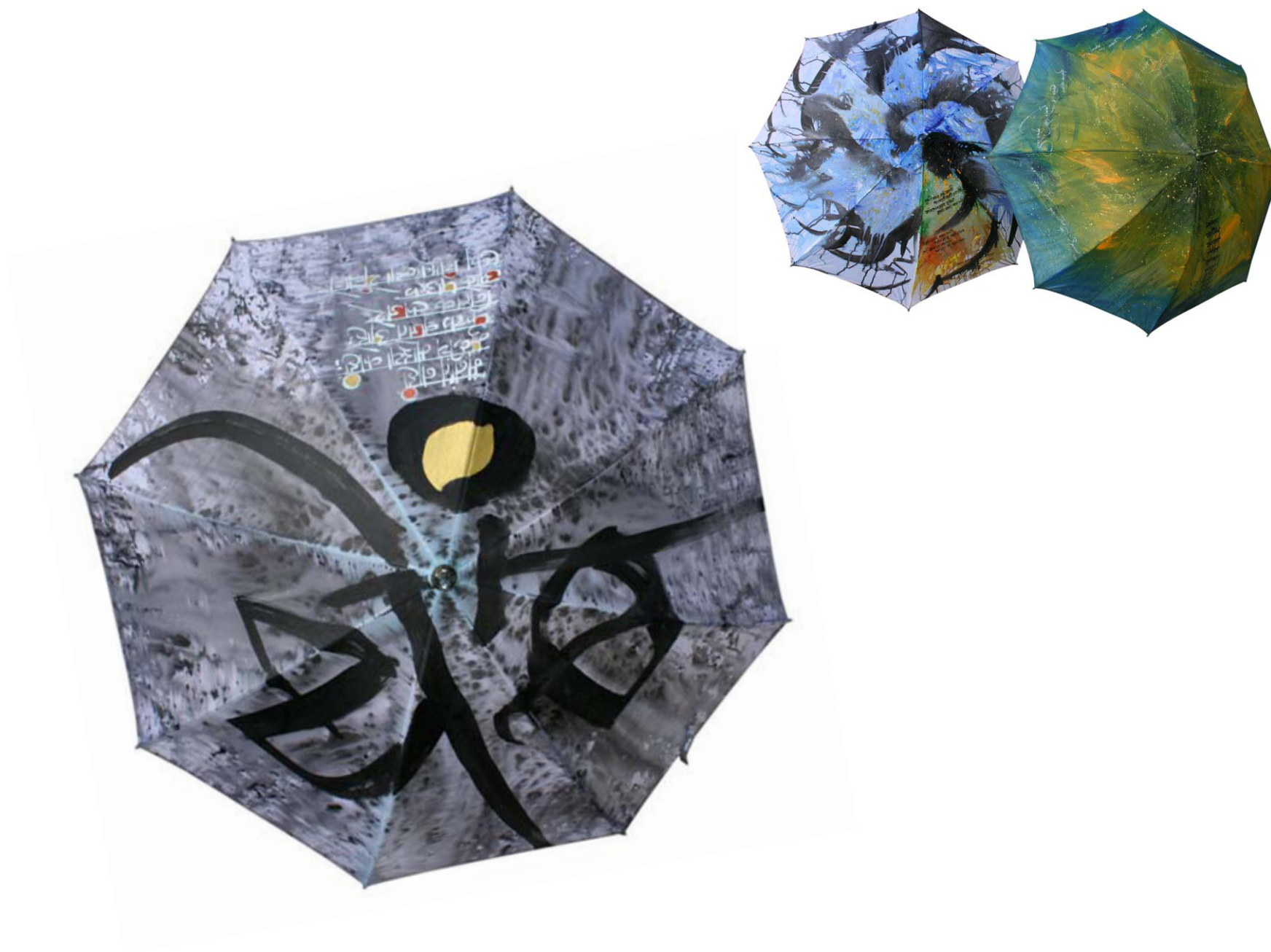
2. Flat brush

The hair in this tool are arranged in a flat pattern so the stroke it applies is in a particular angle. The dimension of the stroke changes as you turn the brush while writing letterforms.

The character of the stroke depends upon the width of the flat brush.



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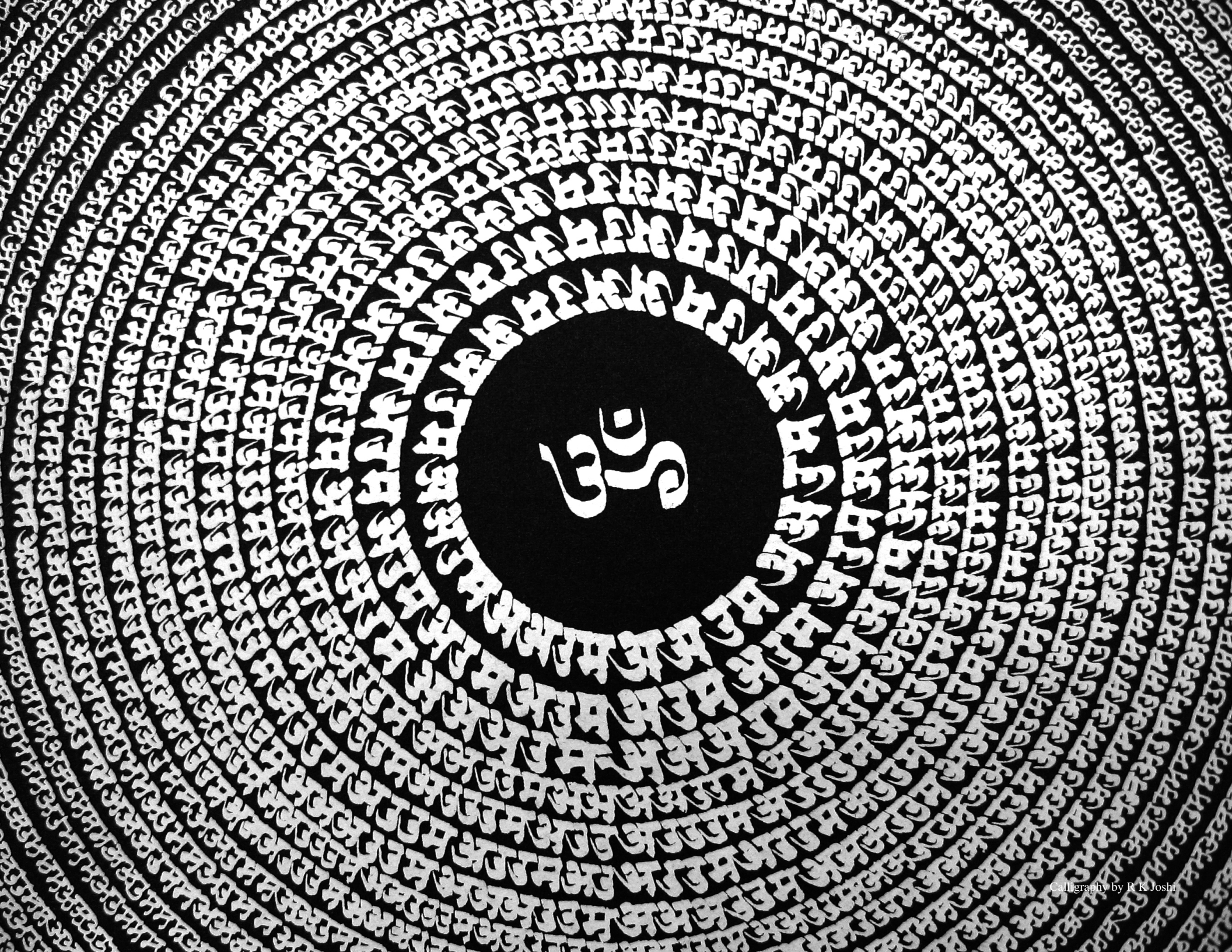




Hard tools

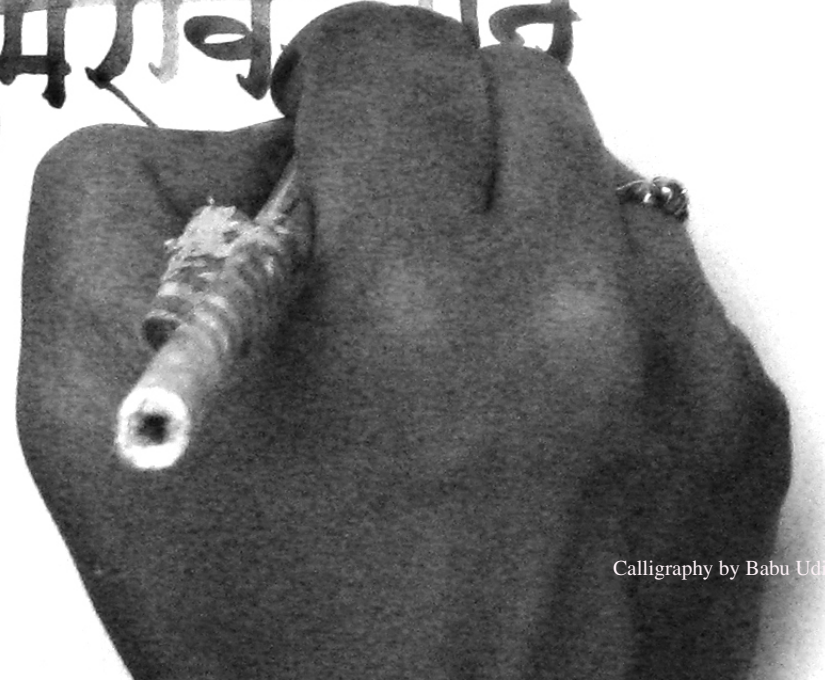
3. Reed Pen

A very ancient tool still remains in practice. It is widely used because of its stiffness. The reed pen is designed out of a straw of bamboo or reed. The straw is cut in such a way that the writing part remains as long and as thin as possible. This increases the gracefulness of the letterform and adds a character to the writing.



आषाढस्य
प्रथम
दिवसे ।

मराठवाड



देवनागरी
ही सर्व
भारतीय लिप्यांची
जवनी आहे
आणि
पुराणातील माहितीप्रमाणे
देवांची
देणगी
आहे.



Hard tools

4. Steel Pen

These tools have been designed as the technology developed. Steel tools/metal brushes are in a sense successors of reed pens but they didn't replaced reed pens. They are strong and their use is wide. They have a reservoir for ink. The tools are available in various sizes and patterns.





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Hard tools

5. Crow Quill nibs

Nibs of various sizes, shapes, points, patterns and reservoirs are used for calligraphy. Based on an idea of traditional quills, they have been fashioned with a metal blade to be able to draw a pointed smooth line. They are also pressure sensitive and depending on the pressure you apply the stroke width can vary. Before the age of fountain pens, they were widely used as a writing tool. The nibs are an excellent example of craftsmanship and calligraphy with such a tool automatically changes the style of writing.



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 प्रेम आणि
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॥ १ ॥



Hard tools

6. Marker

Markers are modern day developed tools. They are multifunctional tools and today's calligraphy is incomplete without markers. Based on a simple functioning of ink reservoir the tip of the markers are bold and strong. They are made out of artificial fibers and have consistency of ink flow. The writing tips can be customized up to a certain limit. You can get round, flat, thin, bold, square, triangular strokes and points with this tool. They are available in a variety of colours, shapes and sizes.

सूर्यचि
चित्र
काटू येचांग ।

सूर्यचि चित्रकाटू येचांग ।

प्रकाशचे अंग आणितानये ॥

प्रकाशच
अंग
आणिता
नये ॥

नामदेव

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महप्रसूतः

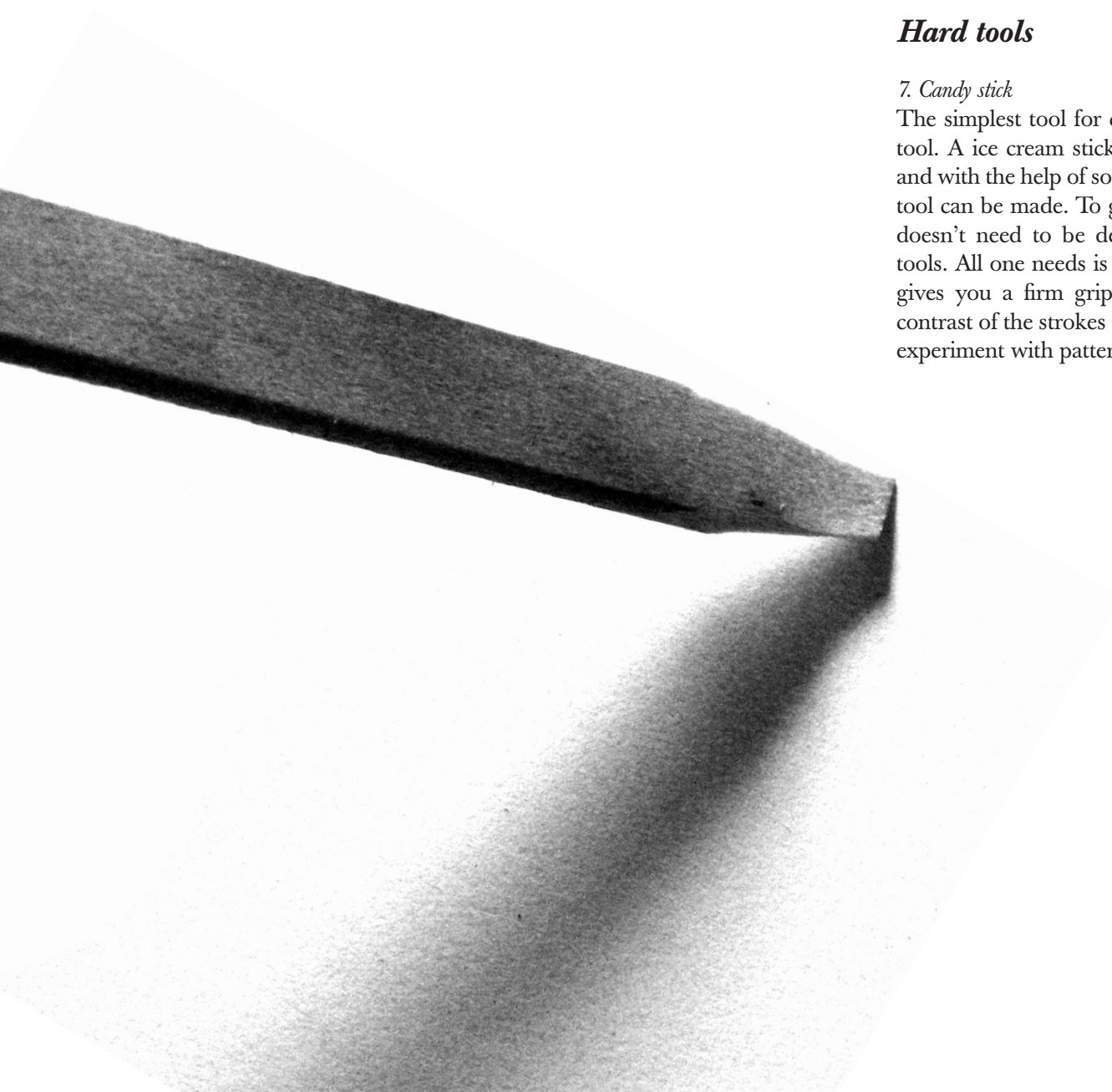
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माहा माहा

Hard tools

7. Candy stick

The simplest tool for calligraphy is a ice cream stick tool. A ice cream stick which we can find anywhere and with the help of some cuts, a very fine calligraphy tool can be made. To get involved in calligraphy one doesn't need to be dependent on costly nibs, steel tools. All one needs is a spirit to start with. This tool gives you a firm grip and a confident stroke. The contrast of the strokes are controllable, hence one can experiment with patterns, shapes and sizes.



आग

गजवधेन
कदम



चंदनचे हात पाय ही चंदन।
 परिखा नाही हीन कोणी अंग॥
 दीपा नाही पोटी पोटी अंधकार।
 सर्वांगी साकार अवधी गोड॥
 तू का म्हणे तैसा सज्जना पासून।
 पाहता अवगण मिळे चिना॥

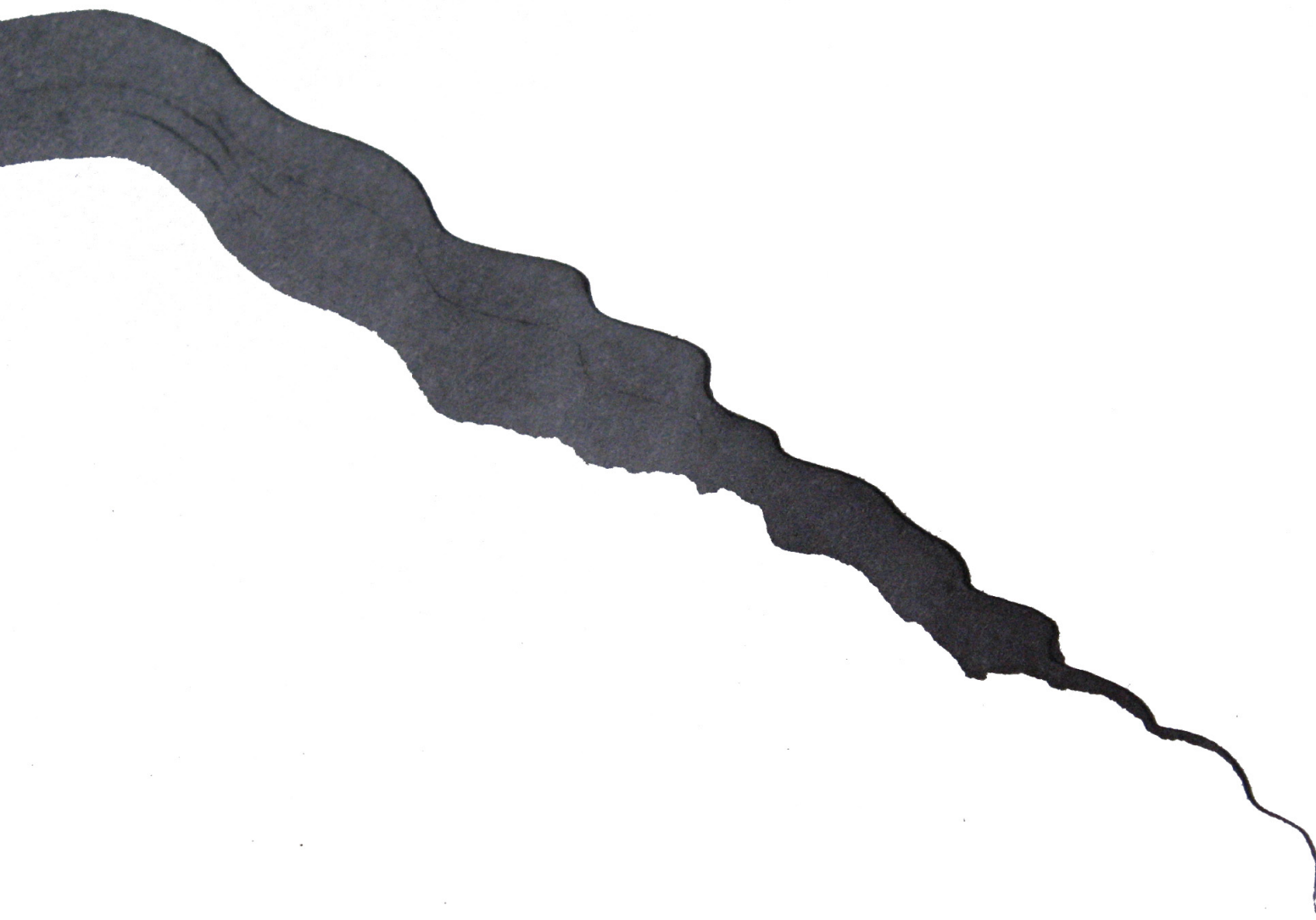


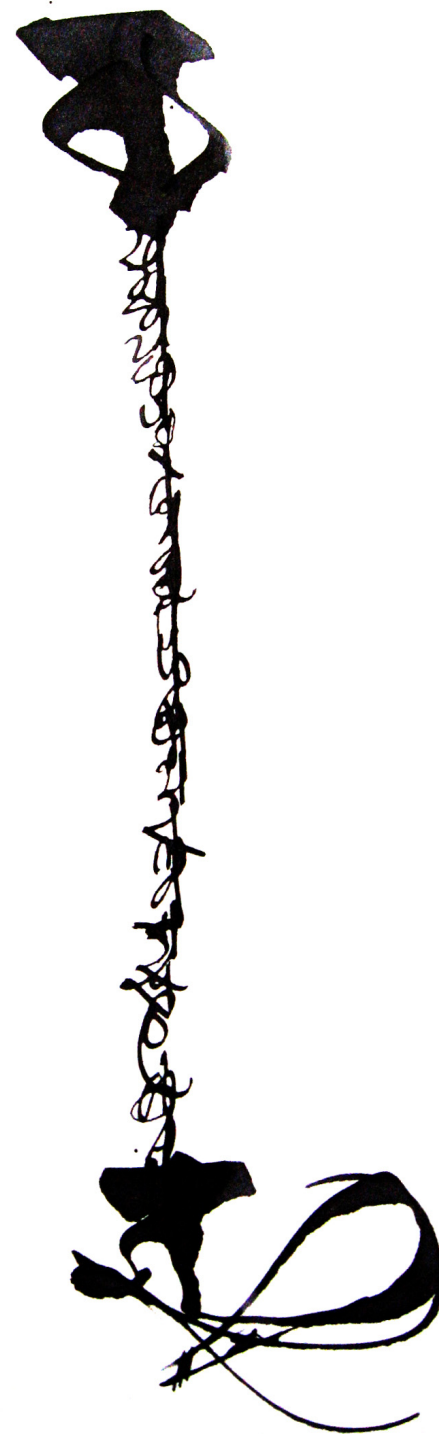
Hard tools

8. Bo pen / Ruling pen

This instrument was initially designed for drawing consistent lines of various widths. The tool has a open reservoir and the writing tips vary in sizes and shapes for different functions. If one changes the angle and utilizes the reservoir part as the writing tip you get beautiful letterforms.







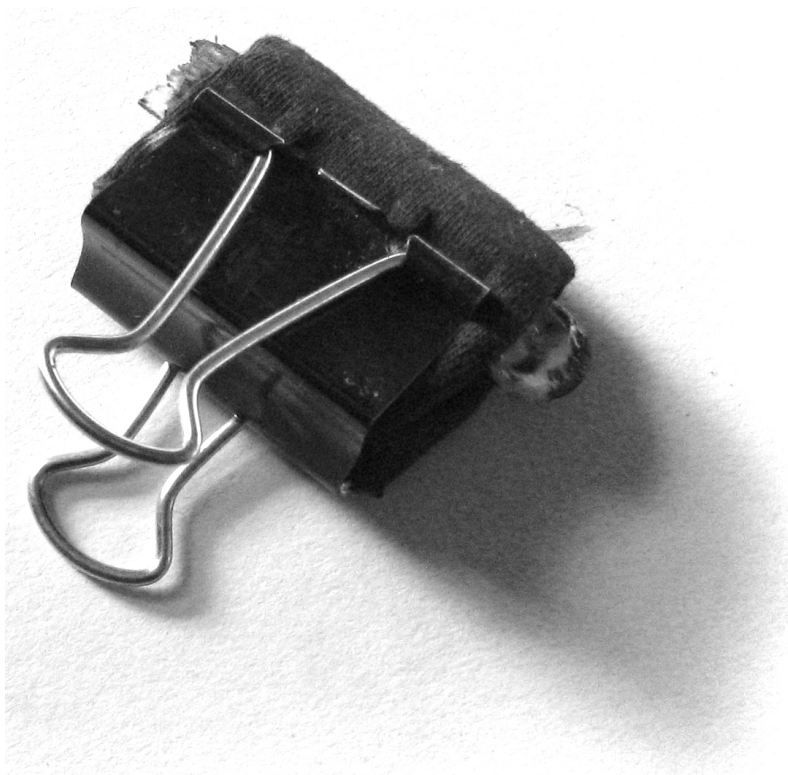
Experimental tools

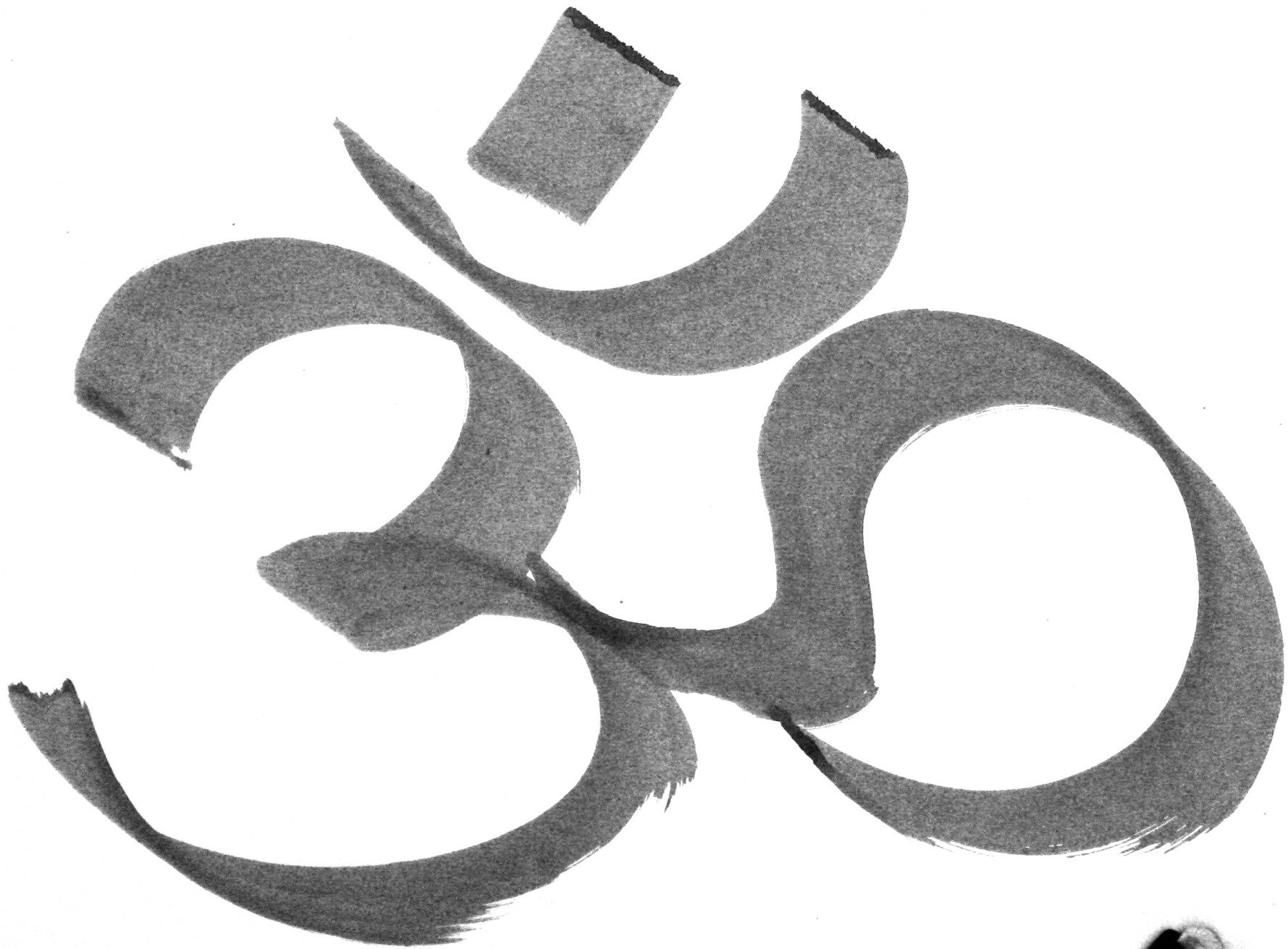
Experimenting with various tools is experimenting with ones conscious. It is more of understanding a metaphysical connection. Below are tools which calligraphers have evolved after being in the trance for years of their practice.

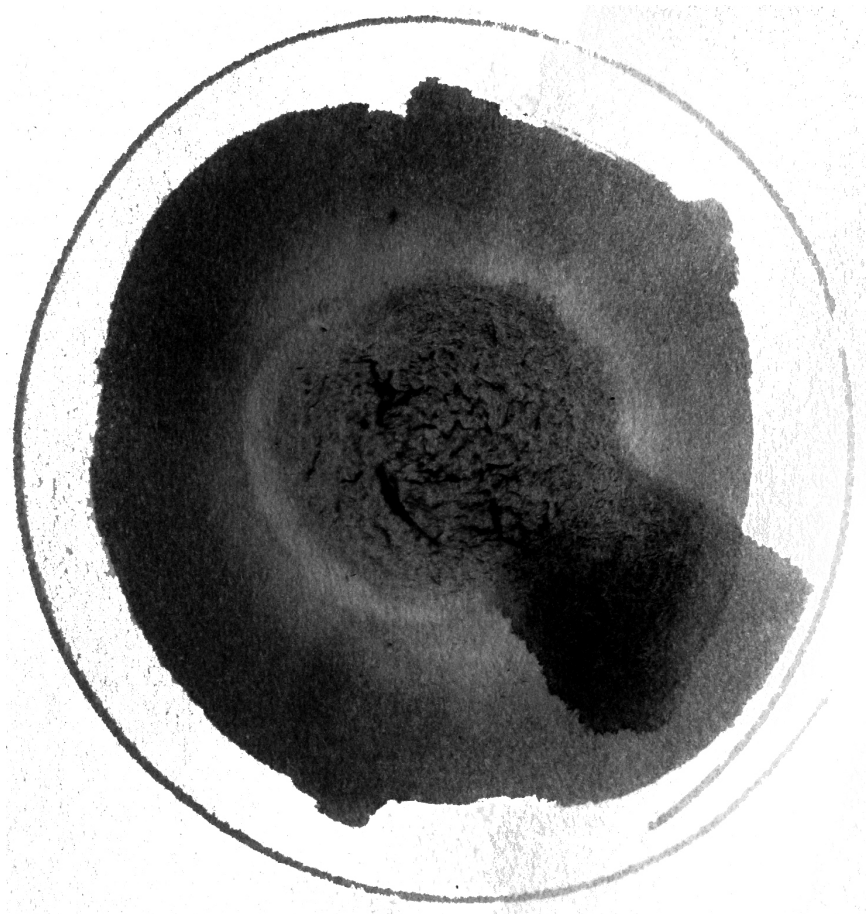
9. Clamp tool.

Images of making the tool

A simple tool which is made using some basic material available around you, gives you a stroke as broad as possible. All you need is a clamp, a piece of cloth and ice cream stick. The tools were always there but the vision which made them applicable is more important here.







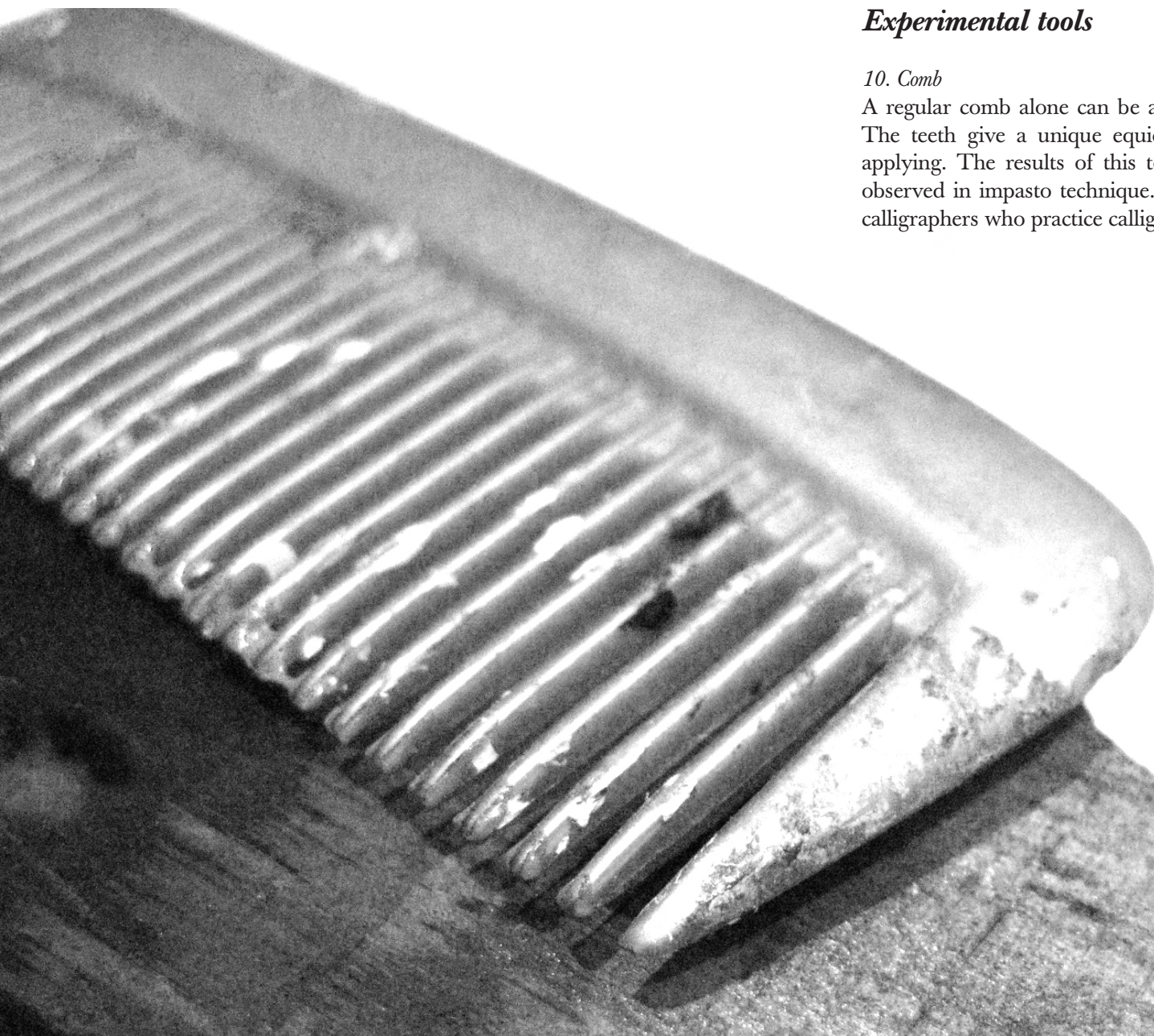


Calligraphy by Harshvardhan Kadam

Experimental tools

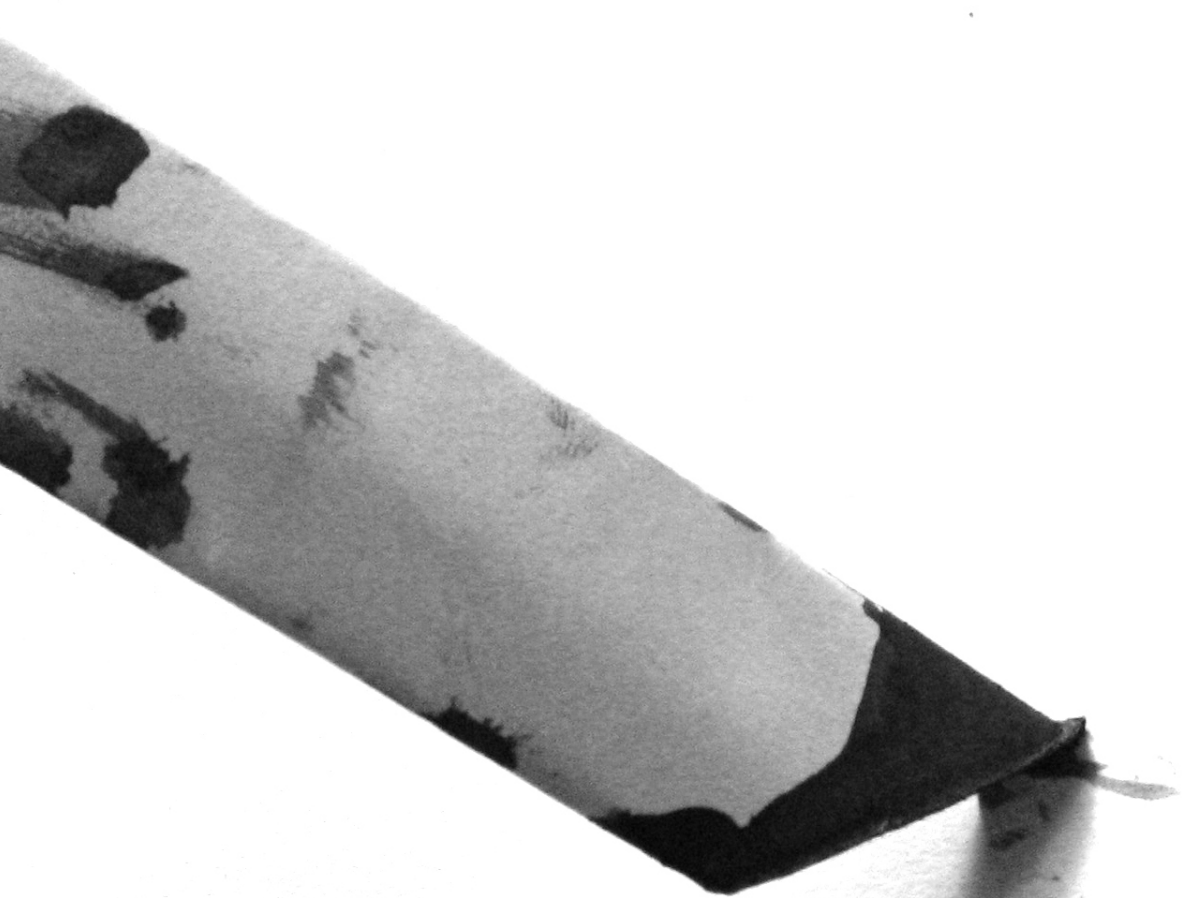
10. Comb

A regular comb alone can be a tool for calligraphy. The teeth give a unique equidistant pattern while applying. The results of this tool can be seen and observed in impasto technique. It is mostly used by calligraphers who practice calligraphy on canvas.







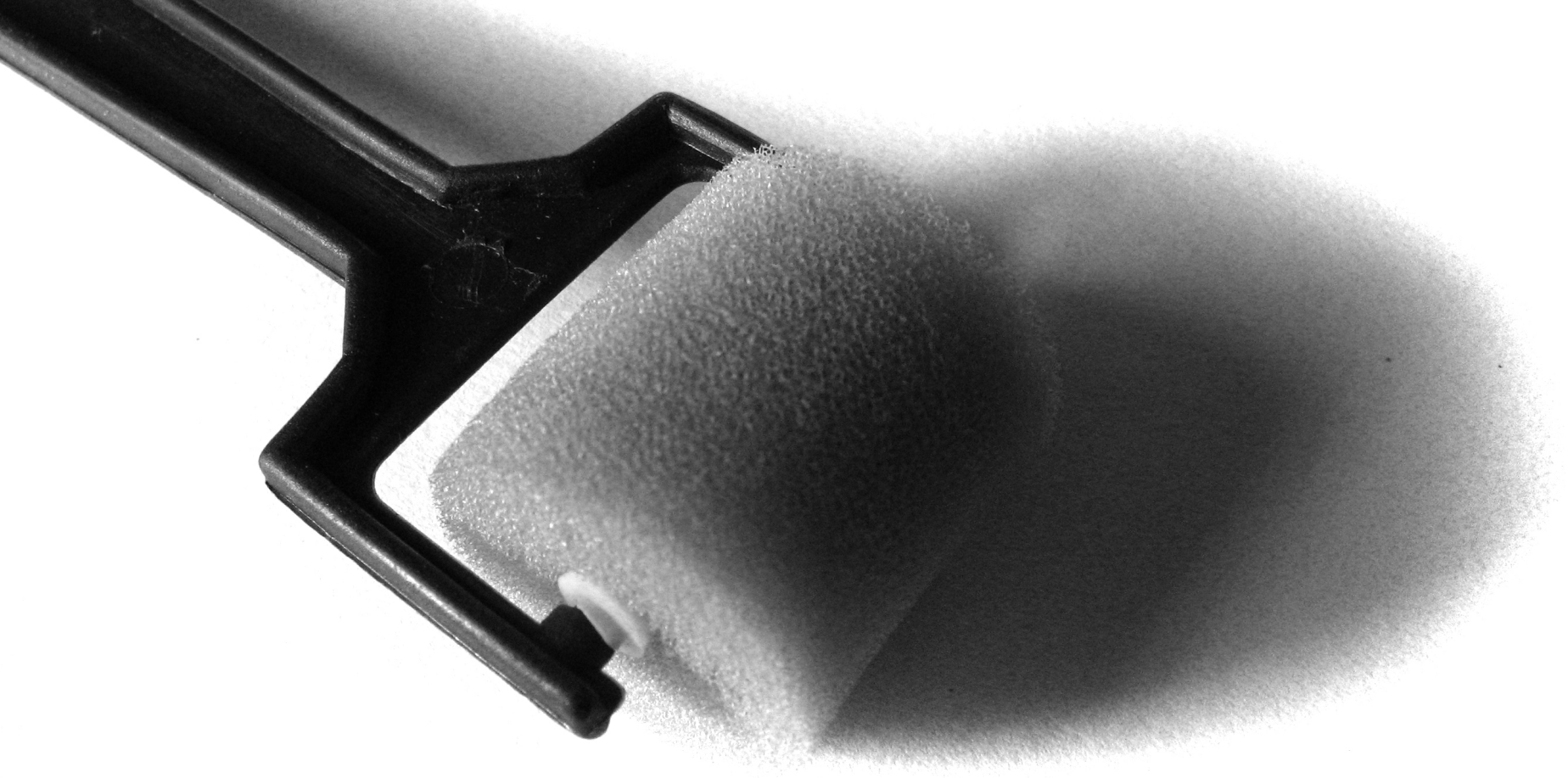


Experimental tools

11. Paper tool

A piece of a bond paper cut into half is folded according to the length of writing surface. This tool has a good ink reservoir but the tool is temporary. You can design it in any fashion by using any paper and have a wide variety of experimental tools of varied sizes, patterns, angles, etc. another cheapest available tool for calligraphy.

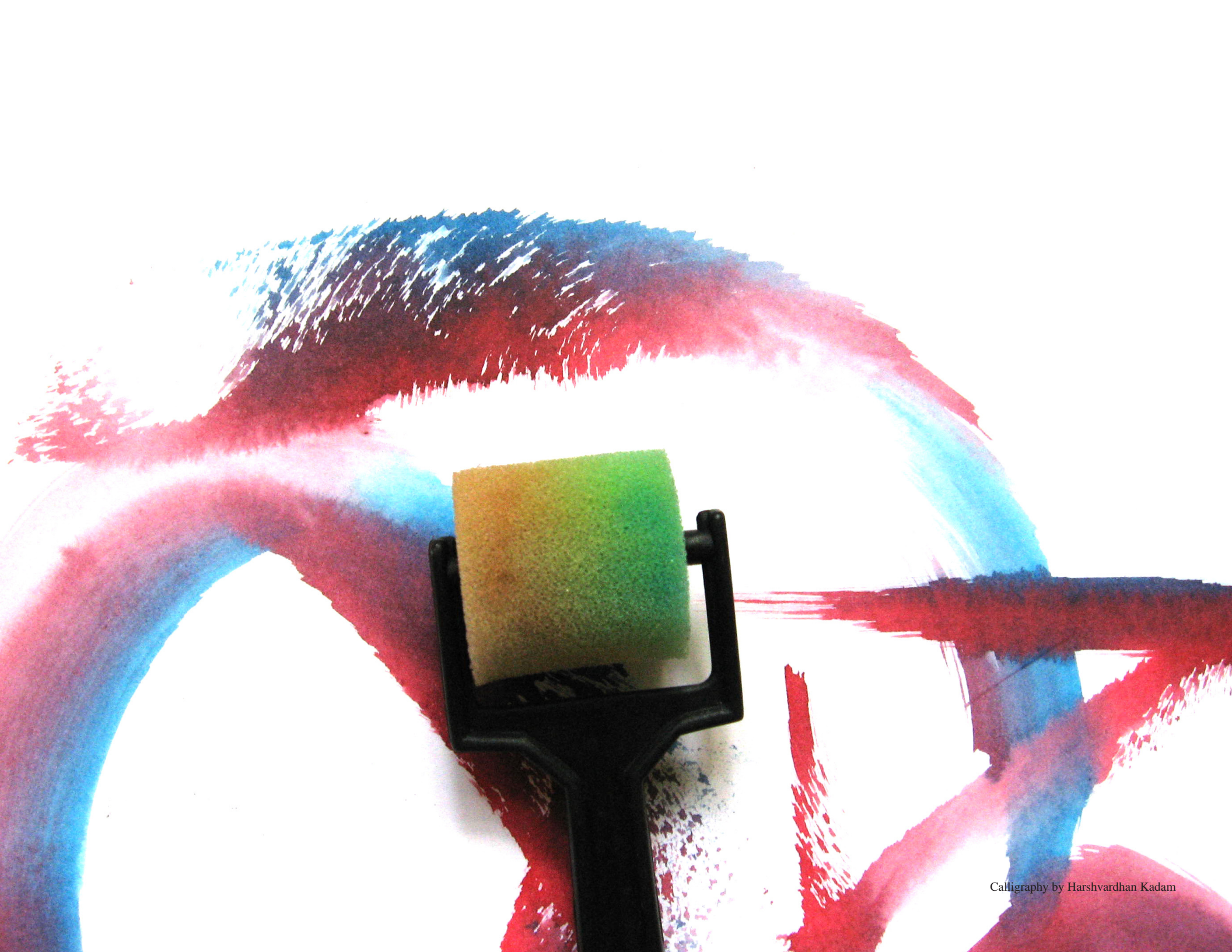


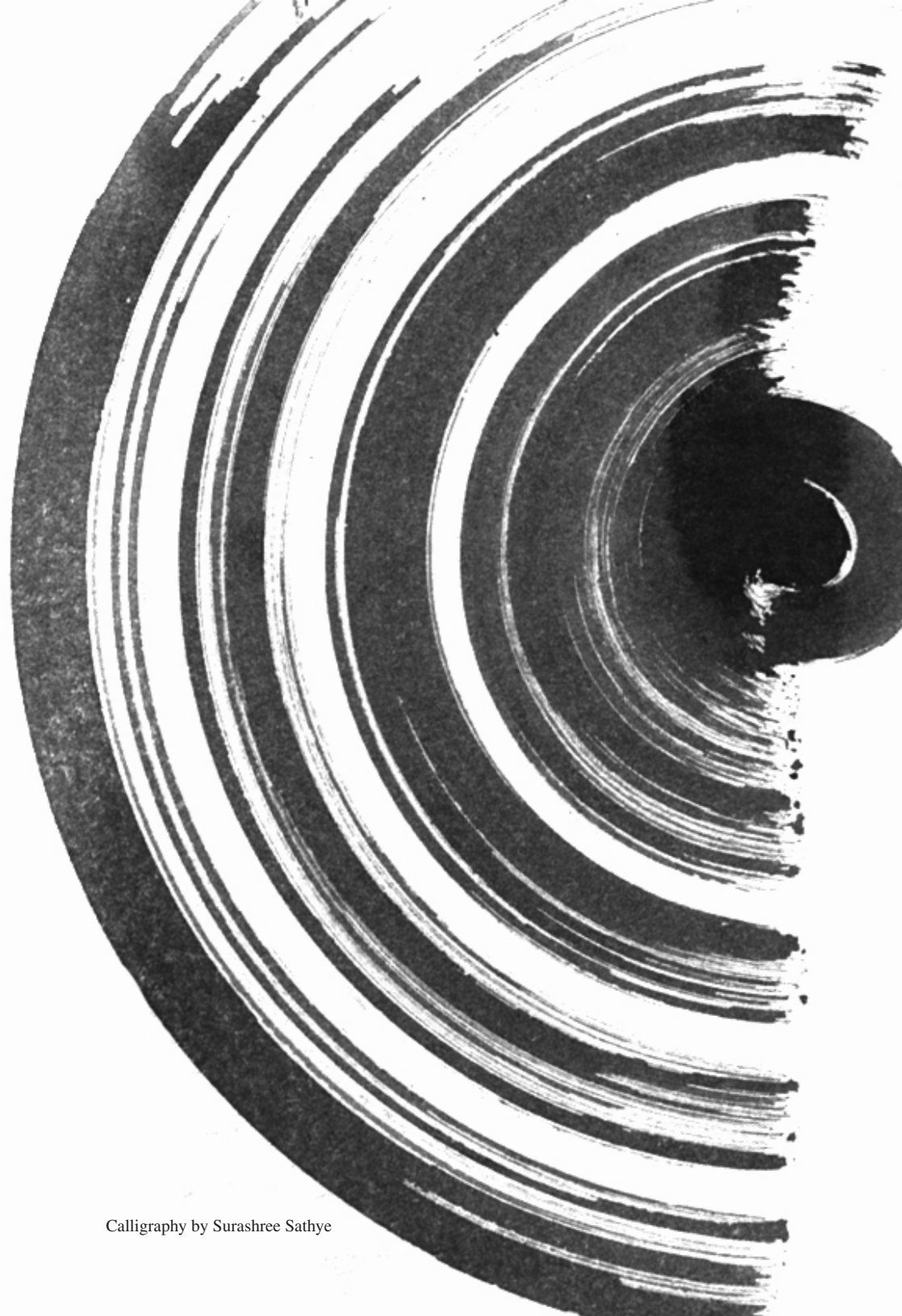


Experimental tools

12. Sponge Tool

Sponge tool is a combination of hard and soft tool. With a good capacity of holding ink, this tool is easy to locate, customize and handle. The tool can be crafted in any size any, any shape and that is the excellent function if this media.

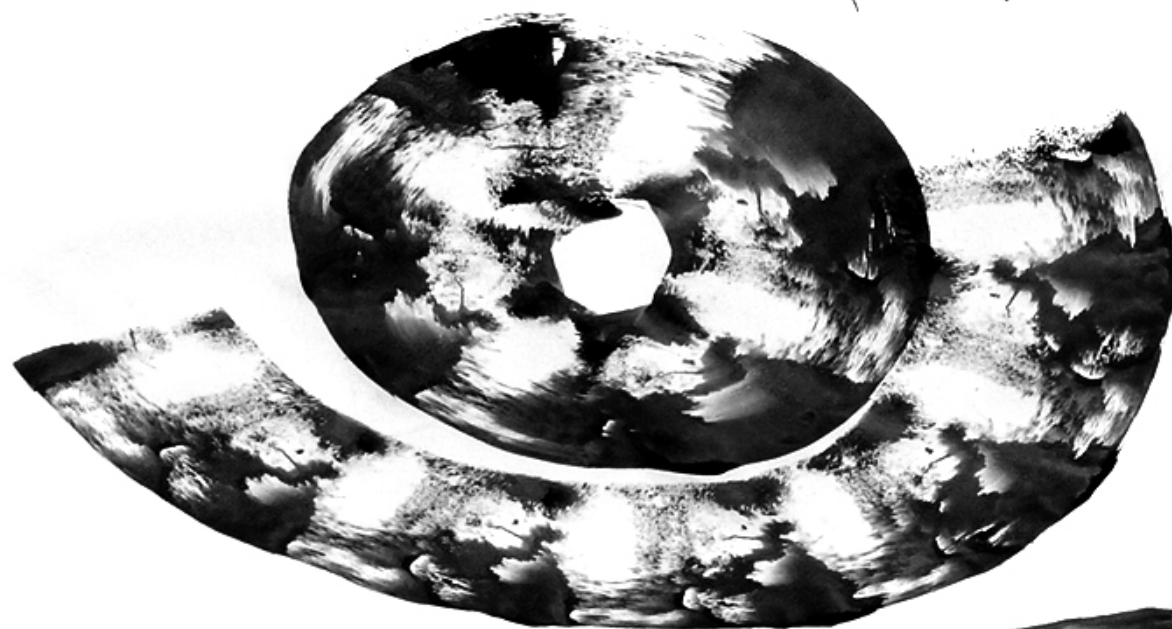




Calligraphy by Surashree Sathye

Letters are beautiful -

Neelamagrab 06 -



Experimental tools

13. Wax candle and ink

A very traditional technique of first applying candle on the paper and later using inks/ water colours above it. So the letters written in wax appear white and the background is the way you apply the colours.

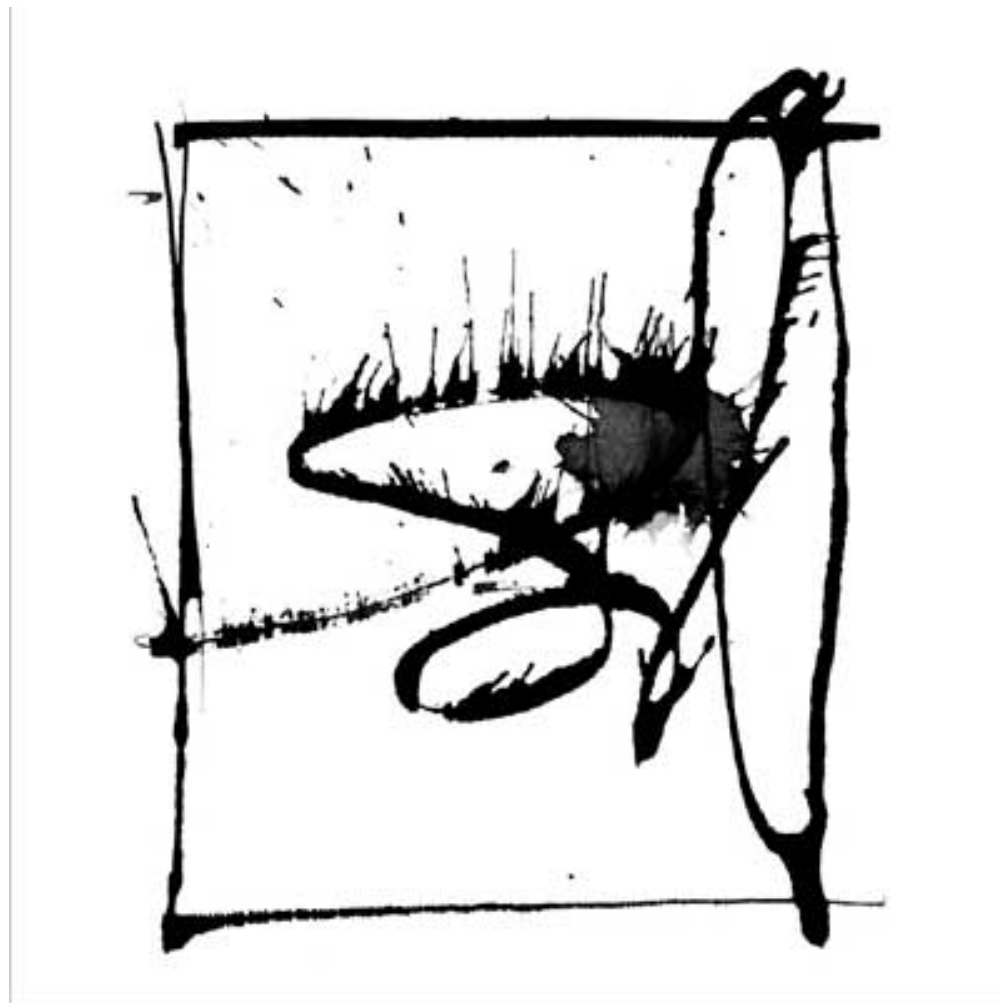


Experimental tools

14. Injection

An injection mostly used by doctors and nurses has expanded its application in calligraphy as well. A proper control over the pump and appropriate pressure will give fascinating results. It is not very difficult to use but needs to be handled with a proper care.





Experimental tools

15. Tooth brush

Calligraphy with a tooth brush, which means using ink instead of toothpaste. The importance of this tool is the different grip and the hard and short bristles. You get a very firm grip on the tool as you have been using it since the day you have got teeth. The strokes are bold and rough.



Calligraphy by Neelam Nagrale

Neelam Nagrale

Experimental tools

16. Camera

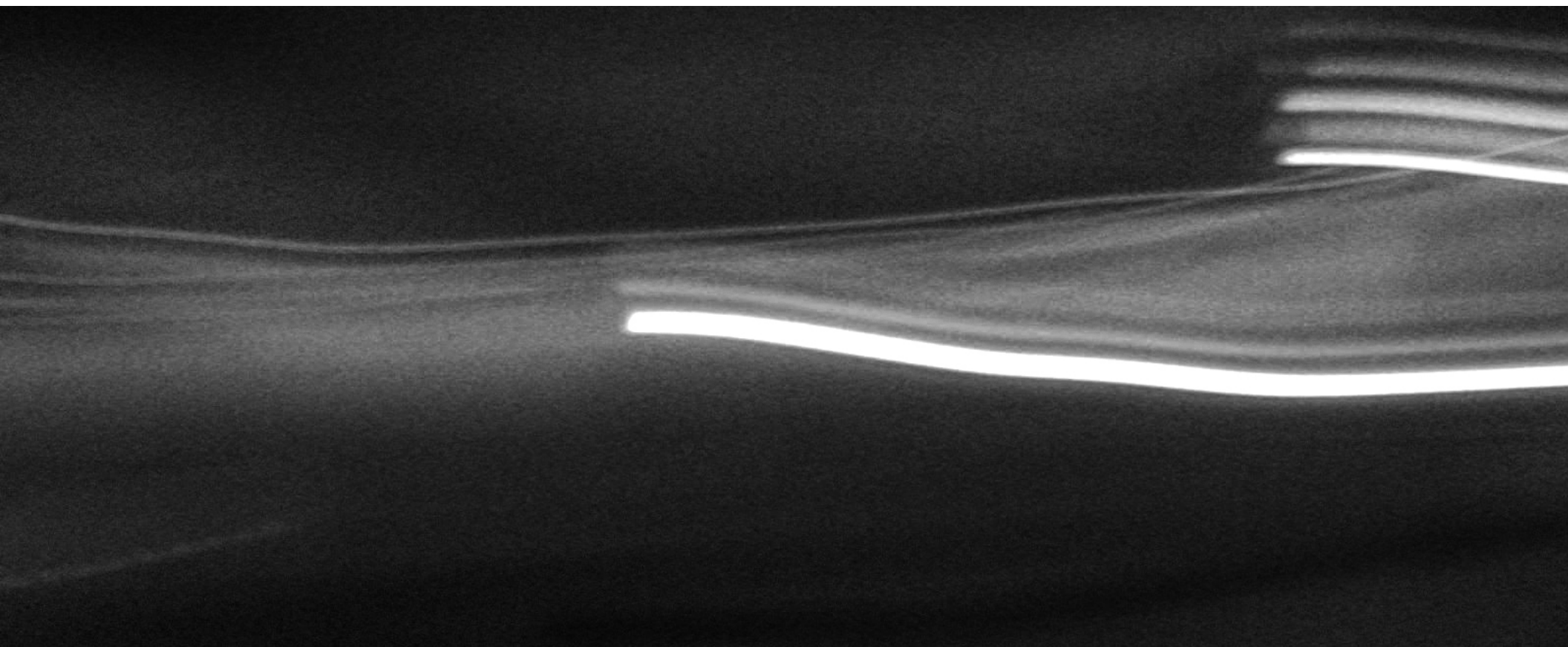
In camera, the light is the ink and the camera is the tool. Surface is the grain of film or a pixel of incase of digital camera. Using this tool is a lot of judgment, understanding of photography. A very creative tool and one gets amazing photographs out of it.



Calligraphy with light by Harshvardhan Kadam



Calligraphy with light by Harshvardhan Kadam



Calligraphy with light by Harshvardhan Kadam

Interactions with Calligraphers

Shri. Achyut Palav

Prof. Babu Udipi

Prof. Santosh Kshirsagar

Prof. Manohar Desai

Shrutganga Calligraphers

Interactions with Calligraphers

Shri. Achyut Palav



Each letter in every script known to man holds an eternal power, an individual beauty in its vertical, horizontal, angular lines, in their continuity. I have made efforts to bring forth calligraphy not only as art form but a expressive medium where letters in all their nakedness become alive, vibrating, pulsating with its inherent, shape, giving a canvas space to your thoughts, a meaning to the sounds & actions.

Be it Devanagari or the English scripts, a constant thirst for knowledge and passion for perfection continues to give a special meaning to my quest in Calligraphy. Even today I say that I have just begun the journey towards my destination and I still have a long way to go.

(<http://www.achyutpalav.com/home.htm>)

I met Achyut Palav, is a contemporary calligrapher and has a strong visual sense and a different approach towards calligraphy.



On asking him about his tools, he said,

Everything is around you. Tools I use for my calligraphy are around me, around everyone. You need to have a vision to experiment with them. Be is an injection or a comb.

A master of very unusual tools, Achyut Palav has created some beautiful calligraphic expressions. On that he says,

The evolution of any form of art happens after practice and meditation. Using any tool is just a technique but there is a lot that happens before that. You develop a vision towards your approach. It is a process. Understanding the requirements, subject, and dimension is very important.

How have tools evolved?

Tools have evolved according to the requirement, need, experiments, etc.

Tools and techniques have developed as per the subjective requirements, composition, effects. Techniques, which are more personal to a calligrapher, have developed as he/she has tried to search a new dimension of line.

One just needs to keep his eyes open. Observe the world, inspiration lies somewhere around you.

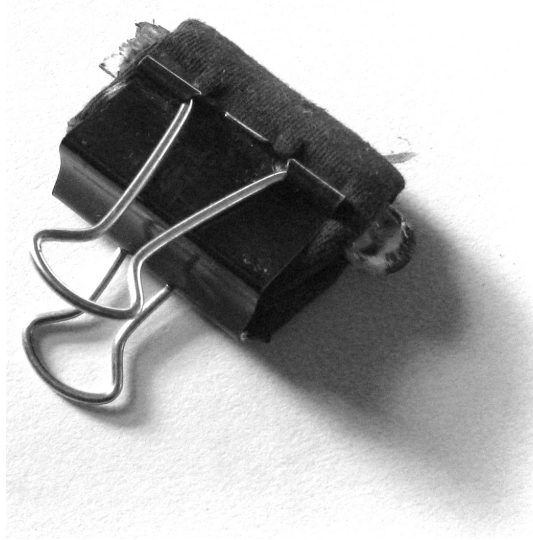
Tools he uses are:

Pens, crow quills, markers, round brush, flat brush, steel brushes, reed pens, candy stick, tooth brush, foam, injections, spoons, etc.



Prof. Babu Udipi

A professor of Calligraphy and Illustration at Abhinav Kala Mahavidyalay, has been in the field of teaching for 35 years. He loves calligraphy and has his own beautiful and decorative style of calligraphy. He works with simplest possible tools like a candy stick tool or paper tool. He has a very personal tool which he calls as a Clamp tool and has experimented with that for quite some time.



On talking to him about tools and techniques, he says, One should be open for experimentation but shouldn't forget the basics. His basics need to be efficient enough so that he can experiment and then his experiments will have a gracefulness.

He believes that calligraphy is an example of highly aesthetic qualities and rapid renderings exclude it. Every character is beautifully evolved from ages. So understanding this process of evolution is very important to a calligrapher and typographer. He says doing calligraphy is not a difficult job and is not costly. One can start off with anything that can write and can absorb ink or solvent. He shows how to make various tools like a tool from a match box, candy stick, paper, wood, a reed pen, etc. it is very easy to make a tool out of things around you, tools for varied sizes, small as well as big strokes sizes.

He says, calligraphy basically needs a tool, medium and a surface but it is incomplete if it's not done using the three "H" head, heart and hand. He has studied manuscripts and work of lot of foreign calligraphers. Now calligraphy is used as paintings, and west has experimented lots on calligraphy. It has happened on a very professional level and that point of view; professionalism should be placed in front of people.

One can do calligraphy with anything. One needs to study traditional calligraphy, the spacing between the words, conjunctions, layouts, based on that one can experiment very well in this field.

Calligraphy doesn't make one sit idle. It doesn't need inspiration, it is an inspiration in its own. All you need is paper and tool, and it wont make you stand still.

Santosh Kshirsagar

A calligrapher, poet and a professor from Sir. J. J. School of Art has researched on the tools for calligraphy. It was interesting to interact and understand his views on the usage of tools by calligraphers.

He emphasized on the writing surface of a tool. Most commonly we have seen, used brushes have hair as their surface and reed or steel brushes that have flat edges to write. But one has never seen, tried a tool which has a spherical writing surface/edge. He wishes that a calligrapher should have a different point of view of using surfaces and edges or creating them.

He talked about the cultural exchange. The west has different techniques than the east. The letter form varies from religion to religion, language to language. India alone has 23 official languages and has varied letter forms. Calligraphy has evolved long time back. But now if we do not exchange tools and experiment, conclude it is not going to move ahead from the place it is right now. One needs to understand western school, their techniques, and tools and apply in the eastern calligraphic techniques... and vice a versa. So new techniques will be born, we have to create milestones.



The process of Documentation of Jain Manuscripts, Kalbadevi, Mumbai.

Another step towards the marga of Ahimsa. According to Jain Philosophy, electricity is a *marg* of *Himsa*, so are the things dependent on them. so the modern techniques of reproducing books which is a product of printing press which runs on electricity, is *Himsak*. So they have come up with a way reproduction, the traditional way. Here at Kalbadevi, there is a team of 12 who reproduce the original manuscripts on a paper made out of natural fiber, without any industrial influence. The process has the most minimum interaction with electricity.



Mahendrabhai, Who takes care of the whole process, talks about the procedure of the whole system. It involves of calligraphers, proof readers, the scholars who understand the manuscripts and the producer of raw material i.e. paper, ink, reed pens, tying cloth.

The paper is produced by a small family in Jaipur, Rajasthan, who have been following the tradition of their ancestors for several ages. They prepare the paper pulp by hand, press and dry them naturally, with the help of traditional tools like a wooden roller. The family produces about 100 sheets of paper per day and is the only source for paper production in the country. This paper has been scientifically checked and is chemical free, acids free and it can naturally last for more than 350 years. If taken proper care can remain for more than 500 years.

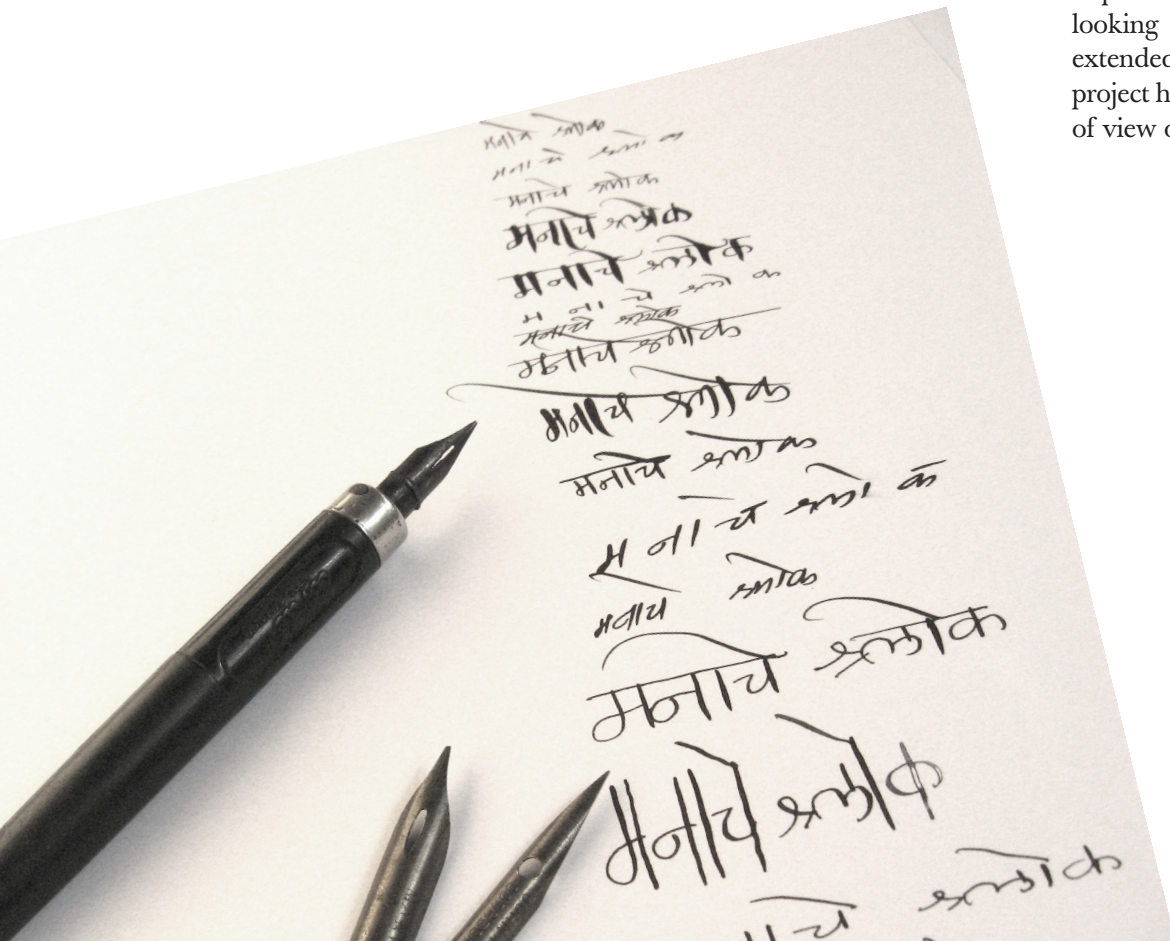
The ink is also produced in the traditional way and is imported from the same place in a solid form. It is then prepared in a solvent format and used as much required.

The tools which they use are from a plant like a typical reed tool, which is found at Kanpur.

Through out the country there are many centers like this one and there are about 120 people who are involved in this activity of documenting. They write mainly in Devnagari but some of the manuscripts are also reproduced in Gujrathi.

Conclusion

Surrounding factors and spiritual evolution of human beings have influenced evolution of calligraphy. So have the tools evolved as a by-product of Industrial Development for eg. A toothbrush which has its extension in calligraphy as well. The same wave has also evolved a lot of media, surfaces, platforms for calligraphy such as a digital camera. But most important of all this is the point of view towards looking at the tool or the object which can have extended use such as in calligraphy. This research project has helped me to develop a vision, a new point of view of looking at a tool.



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