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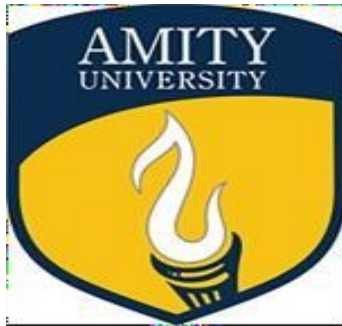
AMITY SCHOOL OF FINE ARTS (ASFA)

Master of Fine Arts - Applied Arts

List of students undertaking field project or research projects or internships.

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Amity University Rajasthan, Jaipur



DISSERTATION

TOPIC:-

HOW DIGITAL ART TECHNIQUE CAN BE USED AS A PAINTING MEDIUM

In partial fulfillment of the requirement for the degree of
M.F.A

Under the Supervision of
Mrs. Manisha Prajapat

By:
Priyanshi Khandelwal

ACKNOWLEDGEMENT

In pursuit of this academic endeavor I feel that I have been especially fortunate as inspiration, guidance, direction, co-operation, love and care all came in my way in abundance and it seems almost an impossible task for me to acknowledge the same in adequate terms.

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Words are not enough in offering my thanks to Manisha Ma'am for the amicable and mellifluous ambience support and help in carrying out my work.

I convey my sincere thanks to my beloved and respected Parents for their blessings and affectionate encouragement. Now I would like to thank the almighty God for giving me patience, strength and for being with me and showing the path of light.

PRIYANSHI KHANDELWAL

CERTIFICATE

This is to certify that dissertation entitled “HOW DIGITAL ART TECHNIQUE CAN BE USED AS A PAINTING MEDIUM” has been submitted for the paper “Master of Fine Arts (M.F.A), (Painting)”, Semester May 2022,

The dissertation entitled “HOW DIGITAL ART TECHNIQUE CAN BE USED AS A PAINTING MEDIUM” embodies research work carried out by Priyanshi Khandelwal under my supervision in Department of Fine Arts, she has successfully completed her dissertation work.

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DECLARATION BY THE CANDIDATE

I **PRIYANSHI KHANDELWAL** M.F.A(Painting) hereby declare that the dissertation entitled "HOW DIGITAL ART TECHNIQUE CAN BE USED AS A PAINTING MEDIUM" submitted to Amity Institute of Fine Arts, Amity University Rajasthan, has been done by me under the supervision and guidance of Mrs. Manisha Prajapat in partial fulfillment award of degree M.F.A.

Place:

Date:
Candidate

Signature of

The Timeline

- 1) Prehistory (includes Paleolithic, Mesolithic and Neolithic)
- 2) About Indian Art (includes Painting, Murals and Miniatures)
- 3) Old and New Techniques of Painting
- 4) Digital Art
 - i). Revolution
 - ii) Method
- 5) Old and New Techniques of Digital
(How it is growing and helpful in painting in modern era)

Prehistory

In the past where there was no paper, language, written letters, and hence no books or written documents, that period is known as the Prehistoric period. Creating art is a core characteristic of human culture, but the lack of archaeological evidence has limited our knowledge about the origins and evolution of this aspect of society.

Also, it is difficult to understand how Prehistoric people survived until scholars began to excavate Prehistoric sites. Only paintings and drawings are the oldest art forms practiced by human beings to express themselves using the cave wall as their canvas. The prehistoric paintings are in the form of murals. These murals were made by prehistoric man using their tools on the inner walls of the cave. The prehistoric paintings were produced in preliterate, prehistorical cultures beginning somewhere in very late geological history, and continued until the culture either developed writing or other methods of keeping a record, or made significant contact with another culture that makes some record of major historical events.

By combining the information collected from old tools, habitat, bones of both animals and human beings, and drawings on the cave walls scholars have constructed an accurate knowledge about what happened and how people lived in prehistoric times.

The origins of Indian Art find their way back in the roots of civilization. It was when the Indus Valley Civilization reached its peak that most Indian art forms are believed to be originated. The earliest forms of Indian Art originated back in around 3500 BC and the history of these forms has been influenced by the cultural as well as religious aspects. The diverse culture of the country has its impactful imprint on the aesthetic masterpieces, be it paintings, sculptures, writings, or musical works. Having been gloriously blessed with a picturesque landscape and a glorious history, India is renowned as a scintillating combination of spiritual as well as modern.

From the 2nd Century B.C., the Indus Valley Civilization flourished in the northwest area of the country, which is Pakistan to the present date. The evolution towards a sophisticated and civilized culture happened in the Harappan period. Dating Roughly, somewhere from 3200-1200 the history

of Indian Art during the Indus Valley civilization is observed to be influenced by the advancements that happened in Science and Culture. The artistic expression of this period can be traced back to Rock paintings and Temple Arts. Its existence came to light through unexpected archaeological discoveries from 1924 onwards at Harappa in the Punjab and Mohenjo Daro in Sindh

Until that time art historians still considered the cyclopean wall of Raja Griha as the earliest architectural remain. The first discoveries of this Civilization were made in the valley of the Indus River and the Punjab but later excavations prove that the civilization had a far greater extension because sites have been found scattered from Northwest frontier to the foot of Himalaya down to Gujarat and Eastwards as far as the Ganges valley from the north of Sind to Saurashtra in the south and from Baluchistan in the west to the Ganga Yamuna Delta in East

According to the latest information by paleo-archeological, the oldest art was created by humans during the prehistoric Stone Age, between 300,000 and 700,000 years ago. The Stone Age epoch of ancient history is divided into three main eras, I.e.:-

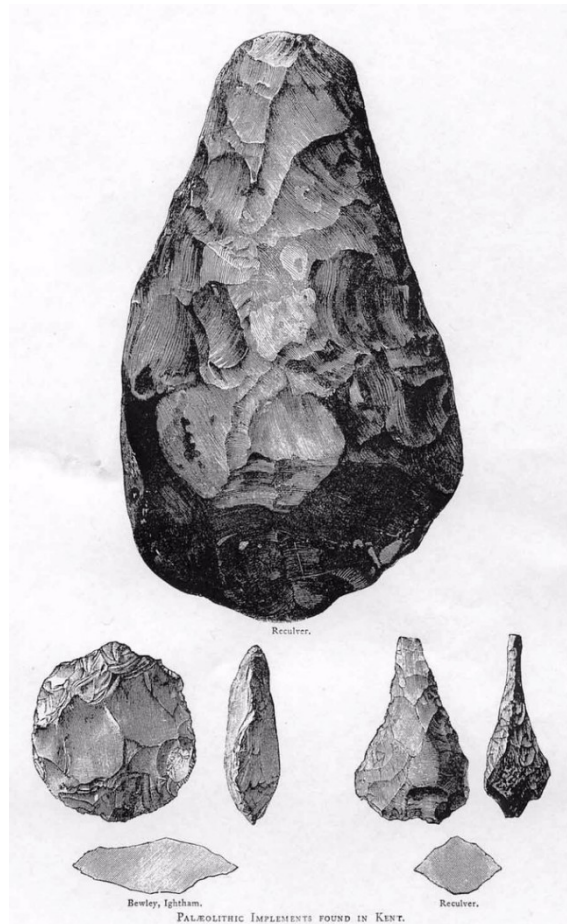
- Paleolithic,
- Mesolithic
- Neolithic.

Paleolithic Art

The prehistoric period in the early development of human beings is commonly known as the 'Old Stone Age' or 'Paleolithic Age'. The Paleolithic Age, or Old Stone Age, spanned from around 30,000 BCE until 10,000 BCE, period covering between two and one-half and three million years, depending on which scientist has done the calculations and produced the first accomplishments in human creativity and lasted until the retreat of the ice, when farming and use of metals were adopted. The Age is characterized by the use of stone tools, although at the time humans also used wood and bone tools and other organic commodities were adapted for use as tools, including leather and vegetable fibers, however, due to their nature, these have not been preserved to any great degree. Also, the period was marked by the rise of Homo sapiens (the species that you and all other living human

beings on this planet belong to) and their ever-developing ability to create tools and weapons.

Surviving artifacts of the Paleolithic era are known as paleolith and has a number of paleolith that range from stone, bone, and wood tools to stone sculptures.



Acheulean hand-axes: The types shown are (clockwise from top) cordate, ficron, and ovate.

The Paleolithic period is separated into three phases:

(1) Lower Paleolithic (2.5 million years-100,000 years ago)
(The earliest subdivision)

(2) Middle Paleolithic (300,000-30,000 years ago)

(3) Upper Paleolithic (40,000-10,000 years ago)

We did not get any evidence of paintings from lower or middle paleolithic age yet whereas in the Upper Paleolithic period, we see a proliferation of artistic activities. Some evidences are a preference for aesthetic emerged in

the Middle Paleolithic due to the symmetry inherent in discovered artifacts and evidence of attention to detail in such things as tool shape, which has led archaeologists to interpret these artifacts as early examples of artistic expression. Generally, artifacts dating from the Lower and Middle Paleolithic remain disputed as objects of artistic expression, while the Upper Paleolithic provides the first conclusive examples of art making.

The Upper Paleolithic Period is characterized by the emergence of regional stone tool industries, such as the Perigordian, Aurignacian, Solutrean, and Magdalenian of Europe as well as other localized industries of the Old World and the oldest known cultures of the New World. These industries also exhibit greater complexity, specialization, and variety of tool types, such as those made of bone, ivory, and antlers, and the emergence of distinctive regional artistic traditions involving paintings and sculpture and musical instruments.

World Was Like and Art of the Time

Men at this time were strictly hunter-gatherers, meaning they were constantly on the move in search of food. These modern men also developed an understanding and use for art. This discovery raises the strong probability that Asian "modern man" and European "modern man" did not coincidentally develop independent painting skills at exactly the same time, but already possessed those skills when they left Africa.

Subjects of early works consist of simple human figures, geometric designs, small sculptures. There were only two kinds of art: Portable or Stationary, and both forms were limited in scope.

Portable art or **Small sculptured pieces** during the Upper Paleolithic period was necessarily small in order to be portable and consisted of either figurines or decorated objects. The works from this area include simple but realistic stone and clay figurines, were carved from stone, bone, or antler or modeled with clay. Most of the portable art from this time was figurative, which means it depicted something recognizable, whether animal or human in form. These small stylized figures are characteristically rotund, emphasizing parts of the female body associated with sexuality and fertility,

many are so abstract that only protuberant breasts and exaggerated hips are clearly distinguishable. The figurines are often referred to by the collective name of "Venus," as they are unmistakably females of a child-bearing build. Some famous Venus are:

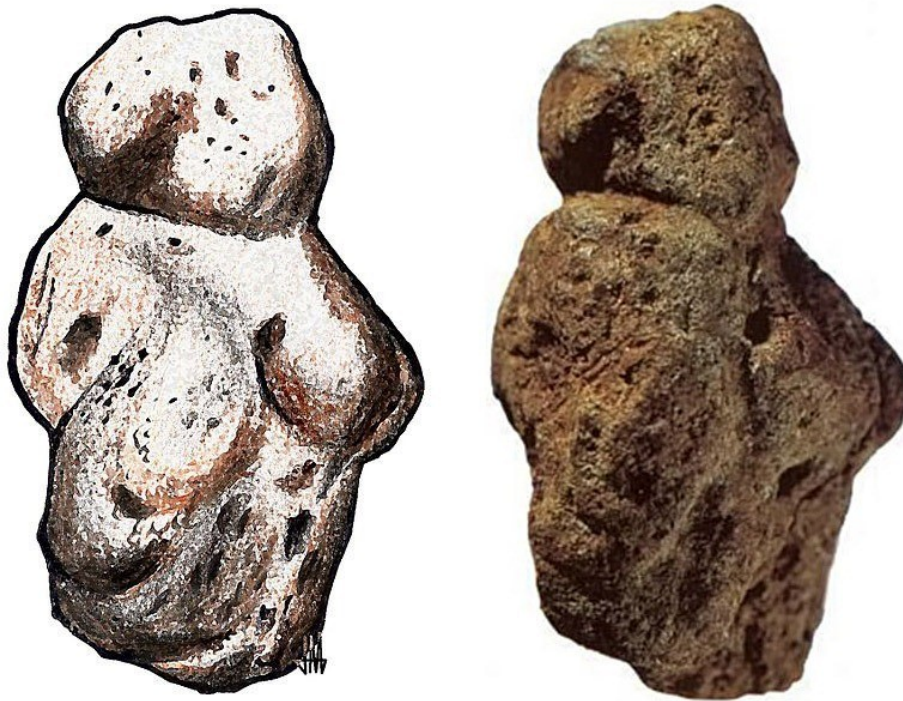
- ◆ Venus of Tan-Tan
- ◆ Venus of Berekhat Ram

Venus of Tan-Tan: This is an alleged artifact found in Morocco that is believed by some, to be the earliest representation of the human form. The Venus, a 2.3-inch-long piece of quartzite rock dated between 300,000 and 500,000 years ago during the Middle Paleolithic. It was discovered in 1999 on the north bank of the Draa River, just south of the Moroccan village of Tan-Tan. There is controversy among archaeologists to its nature and origin. Some archaeologists believe that it was just a combination of geological forces as well as tool-based carving. Visible smudge stains have been interpreted by some as remnants of red ochre pigments. For others, it is simply the rock's shape the result of natural weathering and erosion, and any human shape is a mere coincidence.



The Venus of Tan-Tan: Alleged artifact found in Morocco

Venus of Berekhat Ram: The Venus of Berekhat Ram, a contemporary of the Venus of Tan-Tan, found at Berekhat Ram on the Golan Heights in 1981. Some believe it to be a representation of a female human figure, dating from the early Middle Paleolithic, however the claim is highly contested. The figure is a red tuffic pebble, about 1.4 inches long, which has at least three grooves, possibly engraved with a sharp-edged stone tool. The grooves have been interpreted as marking the neck and arms of the figure by some, while others believe these to be purely naturally-occurring lines.



The Venus of Berekhat Ram: Oldest art piece that predates human

Stationary art or monumental paintings, was just that didn't move. The best examples exist is cave paintings in western Europe, created during the Paleolithic period. Paints were manufactured from combinations of minerals, ochres, burnt bone meal, and charcoal mixed into mediums of water, blood, animal fats, and tree saps. Experts suggested that these paintings served some form of ritualistic or magical purpose, as they are located far from the mouths of caves where everyday life took place. Cave paintings contain far more non-figurative art, meaning many elements are symbolic rather than realistic. The clear exception is in the depiction of

animals, which are vividly realistic humans, on the other hand, are either completely absent or stick figures.

First discovery of cave paintings in the world was made in India (1867-68) by an Archaeologist, **Archibold Carlyle**, twelve years before the discovery of Altamira in Spain which is the oldest rock paintings site of the world.

In India, remnants of rock paintings have been found on the walls of caves situated in several districts of Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Telangana, Karnataka, Bihar, and Uttarakhand.

Some of the examples of sites early rock paintings are **Lakhudiyar in Uttarakhand, Kupgallu in Telangana, Piklihal and Tekkalkotta in Karnataka, Bhimbetka and Jogimara in Madhya Pradesh etc.**

Paintings found here can be divided into three categories: **Man, Animal, and Geometric symbols.**

Some of the characteristics of these paintings are:

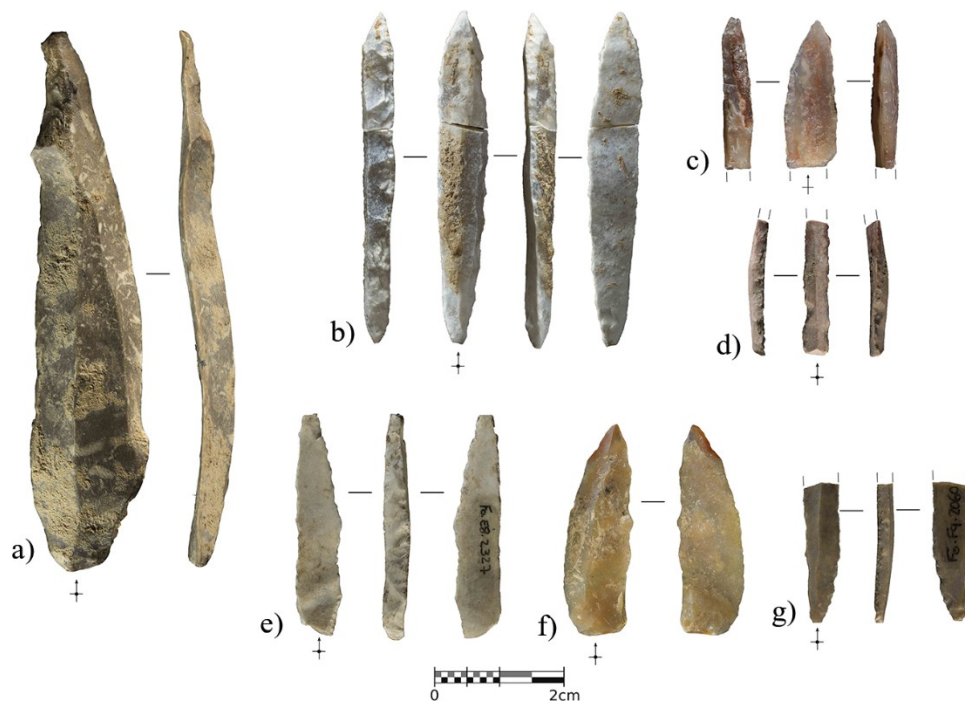
- ✓ Human beings are represented in a stick-like form.
- ✓ A long-snouted animal, a fox, a multi-legged lizard are main animal motifs in the early paintings (later many animals were drawn).
- ✓ Wavy lines, rectangular filled geometric designs and a group of dots also can be seen.
- ✓ Superimposition of paintings – earliest is Black, then red and later White.

Mesolithic art

The Mesolithic Period, or Middle Stone Age, is a term which describe specific cultures that fall between the Paleolithic and the Neolithic Periods. The start and end dates approximately from 10,000 BCE to 8,000 BCE I.e., it covers a brief time span of about 2,000 years. This era saw the beginning of settled and agricultural communities given that human beings do not have to live in caves or follow herds any more. The art of this period has no relevant artistic meaning in the form of representation in comparison with predecessor times.

Pottery was the one that begins to be produced largely at this time and it was mostly utilitarian in design or we can say a pot, just needed to contain

water or grain only and not necessarily exist as a feast for the eyes. The portable sculptures of the Upper Paleolithic were largely absent during this era and This is the reason why people settled and did not require an art with small objects or portable material to travel. The artistic designs were mainly left up to later peoples to create. The invention of the bow and the arrow occurred, that helped the people to provide more food from hunting of animals and the development of ceramics for food storage. It was definitely a step forward. The tools used have distinguishing factor among these cultures. These tools were generally composite devices manufactured from small chipped stone tools called microliths and retouched bladelets.



Backed edge bladelet

The Art of this period reflects the change to a warmer climate and adaptation to a relatively sedentary lifestyle, population size, and consumption of plants, all evidence of the transition to agriculture. It is difficult to find a unique style of artistic production during the Period, and art forms because food was not always available, and people were often forced to become migrating hunters and settle in rock shelters. The most interesting art consists of paintings similar to the cave paintings from the Paleolithic era, these move abroad towards cliffs or “walls” of natural vertical rock, often semi-protected by outcrops or overhangs of natural rocks. These cave paintings have found in places ranging from the extreme

north of Europe to South Africa, as well as in other parts of the world, the largest concentration of them exists in the East of Spain. The paintings overwhelmingly depicted animals; rock paintings were usually of human groupings that were typically seems to engaged in either hunting or rituals whose purposes have been lost to time.

Mesolithic Rock Art

The painting is highly stylized, rather like glorified stick figures, those ones are far from being realistic. These figures are more like pictographs than pictures, and some historians feel they represented the primitive beginnings of writing. The groupings of figures are painted in repetitive patterns resulting in a nice sense of rhythm even if they are not sure of the action in which they are involved. The most common ones are Hunting scenes, scenes of battle and dancing, and possibly agricultural tasks and managing domesticated animals can also be seen. In some scenes gathering honey is also ne shown by the people of that era.



The Man of Bicorp



Dance of the Cogul

Above rock art is a good example of the depiction of the static art movement. In this painting you can see nine female figures dancing around a male figure with abnormally large phallus, the figures were rare that was not present in Paleolithic art. Along with humans, several animals, that includes a dead deer or buck impaled by an arrow or atlatl, are also depicted there.

Neolithic Art

This Era began after the end of the last Ice Age and typically begins to follow a prescribed course as Iron and bronze are discovered. The art of these distinct periods is comprised of art of people that had progressed from hunter-gatherers to permanent settlers, mainly living in farming communities. The art from this era were weaving, architecture, megaliths, and increasingly stylized pictographs were on their way to becoming writing. Sculptures became bigger, in part, as people didn't have to carry it around anymore; pottery became more widespread and was used to store food harvested from farms. This is the period when the architecture and its interior and exterior decoration appeared first. People begin to live in one place, settle down, year after year.

As the era is also called the “New Stone Age”, it brought more intellectual thought and advancement. Many structures follow the sun or moon in such a way that suggests they are calendars, in some parts drawn with lunar maps. Great efforts were put into the modeling of heads, with wide-open eyes and bitumen-outlined irises. The sculptures represent men, women, and children. Women are recognizable by features like resembling breasts and slightly enlarged bellies, but neither male nor female sexual characteristics are emphasized, and none of the sculptures have genitals. Only the faces have detail.



Figures from ‘Ain Ghazal

They were produced to be free-standing, and were likely intended to be viewed only from the front, because of their disproportionate flatness. The makers of the statues would not permit them to last long. As they may have been produced for the purpose of intentional burial and never been displayed, so they were buried in pristine condition.

Art for Ornamentation

The art was created for some functional purpose almost without exception. There were more images of humans than animals, and the humans looked more identifiably as the people began to be used for ornamentation.



The picture comprises an arc-shaped ornament with holes at either end, probably half of a bracelet; two flattened disc-shaped pendants with central holes in them; two awl-shaped pendants; a flattened pendant with spiked end; a thick ornament with rounded side and flat reverse, drilled through one end for suspension; and a handle-shaped implement. Together with four mottled buff and ivory-colored jade flattened ornaments, also includes two of irregular rounded-rectangular shape with two holes and one of irregular oval shape with four holes, each with subtly notched sides; and a disc of rounded-square shape with hole at the center.

Indian Art

India has been referred to as the “Sone ki Chidiya” i.e., the Golden Sparrow in the past owing to its rich heritage. India has a complex history spanning thousands of years and find its origin way back in the roots of civilization around 3500 BC and the history of these forms have been massively influenced by the cultural as well as religious aspects. India is the only major Asian culture known to be visited by the ancient Greeks and Romans, caused fascination as an exotic and mysterious land ever since. Our Indian Art is rich in its tapestry of ancient heritage, medieval times, Mughal rule, British rule, progressive art and now contemporary art with a 5000-year-old culture and Jewelry is considered one of the oldest forms of Indian art that remains dates back to the Harappa civilization. The earliest record of India art originated from a religious Hindu background, but was later replaced by a soaring popular Buddhist art. The residents of the Indus Valley Civilization were already adorning themselves with gold, and started creating ornamental pieces such as necklaces, earrings, bracelets, crowns, amulets, pendants, and rings. Indian Art had survived in its own land and spread from time to time all over the world and his was possible because of those kings who recognized budding talent patronized art and themselves were great connoisseurs. Every king has left a deep impression of his affinity to the artist community and even today, art is patronized by the rich and famous in the country.

Indian art is a term used in art history to group study the different artistic expressions created in the historical regions of the Indian subcontinent, including modern-day India, Bangladesh, and areas of Pakistan and Afghanistan. It covers several art forms, historical periods, and influences. Be it paintings, sculptures, writings or musical works Indian art has its impactful imprint on the aesthetic masterpieces due to its diverse culture.

Human life is a rich fabric that is given color and texture by the many happening that shape it. The mundane actions that characterize every day as well as the extraordinary happenings that make and keep our lives interesting are all threads that get woven together to form this tapestry. The one thing that is common to all these threads is the fact that they evoke

feelings in us, we respond to them with our emotions before they can become a part of our internal life. Indeed, life can be thought of as a continuous sequence of emotions that arise in various contexts and circumstances. These emotions, or rasas, are what give life different hues shades and colors. This it is not surprising that most performing art, which tries to present to the 'viewer a slice of human life focuses precisely on these rasas, or motions in order to appeal to the audience. That rasas are the mainstay of performing art, or natya, is a fact that has been well-recognized for centuries now. The Natya Shastra is an ancient Indian text dated between 2nd century BC and 2nd century AD which analyses all aspects of performing art. It is often called the fifth Veda because of its importance. In it one finds a thorough exposition on the rasas, or emotions that characterize Life as well as Art. The Natya Shastra describes nine rasas or Nava Rasas that are the bass of all human emotion. Each is commented upon in detail. It is useful to keep in mind that a rasa encompasses not just the emotions, but also the various things that cause that emotion. These two things go hand in hand and are impossible to treat separately. This duality is part of every rasa to varying degrees. Today we try to bring to you a flavor of each of these nine rasas, explaining what each one means and presenting it to you through some Indian art form.

Philosophy of the Art Canons of India

Rasa is the essence to the Indian Art and the theory is mentioned in Chapter 6 of Ancient Sanskrit text Natya Shastra attributed to Bharata Muni. Every Rasa corresponds to a particular Bhava. The Natya shastra has carefully described the Bhavas used to create Rasa. The following table states the nine moods (Nava rasa) and the, corresponding Bhava. Every Rasa is identified with a specific color for the use in visual arts. In this concern Indian drama and literature is based on 'Bhava' or the state of mind i.e. rasa. It is the Prana of Indian aesthetic. Rasa is the aesthetic pleasure derived from creation. Rasa is divine ultimate truth that creates particular mood and that particular mode that is Bhawa creates rasa. It is about human state of mind that means, what the mind feels and expression of feeling there after

Shringara

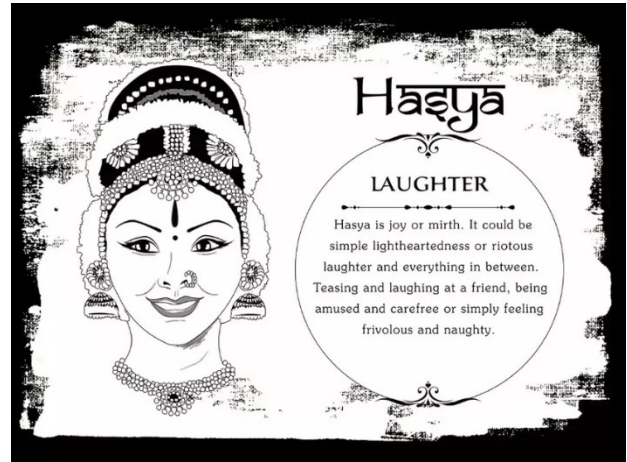
Shringara means love and beauty. This is the emotion used to represent that which appeals to the human mind, which one finds beautiful, which evokes love. This is indeed the king of all rasas and the one that finds the most frequent portrayal in art. It can be used for the love between friends, the love between a mother and her child, the love for God or the love between a teacher and his disciples. But the Shringara or love between a man and a woman is easily the most popular form of this rasa. The sweet anticipation of a woman as she waits for her lover is as much Shringara as the passion she feels for her first love, a passion. So heightens her sensitivity that even the moonbeams scorch her skin. In Indian music too this rasa finds wide portrayal through beautiful melodies.



Hasya

The joy to the soul. The rasa is used to express joy or mirth. It can be used to depict simple lightheartedness or riotous laughter and everything in between. Teasing and laughing with a friend, being amused and carefree or simply feeling frivolous and naughty -these are all facets of hasya rasa. Lord Krishna's childhood, when he was the darling of all Gokul is filled with many stories of his naughty activities. This mirth, which endeared him to all, is one of the common sources of hasya in all ancient Indian art forms.

Clearly, where there is hasya, all is well with the world, there is joy all around and all are of good cheer.



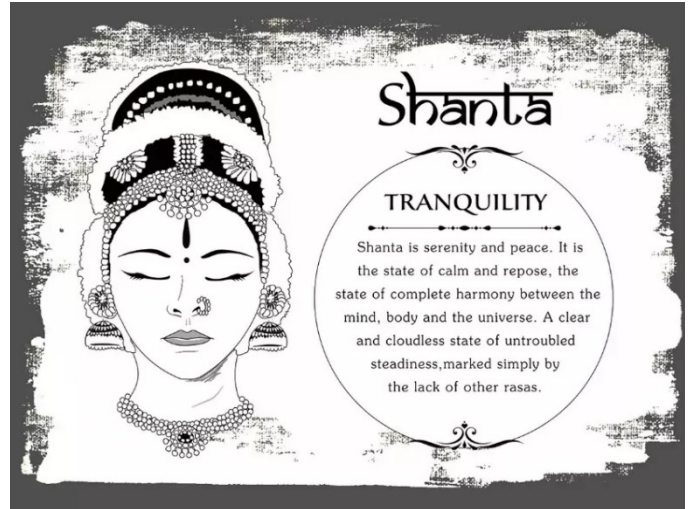
Vibhatsya

Vibhatsya is disgust. The emotion evoked by anything that nauseates us, that revolts or sickens us is vibhatsya. When something comes to our notice that is coarse and graceless, beneath human dignity, something which revolts or sickens us it is Vibhatsya that we feel. When Prince Siddhartha, as young nobleman, saw for the first-time sickness, old age and death, he was moved to disgust which later metamorphosed into sorrow, deep introspection and peace, as he transformed into Gautama, the Buddha, or the enlightened one. Not surprisingly, this emotion is usually represented fleetingly. It usually acts as a catalyst for higher and more pleasant emotions.



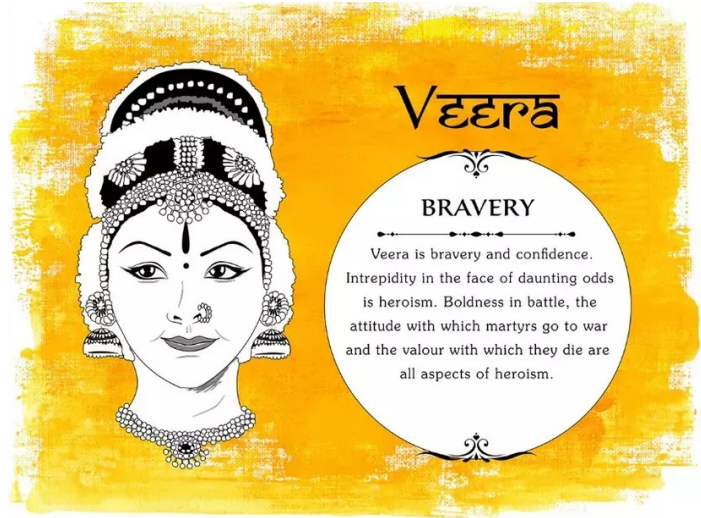
Shanta

Shanta is serenity and peace. It represents the state of calm and unruffled repose that is marked simply by the lack of all other rasas. Because all emotions are absent in Shanta and there is controversy whether it is a rasa at all. According to Bharata Muni, the author of Natya Shastra, the other eight rasas are as proposed originally by Brahma, and the ninth, Shanta is his contribution. Shanta is what the Buddha felt when he was enlightened, when he reached the higher spiritual plane that led him to salvation or nirvana and freed him from the cycle of life and death. Shanta represents complete harmony between the mind, body and the universe. Sages in India meditate for entire lifetimes to attain this state. In music it is often represented through a steady and slow tempo. Shanta is a clear and cloudless state. Shasta is untroubled steadiness. Shanta is the key to eternity.



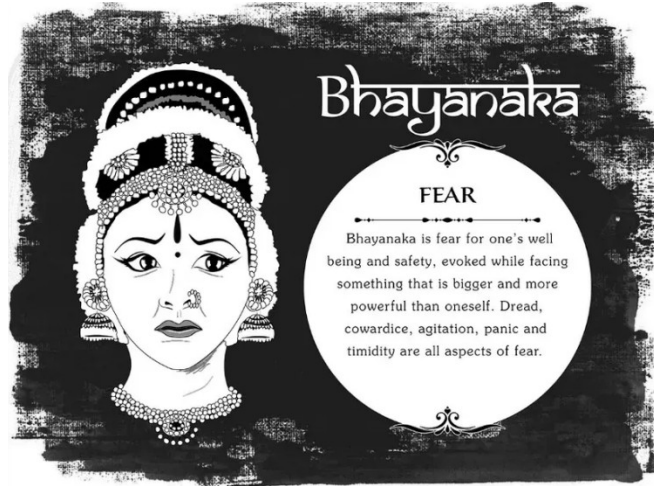
Veera

Veera is heroism. It represents bravery and self-confidence. Manliness and valiance are the trademarks of a Veer or a fearless person. Courage and intrepidity in the face of daunting odds is heroism. Boldness in battle, the attitude with which martyrs go to war, and the bravery with which they die are all aspects of heroism. Rama, the hero of the Ramayana, is typically the model for this Rasa. His confidence and heroism while facing the mighty ten-headed demon king Ravana is part of Indian legend, folklore and mythology. A somewhat different type of heroism is displayed by characters like Abhimanyu, who went to war knowing fully that he would be severely outnumbered and almost certainly die and yet fought so bravely as to earn accolades even from his enemies. In Indian music this rasa is represented by a lively tempo and percussive sounds.



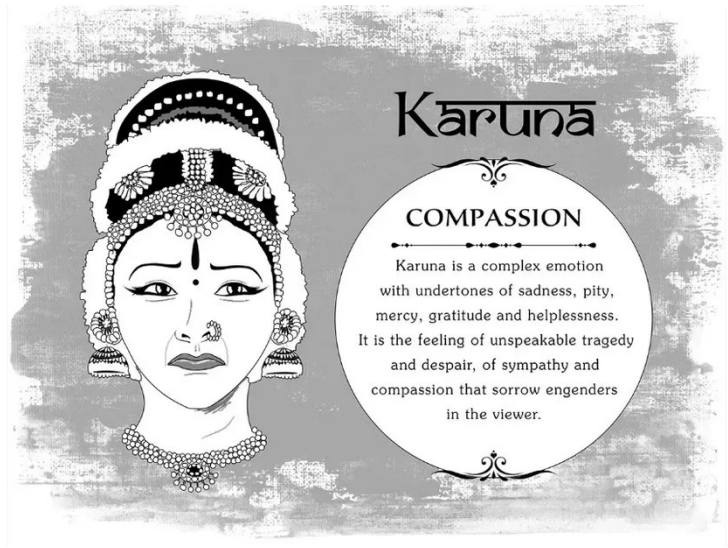
Bhayanaka

Bhaya is fear. The subtle and nameless anxiety caused by a presentiment of evil; the feelings of helplessness evoked. by a mighty and cruel ruler, and the terror felt while facing certain death are all aspects of bhaya. The fear for one's well-being and safety is supposed to be the most primitive feeling known to man. Bhaya is the feeling evoked while facing something that is far bigger and more powerful than oneself and which is dead set on one's destruction. Bhaya is the feeling of being overwhelmed and helpless. Dread, cowardice, agitation, discomposure, panic and timidity are all aspects of the emotion of fear. Bhaya is also used to characterize that which causes fear. People and circumstance, that, cause others to cower in terror before them are central to portrayal of the rasa as those feeling the fear.



Karuna

Karuna is grief and compassion. The feelings of unspeakable tragedy and despair, u" hopelessness and heartbreak, the sorrow caused by parting with a lover, the anguish caused by the death of a loved one are all Karuna. So also, the compassion and empathy aroused by seeing someone wretched and afflicted is Karuna. The sympathy and fellow feeling that sorrow engenders in the viewer is also karuna. Karuna can be of a personal nature as when one finds oneself depressed, melancholy and distressed. More impersonal sorrows relate to the despair regarding the human condition in general, the feeling that all human life is grief and suffering. It is Karuna of this sort that the Buddha was trying to overcome on his path to salvation.



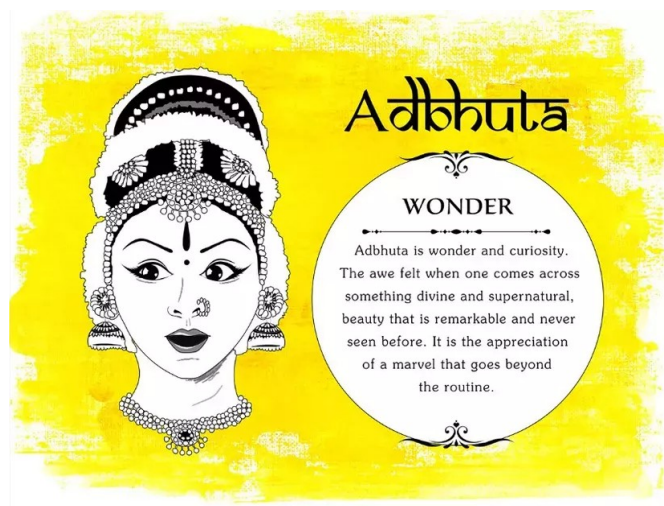
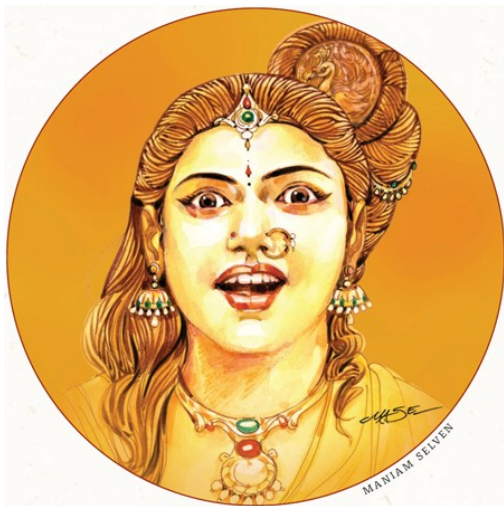
Karuna

COMPASSION

Karuna is a complex emotion with undertones of sadness, pity, mercy, gratitude and helplessness. It is the feeling of unspeakable tragedy and despair, of sympathy and compassion that sorrow engenders in the viewer.

Adbhuta

Adbhuta is wonder and curiosity. The awe that one feels when one comes across something divine and supernatural, some power or beauty that is remarkable and never seen or imagined before is Adbhuta. Adbhuta is the curiosity of man regarding the creation of the world and all its wonders, the astonishment caused by seeing something unusual and magical. The appreciation of a marvel that goes beyond the routine and the mundane is Adbhuta. The glory of a king returning from a successful battle, the magical feats of a god are both Adbhuta to a common man. Adbhuta is when divinity makes a surprise appearance in the world of men.



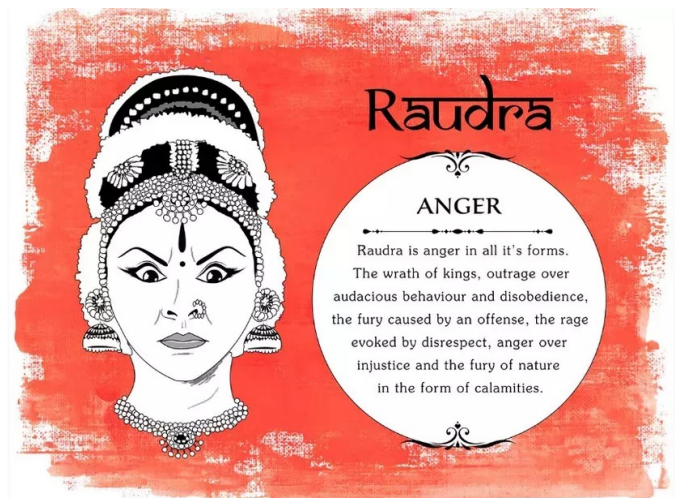
Adbhuta

WONDER

Adbhuta is wonder and curiosity. The awe felt when one comes across something divine and supernatural, beauty that is remarkable and never seen before. It is the appreciation of a marvel that goes beyond the routine.

Raudra

Raudra is anger and all its forms. The self-righteous wrath of kings, outrage over audacious behavior and disobedience, the fury caused by an offense, the rage evoked by disrespect and anger over injustice are all forms of Raudra, probably the most violent of rasas. Raudra also encompasses divine fury and the fury of nature which is used to explain unexpected calamities and natural disasters. In Indian mythology, Lord Shiva, the Destroyer, is thought of as the master of all disharmony and discord. Shiva performing the Tandava — a violent dance what creates havoc in the three worlds namely the sky, the earth and the nether world.



Highlights of rasa theory are :-

- ◆ Rasa means aesthetics, juice, essence, and taste in the Indian art
- ◆ It is undefinable realization and intense feeling with detachment
- ◆ It is the soul of the poetry
- ◆ Rasa is an emotion and cannot be described
- ◆ It is the pleasure experience by each class of the people
- ◆ This concept is not experienced in common situation but only in the art form.

RASA	BHAVA	MEANING	COLOR
SHRINGARA (Erotic)	RATI	DELIGHT	PALE LIGHT GREEN
HASYA (Humorous)	HASA	LAUGHTER	WHITE
KARUNA (Pathetic)	SHOKA	SORROW	GERY
RAUDRA (Terrible)	KRODH	ANGER	RED
VEERA (Heroic)	UTSAHA	HEROISM	PALE
BHAYANAKA (Fearful)	BHAYA	FEAR	ORANGE
VIBHATSA (Odious)	JUGUPSA	DISGUST	BLACK
ADBHUTA (Wondrous)	VISMAYA	WONDER	YELLOW
SHANTA (Peaceful)	CALM	PEACE	WHITE

Including 'Rasa' which is the Great Taste and 'Chhanda' which is rhythm we need to follow "Shadanga" for our Art of Painting in History. 'Shadanga' of Indian Art first mention in Vatsyayana's celebrated text Kama Sutra. It is a word consisting of two very important words, one is shad, which means 'SIX' and the other one is anga, which means 'PART'. Shadanga weaves the language of an art work. It defines the principles of creation of an artwork. It mirrors the limbs of art, without which an artwork is deficient. According to the Hindu Shilpa or the Code of Art 'Shadanga' are the fundamental rules of Painting.

Yashodhara in his commentary on Vātsāyana Kamasutra (Book, 1. Chapter III) has mentioned the above six laws as forming the six limbs of Indian Painting. Art has had a very long life in India, from the cave paintings of the pre-historic times to the contemporary creation, it has come a long way and matured gracefully. Mesmerizing paintings of Ajanta Caves, artworks of Raja Ravi Varma or even in a modern day' Hussain. In Ist CE, India had evolved "Shadanga" or the six limbs of painting' which are considered as the prime principles of art

'Shadanga' I.e.:-

॥ रूपभेदाः प्रमाणानि भाव-लापरव-चीजनम् । सादृश्यं वर्णिकाभक इति चित्रं षडङ्कम्

॥

Shadanga or Six Canons of Indian Painting

1. **Rupabheda** - The Knowledge of Appearances.
2. **Pramānani** - Correct perception, Measure and structure,
3. **Bhava** - Action of Feelings on Forms.
4. **Lāvanya-yojanam** - Infusion of Grace, artistic representation
5. **Sadrishyam** - Similitude.
6. **Varnikābhanga** - Artistic manner of using the brush and colors.

Rupabheda - The Knowledge of Appearances

Rupa means the outer form or appearance of the subject visual as well as mental and on the other hand Bheda means difference. To create a painting and artist must have a sound knowledge about the different form of art that exist. He has to know how the form of life are different from the form of death. Both the forms have their own characteristics, features and sublimity. Rupabheda enables and artists to depict the things as they appear

Pramanani - Accuracy and Precision of measurement and structure.

Pramanani teaches us the exact measure proportion and distance of the subject. It also provides proper structure and atomic to the objects too. For instance if someone ask you how blue is Sky the measurement of such is futile, also the depth of the ocean cannot be detected in few waves strokes

Bhava - The feelings on forms

Bhava means emotions of feeling and intention or an idea. This aspect of art depict the feelings on the form expressed by the artist. It is the only aspect which can bring the sense of life and passion

Lavanya Yojanam - Blending Grace in an artistic representation.

Your painting should be gracefully high in its artistic quality. Pramanani is for proportion and Bhava is for expression but Lavanya Yojanam is for controlling the overexpression of these two.

Sadrishyam - Resemblance

It suggests the way of depicting similarities. Perhaps this is the most challenging task of creating an artwork

Varnikabhangam - An artistic way of making use of brush and colors

The term Varnikabhangam means the way a subject is being drawn and colored. This principle focuses on the way of strokes are being applied on the Canvas and the knowledge of artists about the colors. If the artist does not have the knowledge or way of using brushes and colors he only end up applying meaningless strokes on the Canvas until he learnt how to use the brushes right

All the above 5 principles can be mastered simply via perception but we can never learn Varnikabhangam without some real hand on practice.

These limbs are also there in Chinese Art. Art critic Hsieh Ho in the 5th Century A. D. wrote down the following Six Canons of Chinese Painting and these are follows:-

- (1) Spiritual tone and line movement.
- (2) Manner of brushwork in drawing lines.
- (3) Form in its relation to objects.
- (4), Choice of colors appropriate to the objects.
- (5) Composition and grouping.
- (6) The copying of classic models.

It is unimportant to try to fix the exact date of these Canons or to prove which of them is older, but it is significant that this thought about the Six Canons of painting should exist in India and that Hsieh Ho instead of dividing his Canons into four or six sections should divide them into six. The folder books such as the Sutrārtha and the Agana of Bābhrabya from which Vātsāyana made large extracts for his Kamasutra mentioned the books in which he may have found the six limbs of painting. But inspite of this dearth of facts we have no doubt that the six laws of painting existed in India long before the time of Vātsāyana and Yashodhara. The commentary of Yashodhara may be more recent, but that does not imply that the thought about the six laws of painting did not exist before the time of Yashodhara. We find Vātsayana in the concluding chapter of Kamasutra admitting that for his compilation he did not rely on the older Sastras only, but he had practical demonstrations of all the 'Arts and Sciences given to him by men who had been still practicing the sixty-four Arts and Sciences. Thus, even if we do not claim any priority over the Six Canons of Chinese Painting, we certainly have the right of saying that our thought of the six limbs of painting is purely our own, and is as important as the Six Canons of Chinese painting mentioned by Hsieh Ho. It is curious that no European or Indian writer about Indian Art has taken any notice of these six laws of Indian painting.

Prehistoric Paintings

Rock paintings are the earliest expression of mankind. It serves as an important source material to understand the world of prehistoric people. It was the prehistoric artist's "perception of reality"

In India, paintings and carvings have been known to exist from the Mesolithic Age. The tradition continued through the Neolithic Age, the Iron Age and the early historic period. Many foreigners have not understood Indian art yet because they have no background or knowledge of the religion and symbols. They tend to confuse the meaning and misinterpret it. Indian Art represents a mystical outlook of the people and a spiritual connection. With awareness and different artists using interpretation techniques even ancient art is being appreciated.

The two most dominant forms of expression in Paleolithic parietal art are drawing and engraving, which occupies an important place in cave and shelter iconography. The dating of the parietal art figures in the caves show that engraving and drawing were perfectly mastered as of 30,000 years BCE. Spray painting, modelling and sculpture appeared somewhat later in an underground context. Ancient people made the art to decorate walls and to protect caves with paint made from dirt or charcoal mixed with spit or animal fat. In cave paintings, the pigments stuck to the wall partially because the pigment became trapped in the porous wall, because the binding medium i.e. the spit or fat dried and adhered the pigment to the wall. Large areas were covered with fingertips or pads of lichen or moss. Twigs were produced to drawn or linear marks, while feathers blended areas of color. Brushes made from horsehair were used for paint application and outlining. Paint spraying, accomplished by blowing paint through hollow bones, yielded a finely grained distribution of pigment, similar to an airbrush. The oxides of iron dug right out of the ground in the form of lumps were presumably rich in clay. This consistency was conducive to the formation of crayon sticks and also could be made into a liquid paste more closely resembling paint. It is believed that the lumps were ground into a fine powder on the cave's natural stone hollows, where stains have been observed. Shoulder and other bones of large animals that were stained with color, have been discovered in the caves and presumed to have been used as mortars for pigment grinding. The pigment was made

into a paste with various binders, including water, vegetable juices, urine, animal fat, bone marrow, blood, and albumen. This technique is very much similar to the modern Tempera Painting.

Tempera Paintings and Technique

Tempera painting is derived from the word temper. According to dictionary the word “tempera” refers to the ‘firmness and flexibility’ of an object or ‘to bring to a desired consistency’. Tempera is an ancient medium, having been in constant use in most of the world’s cultures until it was gradually superseded by oil paints in Europe, during the Renaissance. Tempera illustrations were used to keep colored particles permanent, hard-bottomed & elastic on its ground and the main quality of tempera is its emulsion. It is not natural to mix water & oil together but in emulsion oil content and water like substance such as milk or eggs are mixed together. Distemper is a crude form of tempera made by mixing dry pigment into a paste with water, which is thinned with heated glue in working or by adding pigment to whiting (a mixture of fine-ground chalk and size). It is used for stage scenery and full-size preparatory cartoons for murals and tapestries. When dry, its color have the pale, matte, powdery quality of pastels, with a similar tendency to smudge. Indeed, damaged cartoons have been retouched with pastel chalks. Natural emulsions like casein, egg etc. also stick well on the surfaces while substances like gum stick on the oil-free surface. Saponification with oil, resins and wax produces emulsions. A good emulsion doesn’t leave oil. The boundaries of working in tempera are very wide. The work that are not done in other medium can be done in this medium. Tempera can be more closely related to acrylic colors in nature and it dries quickly. Tempera doesn't become yellow over time like oil dyes and painters can make their own color with the help of dry color with egg and water. It leaves marks when applied on paper. Emulsions are usually translucent in nature. Gypsum and Casein Grounds are best to tempera on wooden surface and some other popular surface that can be used to paint tempera are canvas, hardboard, paste board, paper, mural etc.

Casein is a type of glue that is made with milk protein. It is the most strongly adhesive substance and should be made fresh each day as required. Casein is also good for painting on mural and if mixed with lime becomes waterproof. Liquefied Casein should be used before working on mural as it dries quickly, becomes hard & shiny. Casein emulsion can be used on solid surface such as wood but with frescoes dye only as it contains alkaline element lime. Artificially dried casein is in powdered form. It can also be used with oil dyes & can be sticks to oil surface.

Technique

The initial drawing should be made very clear and the surface should be as clean as possible.

Drawing can be started on dry surface d can be moist with a sponge.

Tempera color should be dipped in water and placed is wide mouth to vessel & emulsion should be added at the time of painting.

Now a days two major methods of illustration are prevalent:-

- ✚ Unvarnished Tempera
- ✚ Varnished Tempera

1.) Unvarnished Tempera

- a. This is the easiest use of tempera.
- b. Unvarnished oil tempera gives more lustrous effects.
- c. Unvarnished tempera is commonly used for decorative work

2.) Varnished Tempera

- a. Applying varnish on the paintings made by tempera increases its harmony and make colors more attractive.
- b. Some colors like Ultramarine, madder lake, viridian, etc. become faded after applying varnish on them.
- c. It is mistaken to use tempera as an oil medium as tempera is basically a watercolor, so its best qualities should not be sacrificed.

Brushes for tempera

The most suitable brushes for tempera are long haired, round, pointed sables.

To avoid blobs of color the extra color must be wiped with the cloth or tissue that absorbs extra color we must choose a long-haired brush the hair retain more color & can be worked for longer than short haired brushes

Other suitable brushes are quill sables and extra long-haired, round lettering brushes with either flat or round pointed ends.

These types of brushes provides traditional effects but for creative technique many types of brushes can be used.

Emulsions can be of three types:-

- ✚ Natural Emulsion
- ✚ Synthetic Emulsion
- ✚ Wax Emulsion

Natural Emulsion:-

- ✚ It can be made by mixing equal amount of flaxseed or linseed oil, resin, two part of water and an egg.
- ✚ Egg should be mixed with oil first and then with water.
- ✚ If 5% of gelatin or Gluten solution is added instead of water, the band strength would increase.
- ✚ While working with colors, the yellowness of the surface causes a slight disturbance because of egg, but this Yellowness flies itself after few weeks.
- ✚ The Emulsion should always be made fresh otherwise its bonding power is reduced.

Synthetic Emulsion:-

- ✚ These emulsions are different from natural emulsions in their nature.
- ✚ They are not permanently hardened & remain soluble in water.
- ✚ Their adhesion to oil surfaces is not firm.
- ✚ **Glue Emulsion** is also comes under this emulsion. They are soluble in water but insoluble in fatty oils & non-essential oils, whereas resins are insoluble in water and soluble in oils.
By dissolving bubble gum in boiling water with fatty oils, egg like emulsion can be made
It doesn't shines when dried and remain loose on oil surface.

To make glue emulsion more effective we can add a small amount of egg emulsion to it.

Gum emulsions gives pastel like effect as they are light in nature.

Gum emulsions are used in manufacturing of water color & Cherry gum gives color great transparency.

Wax Emulsion:-

- ✚ Wax emulsion is milky white & lasts for years.
- ✚ It can be mixed with fat oil or resin or varnish.
- ✚ Painting made with wax emulsions have surprisingly soft effects.
- ✚ When it is applied on gypsum on wood it shines extraordinary.

DIGITAL ART

INTRODUCTION AND DEFINITION

It is an overarching term that refers to all mechanized or computer-based art i.e., art generated with the aid of digital technology. Any form of artwork that is produced or manipulated through digital medium (Softwares, graphics and renderers) can be referred as digital art.

"Digital art is using new technologies for the digital, computer-based composition, display, and reproduction of images and sounds"

- Katherine Thinson Jones

"Digital art is a general term for a range of artistic works and practices that use digital technology as an essential part of the creative and/or presentation process"

-Paul Curator

"Digital art is anything involving computers and art such as using a computer to create art or digitized art displays"

-Boyd Writer

It is a range of artistic works and practices that use digital technology as an essential part of the creative and/or presentation process. It is a term applied to contemporary art that uses the methods of mass production or digital media. To sum up in a sentence any art that is made with the help of a computer can be called as digital art.

Digital Art brings Traditional Art, Technology, Maths and Science together. It requires a creative spirit and the knowledge of art, design and computers. It is a form of an artistic creation produced using digital technology. It is derived from the concept of traditional art forms, but with the components of new technology.

It has been argued that digital art is not a real art because traditionally speaking; art refers to painting, carving, drawing, sculpture or anything that has been physically produced by the hands of an artist. But digital art is now widely accepted as a real art because it involves creativity and the knowledge of art and principles. It is any piece of art that becomes digital in its final version.

Also an interesting thing about digital art can be noticed that adequate complex interactions may occur between Artists, Medium and Viewer.

It is the new digital media which gave the artists an opportunity to design unique creations using traditional and contemporary combinations when the internet took off. It is like any other art which is just created using different and more tools than traditional arts. The medium or tool used in this art is the computer and software through which the artist express his/ her vision, message and emotion.

The term 'Computer Art' is used less frequently to describe artists and designers working with the computer today. Many artists who now work with computers incorporate this technology into their practice as just one tool amongst many that they may use interchangeably. This is part of a more general shift towards artists and designers working in an increasingly interdisciplinary manner. Many no longer define themselves as practitioners of a specific media as the field of digital art is now much vast and globally spread.

Since the 1970s, various names have been used to describe the process including computer art and multimedia. However, digital art is itself placed under the large umbrella term new media art

It has not only expanded the defining of art but has increased the accessibility of art to the world.

Many people think of digital art as a recent phenomenon, perhaps conceived around the time that Instagram arrived, allowing people to share images wildly. However, the term *digital art* encompasses so many things which have been created for over 50 years. Beginning crudely in its early years as a marriage of math and art, it has truly exploded recently, not only improving in quality but also expanding in scope and style.

Digital Art – The Beginning

Digital art began in the computer lab. Scientists experimented with the computer as a tool for creating art, using room-sized computers to create shapes and lines with algorithms, allowing the computers to manipulate results based on the calculations provided. Creating both abstract displays and replicated works of traditional art, the results were truly unique. The computerized technique also perfected the technique of utilizing groups of small symbols to create larger images, exhibited in 1966 in *Young Nude*, the first pixelated example of a human figure.

In 1949, Georg Nees created the first displayed work digital art with *Generative Computergrafik* and the Howard Wise Gallery hosted the first exhibition of digital artwork in 1965 with “Computer Generated Pictures.” While the technological world was growing rapidly with the expanded use of computerization in business, 1967 saw the first organized group of digital artists called EAT (Experiments in Art and Technology). Formed by a group of artists and computer scientists, these individuals

saw immense potential in this collaboration and wanted to encourage and promote its growth. Within a few years, other artists joined the style, expanding to include interactive and kinetic art techniques.

It may be difficult to call Digital Art a Technique for two reasons:

- ✚ First, it encompasses a variety of techniques.
- ✚ Second, the variation in techniques is continually being modified as new ways to use technology to create works of art are born.

Digital art encompasses both artworks created using digital technology (on a form of canvas) and those works which can only be viewed on a screen (like an experience).

Evolution

Art Pieces /Instruments



MECHANICAL DEVICES



ANALOGUE COMPUTERS

1950

In the 1950s, many artists and designers were working with mechanical devices and analogue computers in a way that can be seen as a precursor to the work of the early digital pioneers who followed.

One of the earliest electronic works in the V&A's collection is 'Oscillon 40' dating from 1952. The artist, Ben Laposky, used an oscilloscope to manipulate electronic waves that appeared on the small fluorescent screen. An oscilloscope is a device used for displaying the wave shape of an electric signal, commonly used for electrical testing purposes. The waves would have been constantly moving and undulating on the display, and there would have been no way of recording these movements on paper at this time. It was only through long exposure photography that the artist was able to record these fleeting moments, allowing us to see those decades later.

Laposky photographed numerous different combinations of these waves and called his images 'Oscillons'. The earliest photographs were black and white, but in later years the artist used filters in order to produce striking colour images such as 'Oscillon 520'



1960

Computers were very expensive in the 1960's. Only research laboratories, universities and large corporations could afford them. Regardless of these constraints, when the computer came into existence that's when digital art started emerging.

Many of the earliest practitioners programmed the computer themselves. At this time, there was no 'user interface', such as icons or a mouse, and little pre-existing software. By writing their own programs, artists and computer scientists were able to experiment more freely with the creative potential of the computer.

Early output devices were also limited. One of the main sources of output in the 1960s was the plotter, a mechanical device that holds a pen or brush and is linked to a computer that controls its movements. The computer would guide the pen or brush across the drawing surface, or, alternatively, could move the paper underneath the pen, according to instructions given by the computer program. Another early output device was the impact printer, where ink was applied by force onto the paper, much like a typewriter.

In this picture we can see John Lansdown using a Teletype (an electro-mechanical typewriter), about 1969-1970.

In earlier times most of the work was focused on geometric forms and on structure, as opposed to content. This was, in part, due to the restrictive

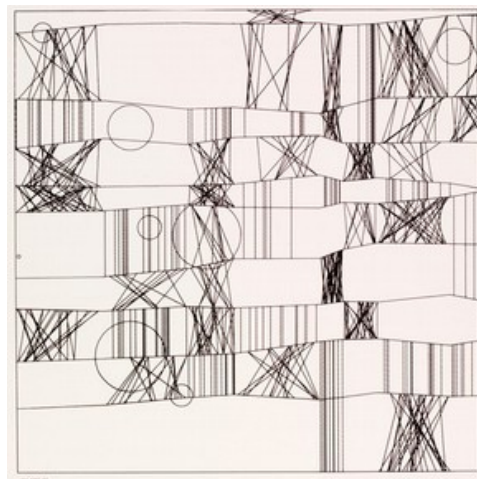


nature of the available output devices, for example, pen plotter drawings tended to be linear, with shading only possible through cross hatching.

Some early practitioners deliberately avoided recognisable content in order to concentrate on pure visual form. They considered the computer an autonomous machine that would enable them to carry out visual experiments in an objective manner.

Both plotter drawings and early print-outs were mostly black and white, although some artists, such as computer pioneer Frieder Nake, did produce plotter drawings in colour. Early computer artists experimented with the possibilities of arranging both form and, occasionally, colour in a logical fashion.

'Hommage à Paul Klee 13/9/65 Nr.2', a screenprint of a plotter drawing created by Frieder Nake in 1965, was one of the most complex algorithmic works of its day. An algorithmic work is one that is generated through a set of instructions written by the artist. Nake took his inspiration from an oil-painting by Paul Klee, entitled 'Highroads and Byroads' (1929), now in the collection of the Ludwig Museum, Cologne.



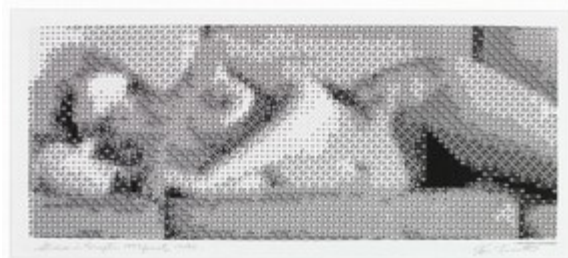
Frieder Nake, 'Hommage à Paul Klee 13/9/65 Nr.2', 1965. Museum no. E.951-2008. by the American Friends of the V&A through the generosity of Patric Prince

Nake had trained originally in mathematics and was interested in the relationship between the vertical and the horizontal elements of Klee's painting. When writing the computer program to create his own drawing 'Hommage à Klee', Nake defined the parameters for the computer and the pen plotter to draw, such as the overall square form of the drawing. He then deliberately wrote random variables into the program which allowed the computer to make choices of its own, based on probability theory. In this way, Nake was able to explore how logic could be used to create visually exciting structures and to explore the relationship between forms. The artist could not have predicted the exact appearance of the drawing until the plotter had finished.

Bell Laboratories

Bell Labs, now based in New Jersey, was hugely influential in initiating and supporting the early American computer-art scene and produced perhaps the greatest number of key early pioneers. Artists and computer scientists who worked there include Claude Shannon, Ken Knowlton, Leon Harmon, Lillian Schwartz, Charles Csuri, A. Michael Noll, Edward Zajec, and Billy Klüver, an engineer who also collaborated with Robert Rauschenberg to form Experiments in Art and Technology (EAT). The Laboratory began life as Bell Telephone Laboratories, Inc. in 1925 and went on to become the leading authority in the field of new technologies.

Bell Labs was heavily involved in the emerging art and technology scene, in particular it contributed to a series of performances entitled '9 Evenings: Theatre and Engineering' organised by EAT in 1966. The performances saw 10 contemporary artists join forces with 30 engineers and scientists from Bell Labs to host a series of performances using new technologies. Events such as these represent important early recognition by the mainstream art world of the burgeoning relationship between art and technology. The executive director of Bell Labs was employed as an 'agent' for EAT, his task to spread the word about the organisation in the right circles, namely industry. As a result, many artists and musicians used the equipment at Bell Labs out of hours.



Leon Harmon and Ken Knowlton, 'Studies in Perception', 1997 (original image 1967). Museum no. E.963-2008. by the American Friends of the V&A through the generosity of Patric Prince

Amongst many things, Bell Labs was particularly influential in the development of early computer-generated animation. In the 1960s, the laboratories housed an early microfilm printer that was able to expose letters and shapes onto 35mm film. Artists such as Edward Zajec began to use the equipment to make moving films. Whilst working at Bell Labs, computer scientist and artist Ken Knowlton developed the programming language BEFLIX- the name stands for Bell Flicks - that could be used for bitmap film making.

One of the most famous works to come out of Bell Labs was Leon Harmon and Ken Knowlton's *Studies in Perception*, 1967, also known as *Nude*.

Harmon and Knowlton decided to cover the entire wall of a senior colleague's office with a large print, the image of which was made up of small electronic symbols that replaced the grey scale in a scanned photograph. Only by stepping back from the image (which was 12 feet wide), did the symbols merge to form the figure of a reclining nude. Although the image was hastily removed after their colleague returned, and even more hastily dismissed by the institution's PR department, it was leaked into the public realm, first by appearing at a press conference in the loft of Robert Rauschenberg, and later emblazoned across the New York Times. What had started life as a work-place prank became an overnight sensation.

1970



FIRST IBM COMPUTER



FIRST DIGITAL PRINTER

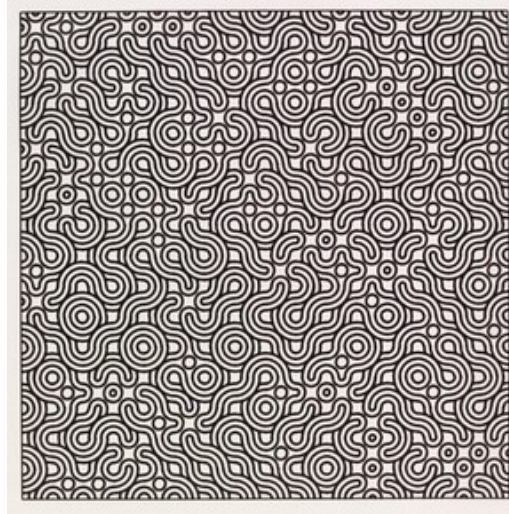
1970's, other than artists with mathematic and scientific backgrounds joined the scene.

A number of artists had begun to teach themselves to program, rather than relying on collaborations with computer programmers. Many of these artists came to the computer from a traditional fine art background, as opposed to the scientific or mathematical background of the earliest practitioners. Artists were attracted to the logical nature of the computer and the processes involved.

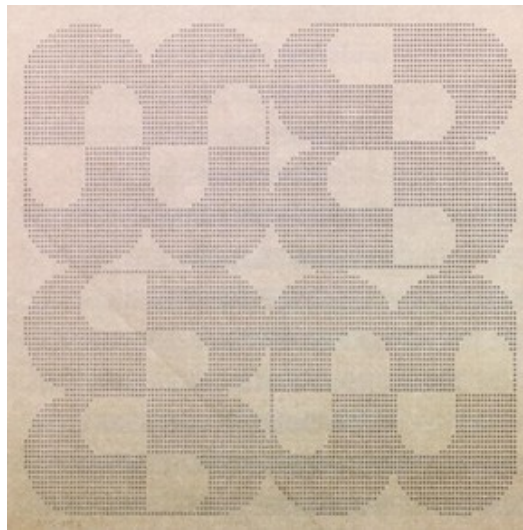
In the early 1970s the Slade School of Art, University of London, established what was later called the 'Experimental and Computing Department'. The Slade was one of the few institutions that attempted to fully integrate the use of computers in art into its teaching curriculum during the 1970s. The department offered unparalleled resources with its in-house computer system.

Paul Brown studied at the Slade from 1977 to 1979. His computer-generated drawings, use individual elements that evolve or propagate in accordance with a set

of simple rules. Brown developed a tile-based image generating system. Despite using relatively simple forms, it would have taken a long time to write a program to produce a work such as this.



Paul Brown, 'Untitled Computer Assisted Drawing', 1975. Museum no. E.961-2008. Given by the American Friends of the V&A through the generosity of Patric Prince



Manuel Barbadillo, 'Untitled', about 1972. Museum no. E.158-2008. Given by the Computer Arts Society, supported by System Simulation Ltd, London

1980

The growth of the digital age started in the 1980's. Computers were affordable and easily available to most. This is most commonly achieved by the use of layering techniques in image editing and paint software.

The 1980s saw digital technologies reach into everyday life, with the widespread adoption of computers for both business and personal use. Computer graphics and special effects began to be used in films such as 'Star Trek II: The Wrath of Khan'

and 'Tron', both 1982, as well as in television programmes. Combined with the popularity of video and computer games, computing technology began to be a much more familiar sight at home, as well as at work.

The late 1970s had seen the births of both Apple and Microsoft and the appearance of some of the first personal computers. PCs were now available that were affordable and compact, and ideal for household use. Alongside this, inkjet printers developed to become the cheapest method of printing in colour. The development of off-the-shelf paint software packages meant it was much simpler to create images using the computer. As this new medium entered popular culture, the type of art being produced changed. Much of the new work of this period demonstrated a clear 'computer aesthetic', seemingly more computer-generated in its appearance.

This image by Kenneth Snelson was created using a 3D computer animation program. The image forms the left side of a stereoscopic image. Accompanied by a near identical image placed to its right and viewed simultaneously, the two images would have created the illusion of a 3D environment.



Kenneth Snelson, 'Forest Devils' MoonNight' (detail), 1989, Museum no. E.1046-2008. Given by the American Friends of the V&A through the generosity of Patric Prince

Facts about Digital Art

One of the pioneers of computer art is Vera Molnar. A French artist who invented the "Machine Imaginaire." It transformed different geometric shapes.

In 2008 David Thorne sold this art work of a seven legged spider on eBay for \$10,000 for the drawing.

UK held its first Major Digital Art Auction in July 2014 with 23 works by 23 artists estimated to be worth £53,600 - £75,150

Present

The impact of digital technology has transformed activities such as painting, drawing, sculpture and music/sound art, while new forms, such as net art, digital installation art, and virtual reality, have become recognized artistic practices. More generally the term digital artist is used to describe an artist who makes use of digital technologies in the production of art. In an expanded sense, "digital art" is a term applied to contemporary art that uses the methods of mass production or digital media. Digital art is no longer the “new thing” as conceptual, virtual, and immersive works have appeared in museums and galleries worldwide. The new focus is more on the experience nature of digital works, as visitors are invited to enter a virtual scene, participate in the presentation, and create an individual encounter each time. As technology is introduced rapidly, so will new aspects of this general “technique.” Where digital (now popularly known as “new media art”) will venture, one can only imagine.

Different forms of Digital Art

- Animation
- World Wide Web Design
- Computer Graphics Design
- 3D Modelling
- Architecture
- Photography
- Photopainting
- Digital Collage.
- 2D Digital Painting
- 3D Digital Painting
- Vector Drawing
- Algorithmic / Fractals
- Integrated Art
- Digital architecture
- Digital Poetry

EXAMPLES

Notable Artist's Work

Although the digital art world is now filled with technology-minded artists eager to share their works, there are notable trailblazers who made this all possible.

Frieder Nake is the first known artist to create a digital algorithmic work in his recreation of a Paul Klee work titled *Hommage à Paul Klee 13/9/65 Nr.2*.

Michael Noll, a computer scientist by training, created some of the earliest computer-generated art and animation works and whose work was he first to be professionally exhibited in the United States. A pioneer in virtual reality, he created the first 3D device, called a "feelie" device to increase the mastery of computer graphics.

Jeff Koons, inspired by Andy Warhol, mastered the use of digital technology and his pop paintings and sculptures are famous for their visual opposition to what is traditionally considered "fine art," and appeal by the masses. An avid showman and self-promoter, his balloon dog sculptures are perhaps his most well-known works.

Miguel Chevalier. A pioneer in digital art, creating digital sculptures and using virtual reality in his works. His 2005 digital mixed media installation *Flying Carpets in Marrakesh*, Morocco, attracted thousands of visitors.

Nam June Paik's *Electronic Superhighway: Continental U.S., Alaska, Hawaii* in 1995 garnered him the title of "father of video art." He used closed circuit cameras and TV monitors, providing viewers with a personalized presentation of the art, inviting them to one of the earliest participatory video works.

Manfred Mohr's *Cubic Limit I* is one of the earliest examples of using symbols and computerized structure to create an artistic pattern.

James Faure Walker can be described as both a digital artist and a painter. Since the late 1980s Faure Walker has been integrating the computer into his practice as a painter, incorporating computer-generated images into his paintings, as well as painterly devices into his digital prints. He moves between the tools of drawing, painting, photography and computer software, blending and exploiting the different characteristics of each. His work frequently plays on the contrast between physical paint and digital paint, and sometimes it is difficult to differentiate between the two.

Faure Walker aims to complete at least one drawing each day, either in pencil, pen or watercolour. These drawings are always abstract, and have their roots in gestural mark making, rather than being figurative drawings of objects. In the same way, the artist uses software packages such as Illustrator and Photoshop to explore digital motifs, or linear marks and patterns. A motif that has been created digitally might then be projected onto a canvas using a digital projector, where the artist can begin

experimenting with the pattern or motif in the physical medium of paint. Faure Walker creates digital photographs of his paintings in progress, so that he can try out changes and additions on the computer before adding them to the canvas. He applies this same method to his production of large digital prints such as 'Dark Filament', incorporating found imagery such as a botanical illustration.

Marcin Jakubowski A concept artist and illustrator, Marcin Jakubowski works as a freelancer from Gdansk, Poland. Marcin has completed projects in several fields, including TV commercials and shows as well as CG animations. Many of Marcin's illustrations have a dark, sci-fi look and feel to them, with gigantic machines, brilliant robotic battle scenes, and futuristic technology.

Salvador Ramirez Madrid From Guadalajara, Mexico, Salvador Ramirez Madriz is a digital artist with a portfolio quickly growing with impressive works. Much of his illustrations are beautiful digital drawings of people of different ages, but his most stunning images are of children and young people. Salvador seems to have a talented knack for capturing the life and innocence of a child so vividly that you almost feel as if the drawing is of a real person.

Jason Seiler (pronounced Syler) is an illustrator from Chicago, Illinois, who specializes in incredibly creative and expressive caricatures. Seiler has won many awards for his illustrations and worked with a number of large clients, including Rolling Stone, MAD Magazine, Business Week, The Wall Street Journal, TIME Magazine, The New York Times, and much more. From the beginning of his career, Jason was able to see the humorous side of any character drawing; in fact, his drawings of a high school history teacher got him into trouble, until his principle hired him to draw caricatures of other faculty members. His talent is clearly visible in his work; in addition to caricatures, Jason also does digital paintings and portraits.

David Revoy An illustrator, concept artist, and art director, David Revoy presents an incredible portfolio on his website. He mostly works from his home in France as a freelancer, offering services such as artworks production, art direction, and even teaching and conferences. Much of Revoy's work includes incredibly expressive characters, often done in very earthy and natural colour schemes.

Michael Oswald describes his work as "photomanipulation on steroids," which is probably the most accurate description anyone could use. His technique involves beginning with a photo (often a stock photograph) of a model and completely manipulating the image into an amazing work of art.

BLACK MARKET



By Stephanie Syjuco

Stephanie Syjuco (born 1974) is mixed media conceptual artist based in San Francisco.

She creates large-scale spectacles of collected cultural objects, cumulative archives, and temporary vending installations, often with an active public component that invites, viewers to directly participate as producers or distributors.

"Black Markets", a series of re-imagined shops: photographs of marketplaces with the products digitally blacked out, and museum installations with the familiar decor and shelving design of a high-end boutique, but displaying unidentifiable lumps of "merchandise" wrapped in black papier mache.

Showed how shapes, even when blotted out in black, can still be the main figure in an image.



Points to be noticed in this digital art form -

- The Form
- The Medium
- The Subject Matter
- The Style

METHODS

HOW ARE DIGITAL ARTS CREATED?

Digital Arts are created using various digital tools and technologies as the main construction of the presentation more than just the traditional mediums, which has revolutionized the way of producing and experiencing arts.

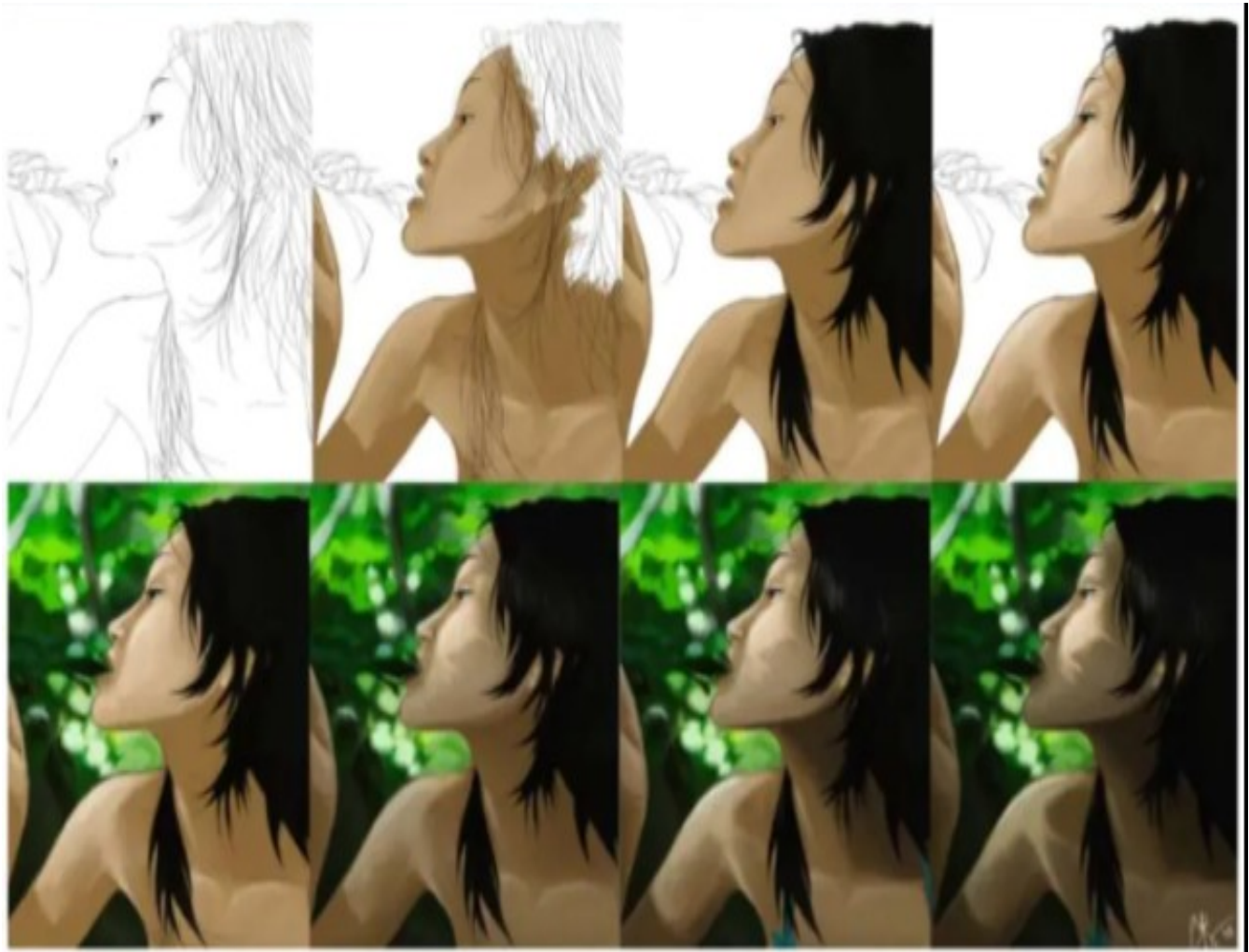
IMPORTANT THINGS TO REMEMBER

Basic Elements of Design-

- Lines
- Size
- Shapes
- Texture
- Form
- Space
- Colour/Tone

Basic Principles of Design

- Composition
- Unity
- Balance
- Contrast/Emphasis
- Proportion Repetition
- Rhythm
- Harmony



Top Rated Essential Software's for Digital Art

- Photoshop
- Cinema 4D
- Illustrator
- Mari 2
- 3ds Max
- Unity Pro
- Flash Professional
- ZBrush 4R6
- Painter x3
- Toon Boom Studio 8

Types Of Digital Art

DIGITAL PHOTOGRAPHY – The artist uses a digital or conventional camera. By using photographs from a conventional or digital camera, photos are digitized then manipulated a computer, making modifications which range from sharpening the image to drastically re-creating the image in assorted colours, arrangements, and even breaking the photograph down to multiple parts.

The artist uses a digital or conventional camera. The photographs are digitised and translated to computer environment where the artist uses image editing and special effects software to perform darkroom type manipulations.

This term was invented with the discovery of computers, which introduced the use of digital cameras to produce the perfect shot which other cameras could not achieve.

Prior to the advent of digital cameras was the era of photographic films stuffed into camera rolls which after being clicked, took a long time to be developed. Even after being developed, these pictures weren't as professional as expected.

However, with the introduction of the digital camera and the advancement of technology, the concept of digital camera was born. This modification is a boon to photography and soon took a flight during the 1990s.

These digital cameras used electrical photoreceptors which were embedded in the camera itself and helped produce the perfect shot. Following this, photography was made accessible to almost all individuals because it was introduced on the cellphone which either had to be a smartphone or an android phone.

However, the sanctity and the perfect shot which could be produced by digital cameras were not present in cell phones. So, professional photographers who are in business usually invest in DSLRs because of its features and clarity.



on



VECTOR DRAWING –

The artist uses vector drawing software and creates the image totally in the virtual environment. This makes use of shapes which are outlined and can be filled with various colours and patterns. This tends to produce a harder edged or graphic look. Andy Warhol led this type of work, agreeing to be a representative for the fledgling Commodore computer in 1985.

The term “vector” is used to refer to a certain format that allows images to be saved while still being available for usage within a painting. ‘Bezier curves’ is the French-based term used for representing the mathematical basis of vectors.

Vector painting includes shapes and lines that can be represented in geometrical formulas. One can control their colors, shadows, transparency, groups, and so on.

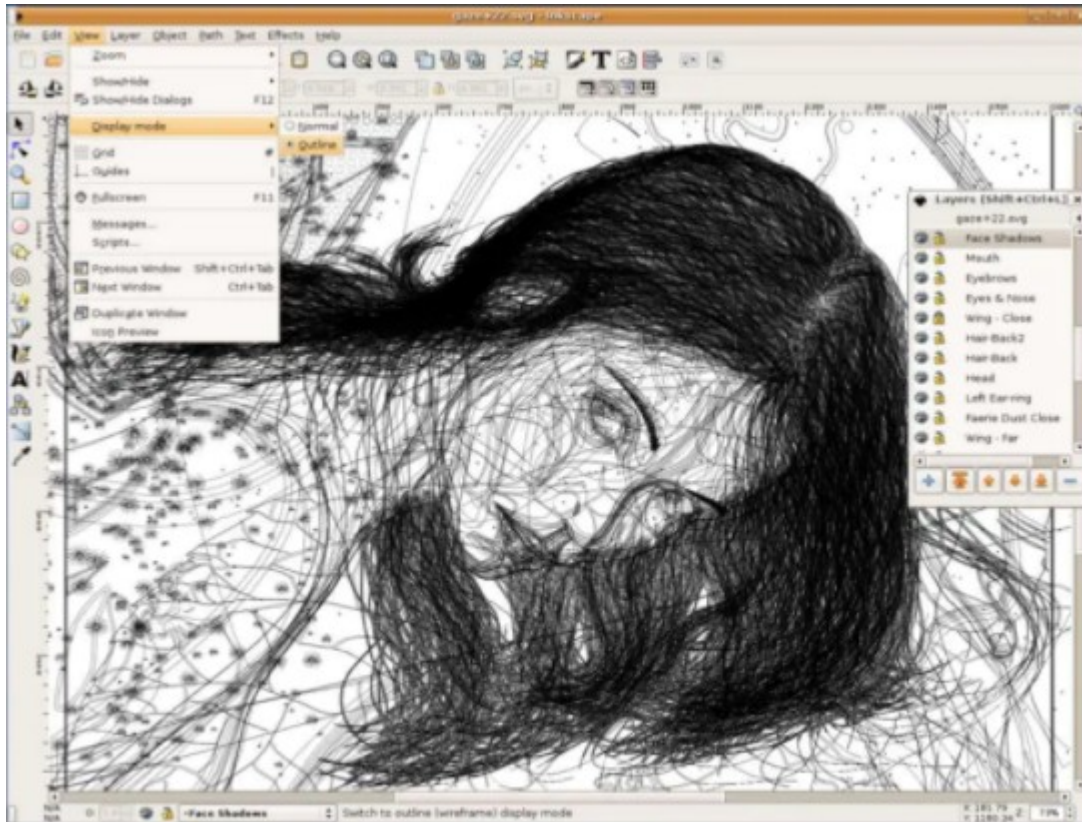
The size of manual vector paintings can be converted from small to large without compromising the quality and sharpness of the piece. These changes can be done by simply entering the desired dimensions of the painting.

One advantage that comes with a manual vector painting is the artist can set its resolution and size up to the printer’s maximum potential of handling it.

Creating a manual vector painting requires simple shapes such as triangles, circles or squares. Another method is to create custom shapes with hands and make use of provided tools to transform them.

Manual vector painting is different from raster art because one has to work on it the same way they would be working on a sculpture, hence, leaving aside chances of spontaneity or intuition. In other words, it is less unlikely for the artist to be able to express or impose his/her own characteristics into the art when working on a manual vector painting.

Even so, his/her original choice of colors, composition, subject, etc, can still be observed by a knowledgeable audience.



ALGORITHMIC/FRACTALS-

This is art produced exclusively by mathematical manipulations. This is the so called "computer generated" art. There is a specific type of beauty involved in the culmination of this art form which is considered as a part of computer art and digital art, being a part of the greater family of new media art.

New media art, although a metaphor for signifying the interruption of modernity into the presentation of art, is born from the pure art forms generated from the ancient periods. The factor of modernity changed it into digital art with the advent of technology.

The art here lies in the invention of the mathematical formulas themselves and the way the programs are written to take advantage of the display capabilities of the hardware. The art also lies in the creative intentions and subsequent selections of the artist/mathematician. This allows mathematicians to use software, calculations, and colour graphics to create both patterned and realistic images. Fractal artist uses fractal objects to get still images and media. Fractal art is also known as a form of algorithmic art created by calculating fractal objects and representing the calculation results as still images, animations, and media.

(Can be created using Apophysis Software)



PHOTO PAINTING-

This combines the disciplines of photography and painting.

The artist uses image editing and paint software to go beyond dark room technique to add further expression to the image. In this technique, he artist takes a photograph and uses computer tools to virtually “paint” the picture, modifying it from its original form, but often maintaining the general layout of the subject matter. This form of digital art was invented with the use of computers where editing and photo shopping came into the picture. Photo-painting is done in succession to digital photography. After clicking the perfect picture and viewing it on the computer, there are a bunch of professionals who are equipped to handle the editing part specifically.

The photo painting is not a manual process. Rather, the digital picture is painted on the computer itself with some tools downloaded from certain software and apps.

Photo-painting is a very crucial editing skill which should be undertaken by every photographer. The company which hires a professional editor who is well versed with photo painting is better equipped to send out pictures dictating the company's goals. This is extremely beneficial to the company because the edits will put them on a pedestal.

Since photo painting is available on apps which is downloadable, it is accessible through phones as well, which can be easily linked to social media. However, not everyone can do photo painting. A certain amount of skill is required in that expertise.



DIGITAL COLLAGE-

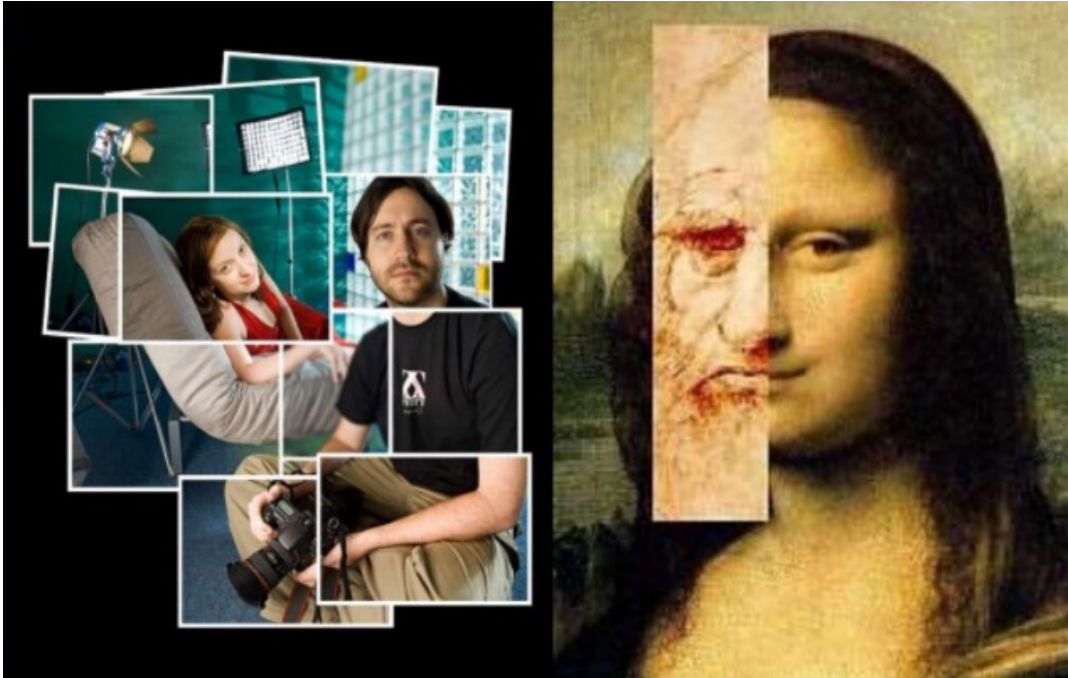
This is a technique of combining many images from varying sources into one image. By taking multiple images, artists layer and edit pictures to create unique works of art. This is most commonly achieved by the use of layering techniques in image editing and paint software.

We are all familiar with the concept of a collage because we use it in our day to day lives, when we tend to edit pictures or create memories. However, just as the definition of a normal collage goes, digital collage is slightly different.

This means that instead of putting several whole pictures together, different textures and ideas are taken from several sites and then collaborated under one picture.

Digital collage is said to be present under the domain of photoshop which is a well-used edit feature, used by almost every business to make the picture more appealing.

The process of digital collage is a complicated one and will require particular skills to fulfill the criteria under its operation. Photoshop is accessible to everyone on your smartphones or any other device and is used at an alarming rate for updating content on social media sites. It has been widely used for fashion blogging since it is such a profitable business at present.



INTEGRATED DIGITAL ART-

This is a technique of combining many images from varying sources into one image. This is the "mixed media" of the digital art world. Artists combine any number of the techniques to achieve unique results. The digital environment is much less restricted than conventional mediums in this type of integration and manipulation.

The original meaning of this term is a combination of more than one form of art, also known as "interdisciplinary art", that is mostly used in learning environments to help the audience grasp a concept better, or can also be for the sole purpose of entertainment.

The gist of integrated art in the digital world is to merge two or more media in order to achieve one single piece of art.

In this type of art, there is a lesser influence of restrictions when it comes to the digital environment rather than mediums which are conventional. The artist has immense control over how he/she wants the outcome to look like.

Following the concept of integrated art, a mixed media or hybrid painting is the outcome of using more than one media or even multiple software on the same artwork. One popular sample of such style is a vector-raster hybrid painting. To

achieve a mixed media, the artist has to make use of the shapes/lines from vector along with one brush style from raster.

The merit of using more than one software helps increase the contrast level as well as the sharpness of colors of vector. The same benefit applies to the main palette of raster too.

In many cases, Bezier curves can be used in the background to help smoothen shapes and lines of raster without involving the artist's effort. By using this method to smoothen curves, it prevents any possible loss of resolution. The default storage format for this particular hybrid is raster.



2D DIGITAL PAINTING/2D COMPUTER GRAPHICS

The artist creates 2D images totally in the computer virtual environment with the use of painting tools that emulate natural media styles. With 2D painting, artwork is created with virtual painting tools in an editing program using two-dimensional models. Sometimes referred to as "Natural Media".

Digital painting forms the crux of digital art right now and is effectively one of the most practiced digital art forms of this era. By this era, I meant the era of technologically advanced machines which come in handy in almost all digital art operations. With the help of the computer, 2D art can be undertaken professionally, using multiple features which it can entail.

The cruciality of 2D digital painting for business propaganda and campaigns is reflected in the company's success in the long-run. 2D digital painting is basically digital painting on a plain surface with no added effects.

It is a very basic form of digital painting which is required to be very catchy for visual as well as artistic satisfaction. 2D illustrations are imperative in a company's marketing process to gain publicity by putting the goals and aspiration out in the form of artistic representation.

2D digital painting fulfils this need and is preferred over hand-drawings which come with a lot of imperfections which may take ages to re-do. 2D art is digitized and can be altered with the app itself. For this purpose, all companies hire an exceptionally skilled group of digital artists who specialize in the creation of 2D digital art.

2D computer graphics is the computer based generation of digital images-mostly from two-dimensional models (such as 2D geometric models, text, and digital images) and by techniques specific to them. This technique may combine geometric models (also called vector graphics), digital images (also called raster graphics), text to be typeset (defined by content, font style and size, colour, position, and orientation), mathematical functions and equations, and more.

(Can be created in any Graphic software such as Flash and Illustrator)

Traditional paintings and drawings had a particular charm about them for sure, because of their authenticity and the hard work put behind them to turn them into masterpieces.

This art was well appreciated, until the advent of technology and the use of computers which demanded that art be transformed into digitally specific claims which could be applied to the modern world of entertainment and media.

2D computer graphics are derived from 2D dimensional models like texts and digital images. It works on transforming the traditional forms of art into digital art which can be used in projects and animation for the media and entertainment industry. 2D graphics are generally derived on traditional graphics like typography, cartography, technical drawing and advertising.

All these domains are extremely beneficial for promotions or for running a business and 2D graphics play a major role in securing the fate of the company through its skills and expertise.

2D graphics are extremely beneficial for businesses or any other franchise because it can be converted to any area of output and can be utilized to fit many aspects of the digital market instead of just one.

For this reason, important documents and accessories are always saved on the device in the form of 2D graphic designs, for its flexibility and multiple usability. 2D

graphics has recently taken the internet by storm because of its usefulness in every aspect of digital art which is utilized for any business or academic purposes.



3D DIGITAL PAINTING/3D COMPUTER GRAPHICS

Another imperative part of the digital painting domain is the 3D digital painting, a more popularised version of 2D digital paintings.

This precisely implies that it contains features which are common with 2D digital paintings, but is a more specialized version which can also be rendered. Basically, the 2D digital illustration forms a base on which the 3D digital painting is structured.

In the 3D digital paintings, extra effects can be incorporated into the illustrations. This concept of digital art has been more popularized and widely used than the 2D

digital painting model. It has been recorded that the 3D model of digital painting has a better chance of catching the eye of customers than the 2D model, resulting in an increase in consumer traffic.

Consumer traffic is a profitable aspect of businesses because it puts the company on the radar where it is at par with other competing businesses in the market.

Recently, there has been a spike in the job requirements for 3D digital artists. It is a highly specialized job that requires extraordinary training courses and skill adaptation to be suited for the job.

The most successful companies have a special wing to incorporate 3D digital artists, who work very diligently to maintain the standards of the company by coming up with new designs and creative ideas.

The artist uses 3D modeling and rendering software to essentially sculpt intual space. More like sculpture, this technique utilizes modelling software to essentially sculpt on the computer. Items traditionally created by hand or machine can be re-created on the computer. This method also makes use of all of the other methods like - 3D computer graphics - (in contrast to 2D computer graphics) are graphics that use a three-dimensional representation of geometric data (often Cartesian) that is stored in the computer for the purposes of performing calculations and rendering 2D images. Such images may be stored for viewing later or displayed in real-time.

Three basic phases of 3D Graphics-

3D modelling - the process of forming a computer model of an object's shape

Layout and animation-the motion and placement of objects within a scene

3D rendering - the computer calculations that, based on light placement, surface types, and other qualities, generate the image

3D COMPUTER GRAPHICS is the technique of rendering three dimensional scenes and shapes on a digital computer using specialized 3-D software.

(Can be created using Software like Maya, 3D MAX, AutoCAD etc...)

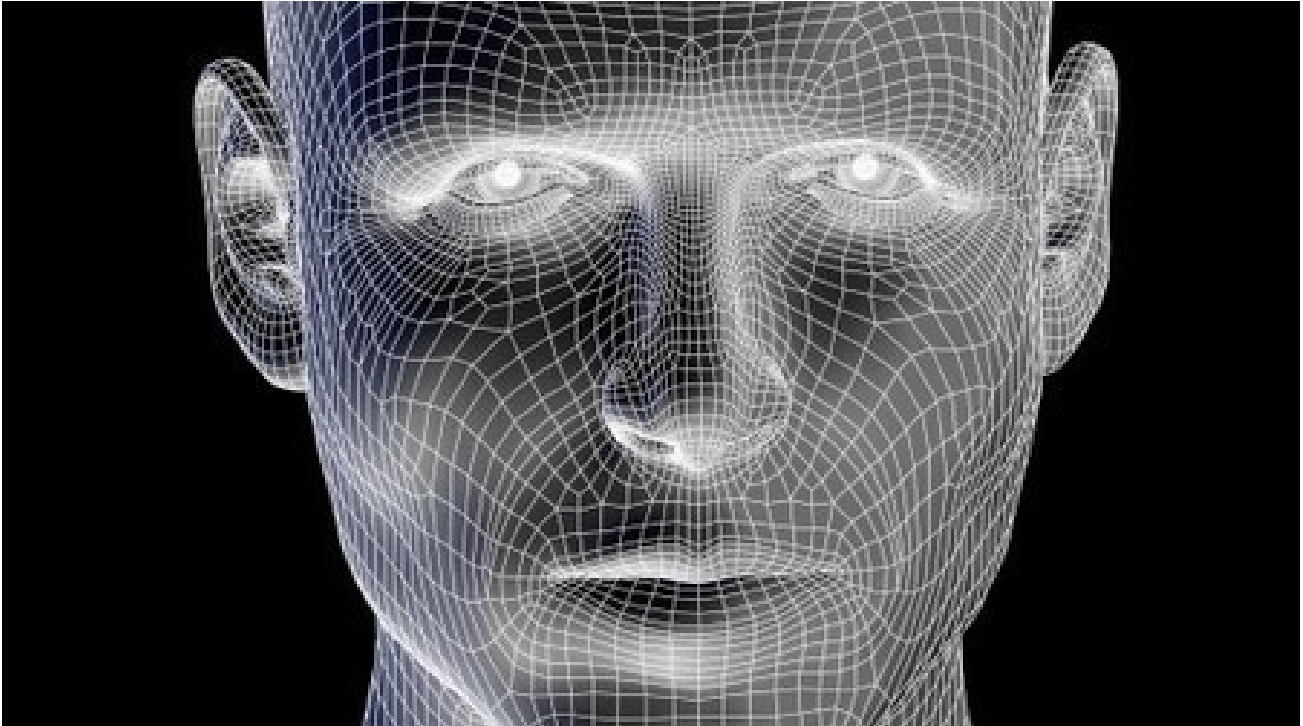
The 3D computer graphics is a modern concept which has come in with technological advancement and the development of the computer sciences and is a modified version of the 2D computer graphics.

The 3D computer graphics has the task of representing the three-dimensional aspect of geometric data which is found in almost every model or structure. The 3-dimensional computer graphics calculates these geometric data and stores it in the device for future reference.

The 3D computer graphics are also used to render 2D images to provide it with a better representative quality. There is not much difference in the processes involving

the 2D and 3D graphics when it comes to the programs and software that these two forms imbibe to produce the calculations.

Another important aspect of 3D models is that the model aspect is only defined by the mathematical representation of the structure.



DIGITAL ARCHITECTURE

Digital architecture uses computer modelling, programming, simulation and imaging to create both virtual forms and physical structures. The terminology has also been used to refer to other aspects of architecture that feature digital technologies.

Architecture created digitally might not involve the use of actual materials (brick, stone, glass, steel, wood). It relies on "sets of numbers stored in electromagnetic format" used to create representations and simulations that correspond to material performance and to map out built artefacts. Digital architecture allows complex calculations that delimit architects and allow a diverse range of complex forms to be created with great ease using computer algorithms.



DIGITAL POETRY

It is a form of electronic literature, displaying a wide range of approaches to poetry, with a prominent and crucial use of computers. It can be available in form of CD-ROM, DVD, as installations in art galleries, in certain cases also recorded as digital video or films, as digital holograms and on the World Wide Web or Internet. There are many types of 'digital poetry' such as hypertext, kinetic poetry, computer generated animation, digital visual poetry, interactive poetry, code poetry, holographic poetry (holopoetry), experimental video poetry, and poetries that take advantage of the programmable nature of the computer to create works that are interactive. It is sometimes called e-poetry, electronic poetry or cyber poetry. It is a relatively new area of literature, much of it written since the 1990s.

Jason Nelson, a digital poet explains the Digital Poetry:

“in the simplest terms Digital Poems are born from the combination of technology and poetry, with writers using all multi-media elements as critic texts Sounds, images, movement, video interface/interactivity and words are combines to create new poetic forms and experiences.”

DATA MOSHING

Data-Moshing - removes key-frames between two videos, thus allowing the pixels to run together. It's a technique used to compress two videos together, removing key frames from a file so the videos' pixels "bleed" into one another.

Data-moshing can also be termed as a process whereby media files can be manipulated to produce the desired visual effects or images when the file is decoded. The status of the decoded file allows the entry of snippets from other media

files and editing of the existing ones. This data-moshing process is most common in videos rather than images. This is because the decoded video files have more scope to be manipulated than images that do not have too much space. Modern video files have a complex method of not crossing the storage space. This is done by not downloading the entire image on the device, but only snippets of the image is downloaded. The frames which store the entire picture are called the I-frames where the median file can be represented without any additional information or data. The other frames where only a part of the image can be saved are the P-frames and B-frames. The P and B-frames only contain the difference of the information gathered from the previous incomplete file and the remainder of the next file, instead of storing the entire image. The P-frame and B-frame is used to manipulate media files which are encoded. The videos that we encounter on a daily basis on television, YouTube, or any other movies that you watch, all have elements of data-moshing incorporated in them to make them more attractive to visually and artistic perception. This is produced as an amalgamation of the P-frames and B-frames. Usually, this kind of manipulation produces a repetition of the images resulting in a defect in the video. This is where the images must be improved to put them on display. (Can be created using Software such as Adobe after effects)



Dynamic painting

Dynamic painting is a form of digital art, where paintings are constantly being updated and changed. It is an art that has been generated algorithmically by a

computer system. There have been many attempts at producing generative art; the history of it goes back to the early days of computer development. Modernity and Industrial Revolution gave birth to technology and the adoption of new methods of turning physical labor into mental labor, where the work of the manual laborers was demolished and was instead replaced by the use of specialized skills to operate these machines produced by capitalist giants. Dynamic painting developed as a form of digital art, where the art or picture was painted by an autonomous system, namely a computer, where there was minimal physical labor used to complete the work. However, maybe a glimpse or the supervision of an artistic mind was required to complete the painting process. However, most of the digital painting is done without the supervision of a mastermind. The modern machines attempt at making the realm of digital paintings more independent and immune to control, so in a few years, you will not need humans to control the work, but just the machines doing the service themselves. The different types of dynamic paintings include music, visual arts, software art, architecture, and literature. Music and art have always complemented each other. Most of the iconic musicians and artists collaborate and weave an entirely historic piece of art which is persistent throughout generations. Digital painting transforms this music and art into a musical digital painting, which is more professional as it is creative. The area of visual arts, software art, architecture as well as literature is used as a canvas to paint their digital stories in. The use of these different genres only increases the scope of creativity as well as employment. (Can be created usng photoshop)



PIXEL ART

Pixel art - consists of a type of digital art in which the image is created at the pixel level. It uses faster graphics software and it is certainly one of the first ever developed types of digital art. People are very likely to have enjoyed some sort of pixel art even though they might be unaware of it. For instance, most of the computer and video games were based on pixel art and moreover, nowadays phone games are also based on the same technique. Pixel art is a form of digital art, created through the use of raster graphics software, where images are edited on the pixel level.

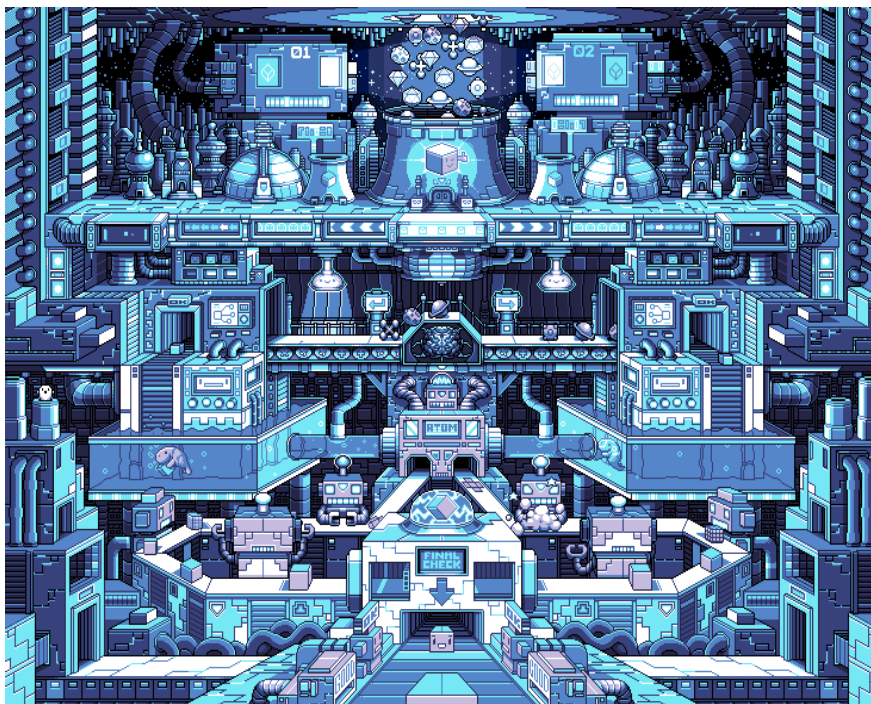
This type of digital art is mainly associated with videos and images which are used for movies, games, or aesthetic ventures.

There is a specific software where the pixel art can be produced, and it supports the 8-bit and 16-bit computers, including some graphic calculators and video game consoles. Pixel art is a pure form of aesthetic used in the elaboration of video games and other animated videos where it produces the desired effect which is incomplete in the case of other forms of digital art.

The idea of pixel art eminently emerged with the idea of modernizing of video games. This means that the aesthetic level of the video games created must match with the societal standards and expectations on these games.

This form of visual ecstasy can only be achieved with the adoption of pixel art as a form of digital art to infiltrate movements in the characters of the video games. What you see on the screen or play with is an intersection of several software programs to produce the desired art.

In case the video games or images need to be modified, or new effects need to be produced, the process of spriting is taken over. Spriting is specifically a term used to denote the editing and specialization of the already existing pixel art that you have produced.



Raster Paintings

Another very important domain of the forms of digital art is raster paintings. This is a form of digital painting which has been popularized because of its innate resemblance to that of a real hand painting. Since the other forms of digital art was giving out a rather virtual image of illustrations, deep down, traditionality is always appreciated more than virtual illustration.

So, to give it a more aesthetic vibe, traditional forms of painting are converted to digital art where there are apps you get a brush to make your own painting online.

It resembles an actual painting because the drawing takes place in strokes. Given the features, not everyone can do raster paintings without having to know the art of using a brush in reality first, before applying it on the computer.

To illustrate art in its raw form digitally, raster paintings are the best way to go about it. But other than this, it is not advisable to go for this form of digital art on a professional basis. The diameter of the creation is very restrictive because it is as low as 72 dots per inch.

In addition to this, the image cannot be expanded. Corrections to the image is also a very long and hard process which can be fatal if certain targets have to be met for the business.

EVOLUTION IN TECHNIQUES OF DIGITAL ART

“Digital Art” describes the technological art works with fluidic boundaries offering as many as possible interpretations of the term. The term itself has evolved through time and whereas computer art, multimedia art, and cyber-art were standard in the 1960s-90s, the rise of the World Wide Web and Internet added a layer of connectivity resulting in a shift in language. As such, we now prefer the terms digital art and new media which can be used interchangeably with some nuances.

Art historians often categorize digital art as twofold: object-oriented artworks and process-oriented visuals. In the first scenario, digital technologies are a means to an end, and function as a tool for the creation of traditional objects like paintings, photographs, prints, and sculptures. In the second case, the technology is the end itself, and artists explore the possibilities entailed to the very essence of this new medium. This latter category — often associated with the term “new media” — refers to all computable art that is digitally created, stored and distributed. In other words, while some works rely on digital tools to magnify an already-existing medium, others use digital technology as an intrinsic and indissociable component in the

making of the artefact. With these definitions in mind, the list below presents current practices linked to the digital medium.



Andrej Ujhazy, Ljjkbkjbkjbkjbkjbk, 2016. This digital painting was created with the use of MS paint and Photoshop, among other software.

Digital painting appeared in the 1990s and embrace traditional painting techniques like watercolours, oil painting, and impastos. While the artist develops a graphical design with the use of a computer, tablet or stiletto, the process itself is similar to painting with traditional materials and result in painterly aesthetics. Digital paintings also share features that are specific to computer art visuals like the repetition and distortion of elements and can result in abstract imagery. The last year has also seen the rise of 3D painting entailed to the use of virtual reality with Google's app Tilt Brush and its artists in residence.

Digital photography includes the use of images taken from reality through photographs, scans, satellite-imaging, and other possible records of what exists. This segment often mixes what is and what is not, blurring boundaries and distorting our understanding of truth. Traditional techniques of collage and the assemblage of elements, as well as the overlaying and blending of visuals through morphing technology, are part of this strand of digital imagery led by artists like Nancy Burson, Daniel Canogar, Thomas Ruff, and Andreas Gorsky.

Sculpture results from a design on computer-aided software, which can later be either displayed as physical objects/models or shown as virtual images on screens. Computing allows for the manipulation and controlling of complex geometry, as well as their 3D visualization, significantly enhancing traditional design abilities to foster grander creative ideas.

Digital installations closely relate to the sculptures for their 3D nature but offer a new typology in their relation to the viewer. Mostly, this type of artworks can be interactive — that is responding to visitors' inputs (e.g., body movements, voices, touch). Alternatively, these art pieces can be immersive, presenting viewers with a new spatial environment or altering the nature of their surroundings. Virtual reality (VR) and augmented reality (AR) are typical examples of the technologies promoting this kind of experience. Nonetheless, these installations require expensive material, logistical, computational, and architectural planning. Ultimately, this art form is now suited to museums, and institutional and public spaces, offering the vast areas and infrastructures for people to experience the medium entirely. Leading protagonists in the design of installations include Team Lab, Rafael Lozano-Hemmer, Michel Bret and Edmond Couchot.

Videos, animation, and the moving image constitute the most obvious scene for the questioning of reality. This technology allows the full recording of an event through both space and time, while simultaneously dealing with montage and the transformation of what honestly happens. Two strands define the moving image: live action on the one hand, and animation and 3D Worlds on the other. The moving image is often the privileged medium for the development of virtual reality and immersive environments, which explains its close link to installation art. Examples of digital artists working with video include Pipilotti Rist, Ryoji Ikeda, Yoshi Sodeoka, Toni Dove and Jacques Perconte.

Internet and networked art are process-oriented objects looking at the functioning of computing structures and networks. The web is an intricate net of information similarly to any network, and artists working in that field mean to highlight or challenge the complexity and nature of these systems (e.g., Mark Napier, Olia Lialina). Beyond this pure stamina, internet art also includes all works that are meant to be distributed on the web, or that take inspiration and information from the net as a basis for their artistic development. Krist Wood stands as an excellent example of the latter practice, both because of his artistic practice and his involvement with the Computers Club and Internet Archeology.

Software art focuses more specifically on computational engineering as in the machine's language, communication systems. These works can either be connected — interfering in live action with visitors — or auto-generated — meaning visuals result from set algorithms and codes. Whereas the artist encodes following an idea/concept, the resulting images and other stimuli entirely depend on the computer process. Artists such as Adrian Ward and Casey Reas are notable for their use of programming languages.

Mixed Media is essential to the digital medium. As opposed to traditional creation, computation implies elements of different nature can be associated and

coordinated to produce a whole experience for the viewer. Artworks can thus combine, still and moving image, augmented reality, sound, photographs, and so on. One medium of the artwork can also be singled out meaning one digital creation can result in various physical outputs, depending on the joint wishes and purposes of commissioners, artists, and curators.



REPORT AND VIVA

SANIKA PENDSE

MFA– SEM 1

MINIMALISM

– A DESIGN CONCEPT IN ADVERTISING

Guided by:

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CERTIFICATE

This is to certify that the report entitled “Minimalism – A Design Concept in Advertising” has been submitted for Master of Fine Arts (M.F.A.) – Applied Arts, 1st Semester, 2021.

The research work is carried out by Sanika Pendse under my supervision in Amity School of Fine Arts, Amity University, Rajasthan.

She has successfully completed her report work.



Shreshtha Khichi

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I would like to express a word of appreciation and thanks to my parents and friends who always supported me and encouraged me during the work. In the end, I wish to thank all the office staff of the department for their support.

Sanika Pendse

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HOW IT ALL STARTED?

In the ancient and medieval period advertising took place only by word of mouth. The first step toward actual advertising came with the development of printing in the 15th and 16th centuries. Later in 17th century weekly newspapers in London began to carry advertisements and by the 18th century such advertising was blooming. Soon, the Books and the Leaflets also became the most common source of advertisement. Later ads were started to print in magazines as well.





There was a time when people got so overwhelmed about the concept of advertisement that they started to cut some of the advertisements from the newspaper or magazine and paste it on empty walls. It became a trend.

It was in the year 1786 that Mr. William Taylor opened his office in London that is today known as the first ever advertising agency in the history of marketing companies.

In 19th century the advertising industry started to grow more and more. So finally the son of a newspaper publisher, Robert Palmer took the initiative and established first ever advertising agency in the United States of America. His major contribution was the formation of the newspaper advertising market by setting aside a large amount of space for ads and reselling it at higher rates. This system is used till this present day.

In the beginning of the 20th century, advertising was everywhere. In those times advertising agencies were fully responsible for its content and pictures. On June 4, 1917, five regional industry groups and 111 charter members formed the American Association of Advertising Agencies. It is now called the 4A's. It is one of the most popular and successful agency in the world. Their headquarters is situated in New York. They have more than 1300 offices and hold 85% of total U.S. advertising spend.



This was the first color advertisement designed by 4As. And soon it became one of the most popular poster for ages. The guy in this illustration poster is Uncle Sam, he was the first ever human who was tagged as an influencer of a community. So 4As decided to use him in an advertisement to grab the attention of the larger mass. It worked like a charm. And so the poster was named as “The most famous poster in the world.”

THE GOLDEN AGE OF ADVERTISING



In early 1900s advertising became a whole movement when it came to radio and television. Since it was speaking to people directly through their radios and TVs, it felt more realistic and personal.

The first advertisement that hit the radio was in 1922 by radio host H.M. Blackwell at the cost of \$50 for 10 minutes time slot.

Personalization in advertisement took another big leap in 1930 when Rosser Reeves introduced the idea of a Unique Selling Proposition. Since a USP (now know as unique value point too) describes the unique thing about you business or your service for the customer. It should be very specific and highly personalized to differentiate your brand.



The next major milestone in advertising timeline came on July 1, 1941, when the first legal and continental commercial was showcased on TV screens on WNBT. This Bulova Watch Company ad was brief with only 10seconds spot.

The period from the 1960s to 1980s is considered as the golden age in the history of advertising because in this period, industry legends such as David Ogilvy, William Bernbach and Mary Wells Lawrence revolutionized the industry and totally improved standards of the advertising industry.

The best ideas come as jokes. Make your thinking as funny as possible.

-David Ogilvy



David Ogilvy



William Bernbach



Mary Wells Lawrence

Soon professionals started thinking out big ideas, relying on marketing concepts, research on data and allocating big budgets.

Companies began building characters around their products to establish more of a connection between the viewers and the brands. Tony the Tiger for Frosted Flakes or the Snap, Crackle and Pop gnomes for Rice Krispies, both of which are still seen on cereal boxes today were made in this era.



Among all the different characters that emerged, the advertisements in this time had one main purpose which was to SELL the product or the service. While the characters played a major part in creating an ad-culture for consumers, they made sure the product was always at the forefront.

That is until digital advertising became a trend and with it came several major game-changers in the evolution of personalization and advertising.

THE DIGITAL ERA

This period was known for introducing new channels and mediums and a drastic shift in motive. Rather than selling, the evolution of ads led to a focus on brand awareness, brand identity and solving problems. The product was no longer in the forefront or centre of the advertisement, the consumer was.

It all started when internet usage took off in 1992 with the introduction of online social networking services. When everyone suddenly began using the internet for personal reasons, advertisers jumped all over the opportunity to reach out the consumers there. They began shifting their attention to more digital advertisements, starting with display advertising on the the world wide web.

On October 27, 1994, the world of advertising was forever transformed by a small graphic ad with words, "Have you ever clicked your mouse right here? You will," in a rainbow coloured font. The age of banner ads had officially begun.



Although the previous year law firm 'Heller Ehrman White & McAuliffe' purchased the first online clickable web ad, the first banner ad was in fact purchased by AT&T in 1994.

The commercial web magazine, HotWired sold the ad to AT&T at \$30,000 with a run time of 3 months. From then, the term 'Banner Advertising' was coined. It was around this time that the concept of online advertising really blew up for publishers who were looking for a way to keep their content free.



About 44% of the people who saw the ad clicked it and when they did, they landed on this site. Although the page lacked development, the ad set off a chain reaction that altered the course of the advertising industry and banner ads caught on extremely quickly. In 1995, Yahoo transformed itself from a web directory to commercial business. The company announced an advertising deal for their own primitive banner ads.

The publications planned to set aside a portion of its website to sell space to advertisers, just like the ad space which are sold in a print magazine. They called the ad spaces banner ads and charged advertisers an upfront cost to occupy the ad space for a particular time period, very different from today's PPC (pay-per-click) ads.



The web was rapidly expanding and the number of websites were rising day by day. Users needed a way to easily navigate the web and as a result, search engines began to steadily gain popularity.

Although other search engines existed, such as AltaVista, Infoseek and Lycos, the birth of the Google search engine happened. A player that, to this day, leads the digital advertising industry.

Mobile advertising came next, as mobile phones came into existence.

The first ever mobile advertisement popped up in 2000 when a Finnish news provider sent free news headlines via SMS. This led to more experimental mobile ads and mobile marketing.

When the original iPhone was released in the year 2007, mobile advertisements came to smartphones. However, it was still new to the medium. Advertisers would simply reformat their desktop ads for mobile as they weren't well-designed and didn't provide an ideal user experience, there was a widespread of negative feedback from these first smartphone ads. Advertisers then began design their ads "mobile-first."

In 2005 what was set to become the world's largest video advertising platform, YouTube, was launched. And soon started video ads as well.

Google saw the opportunity and purchased YouTube for \$1.65 billion. This was also the year that Twitter was publicly introduced.



With the introduction of Facebook ads in 2007 by Mark Zuckerberg, the number of targeting possibilities that advertising platforms could offer to businesses increased. That's how the advertising war between Google and Facebook and their development started. These companies are still expanding their advertising networks today.



In the year of 2010, photo and video-sharing social networking service, Instagram was launched. On April 9, 2012, Facebook bought Instagram for \$1 billion in cash and stock.

That's a look back at the history of how advertising began and how it evolved to online advertising. But the real question is what about the future?

TYPES OF ADVERTISING

1. Online Ads
2. SMS Ads
3. Television Ads
4. Ads in theatres
5. Radio Ads
6. Print Media Ads
7. Outdoor Ads

Most of the people wonder that minimal advertisement is included in which category, to answer it is in almost all categories.

As technology advances, so does the ability of advertisers to create ever more complex and flashy ads and deliver them in a multiple ways. Advertising overpower people on television, the Internet and even their mobile phones. Volume and complexity, no longer attracts consumer's attention the way they once did. Minimalism in advertising offers one potential answer for this problem.

WHAT IS MINIMALISM?

Minimalism is defined as a design or style in which the simplest and fewest elements are used to create the maximum effect. Minimalism had its origins in the arts—with the artwork featuring simple lines, only a few colours, and careful placement of those lines and colours. People in fact have started living a minimal life style as well, using less than 100 things. This is becoming a new trend.

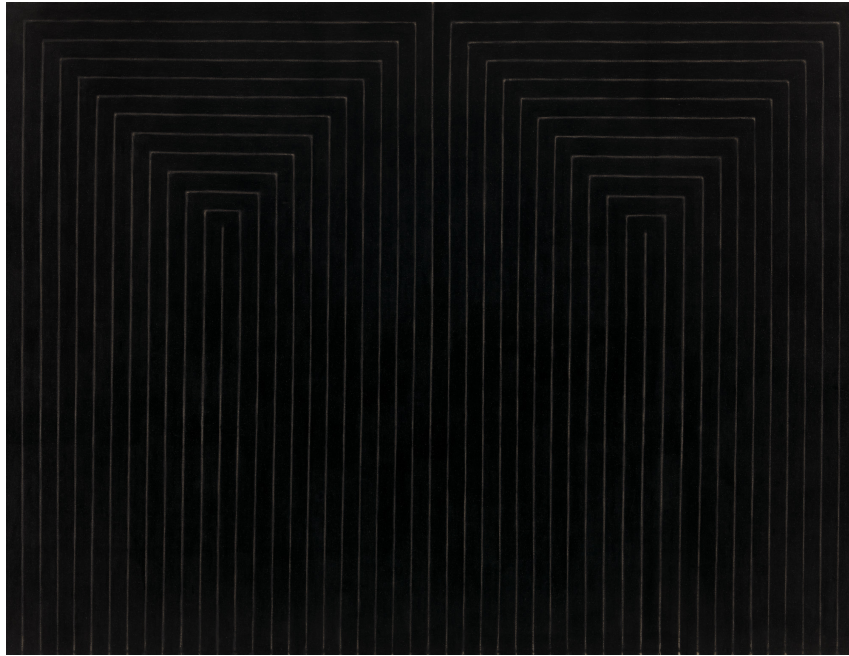
“Simplicity is the ultimate sophistication.” — *Leonardo da Vinci*

“The ability to simplify means to eliminate the unnecessary so that the necessary may speak.” — *Hans Hofmann*

HOW IT ALL STARTED?

Minimalism emerged in New York in the early 1960s among artists who were self-consciously rejected the typical art form, they thought that it had become stale and academic. A wave of new influences and rediscovered styles led younger artists to question conventional boundaries between various media. This art form was characterized by extreme simplicity of forms, lines and literal objective approach. Minimal art is also called the ABC art.

We usually think of art as representing an aspect of the real world (a landscape or a person or few objects) or reflecting an experience such as an emotion or feeling. With minimalism, no attempt is made to represent an outside reality, the artist wants the viewer to respond only to what is in front of them. The medium or the material from which it is made and just the form of the work is the only reality.



In 1950s artist Frank Stella used commercial paint bought at a dollar per gallon with simple painter brushes to create his this minimal “Black Paintings” which made him famous when he was just 23. The works were foundational in the development of Minimalism, as his statement, "What you see is what you see," became the minimal movement's mantra. This painting

was exhibited at the Museum of Modern Art in New York in 1959.

Minimalism started to gained popularity in the 1960s and 1970s with Carl Andre, Dan Flavin, Donal Judd, Sol Lewitt, Agnes Martin and Robert Morris becoming this movement’s most important innovative artists.

Soon the form of minimalism was seen in sculptures, architecture, music, theatres and machines too.

The Minimalist focus on simplicity continues to exercise power in the creative field of advertising as well.

Try to cram too many visual elements into a blank space and you get only visual noise that the viewer overlook or ignore, rather than trying to sort out. Minimalist advertising aims to strip out virtually all the visual noise that appears in many ads and focus on single impactful visual message.



For example tech giant Apple, one of the most famous company, built an entire brand on a minimalist approach, from its logo to product design and the architecture in its retail stores.

Minimalism in advertising does not represent a cure-all, especially with branding elements, such as logos. Apple spent decades adjusting its logo from the original, much more complex design to its current minimalist design.

EFFECT ON DESIGN CONCEPTS

Applying the lesson of minimizing elements in advertising to focus on one key message, however, can improve response of the viewers and recall of your ads.

Minimalist ads often prove memorable because they tend to capture our attention. The nature of these advertisements allows designers to manipulate the negative space in a way that draws the viewer's eyes to the key image or message. Where as the viewer of a more cluttered ad might spend a fraction of a second on each element, the viewer of a minimalist ad spends the entire time focusing on a single message, a logo or a tagline. This additional focused time combined with the surprise the simple advertisements help the viewer to recall the brand later.

From the logo to the tagline as well as their product packaging, companies like HP, Google, Facebook, Microsoft, Mercedes-Benz, WhatsApp, McDonalds, LinkedIn, Twitter and many more have empowered the minimal mantra.



Minimalism in advertising leverages on the fact that a simple advertisement or design does the following:

1. Stands out from the clutter of competitors
2. Captures the attention of the audience or viewer with its simplicity
3. It's more iconic and easier to remember
4. Creates a better impression on the audience or viewer

“Less is more.” — *Ludwig Mies Van der Rohe*. This has never been truer in our design age.

It seems our world is developing at a lightning pace and people hardly have time to decode complexities anymore. It seems like 24 hours isn't enough and time has become more precious than ever before. People's attention span has also been reduced in many ways. It takes a lot more to get their attention and even harder to maintain their attention.

What does this mean for advertising? Capturing and holding the attention of your target audience is a bigger challenge now and this has further reinforcement for alternative ways of showcasing products and services in a simpler space.

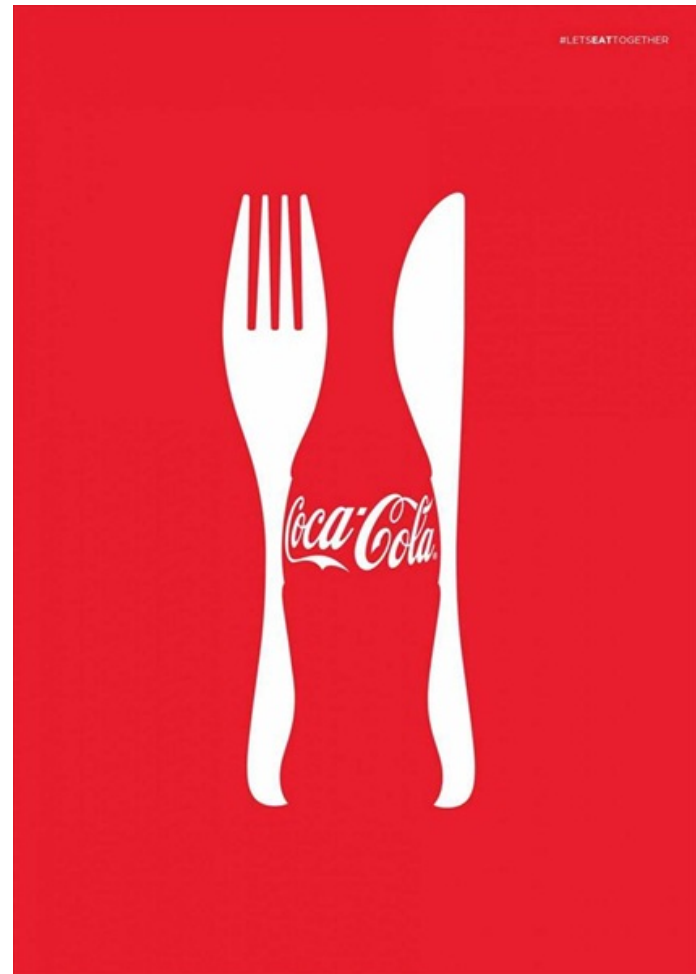
Here is where minimalism holds an upper hand. A single figure in a visual will catch attention faster than the one with five or more visuals. The time it takes the eye to find the image is shorter but the message delivered is quicker and more efficient because the message is direct and to the point without any chaos.

REGULAR AD AND MINIMAL AD

Nivea




Coca-Cola



Colgate

Now! ONE Brushing With COLGATE DENTAL CREAM
Removes Up To 85% Of Decay And Odor-Causing Bacteria!



Only The Colgate Way Does All Three!
CLEANS YOUR BREATH while it
CLEANS YOUR TEETH and
STOPS MOST TOOTH DECAY!

Just One Brushing with Colgate's Stops Bad Breath Instantly!
Your very first brushing with Colgate's rich meringue removes up to 85% of the bacteria that cause bad breath! Yes, scientific tests prove that Colgate Dental Cream stops bad breath instantly in 1 out of 10 cases that originate in the mouth! Every time you brush your teeth with Colgate you clean your teeth while you clean your teeth!

Just One Brushing with Colgate's Removes Up to 85% of Decay-Causing Bacteria!
Every brushing with Colgate Dental Cream removes up to 85% of the bacteria that cause decay! But...if you really want to prevent decay, be sure to SBR (the Colgate way) Scientific tests showed that the Colgate way of brushing teeth right after eating stopped more decay for more people than ever before reported in all denture history!

Brushing Teeth After Eating Stops Tooth Decay Best!
Scientific tests over a 2-year period showed a startling reduction in tooth decay for those who brushed their teeth with Colgate's right after eating! In fact, 76% says that the new action is better for almost 2 out of 3 people. Yes, the Colgate way of brushing teeth right after eating is the best home method known to help stop tooth decay!

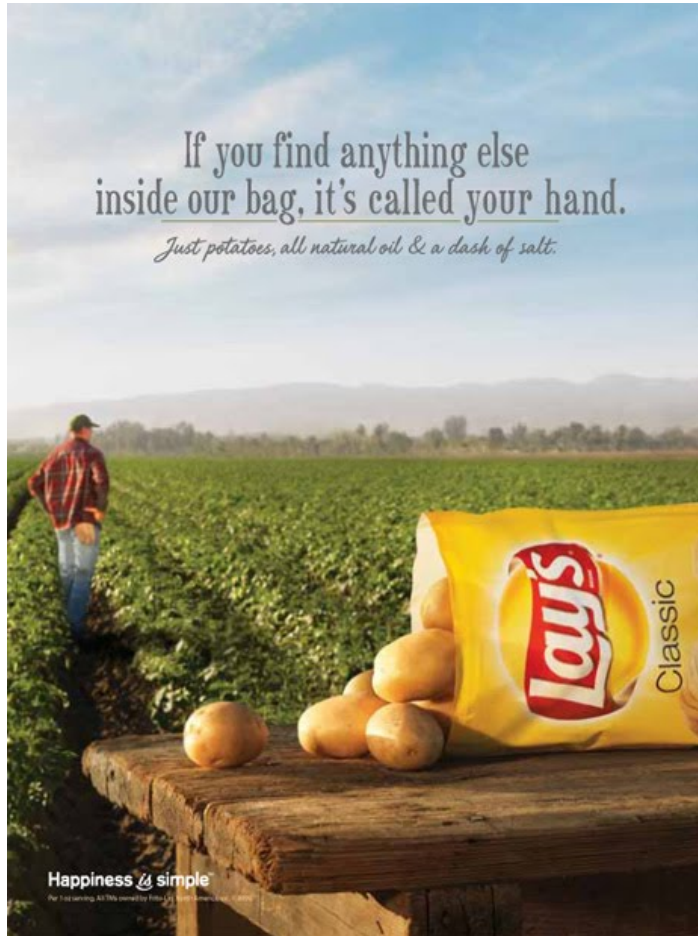
Gives You A Cleaner, Fresher Mouth All Day Long!

42



Healthy teeth with **Colgate**

Lay's



McDonald's

**THE BIG MEAL.
IT'S A GREAT DEAL FOR DINNER.**

Grab the Big Meal at McDonald's.
And you'll have yourself a Big Mac, a very large
order of fries and a great big drink.
All of which should make your stomach very happy.
Not to mention your wallet.



**The
Big
Meal**

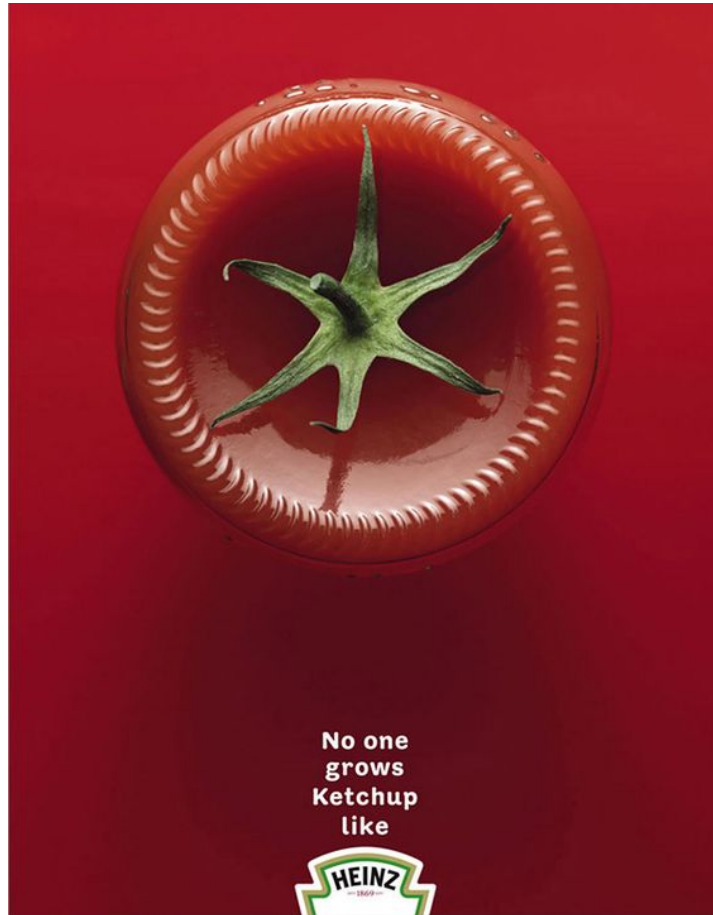
You deserve a break today. **McDonald's**

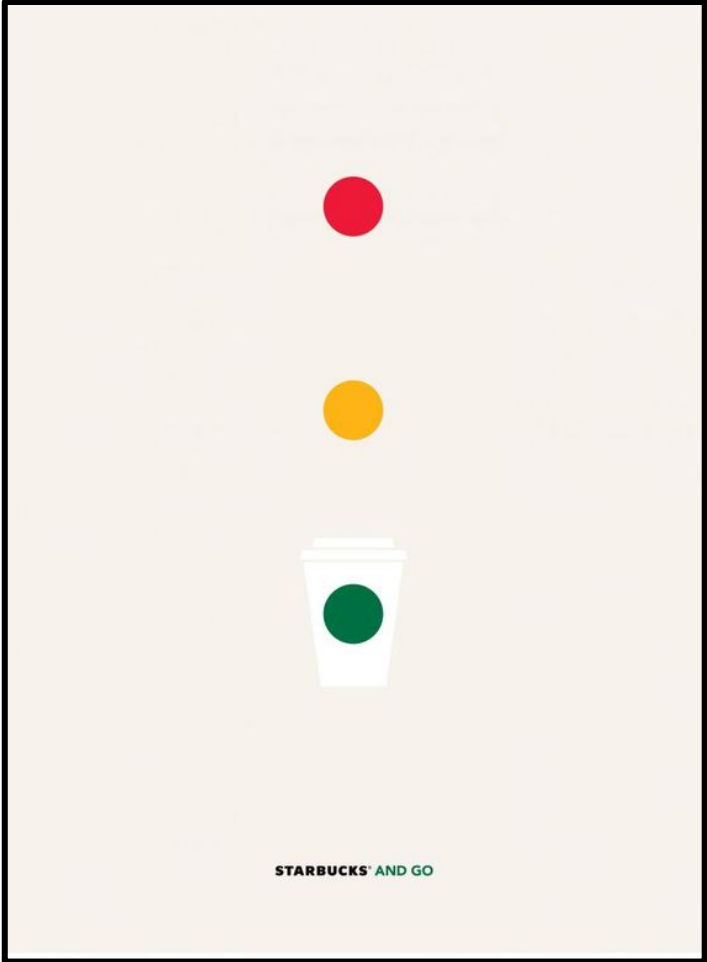
© 1971 McDonald's Corporation



Happy Holidays

CREATIVE MINIMAL ADS







Have a break, have a ...



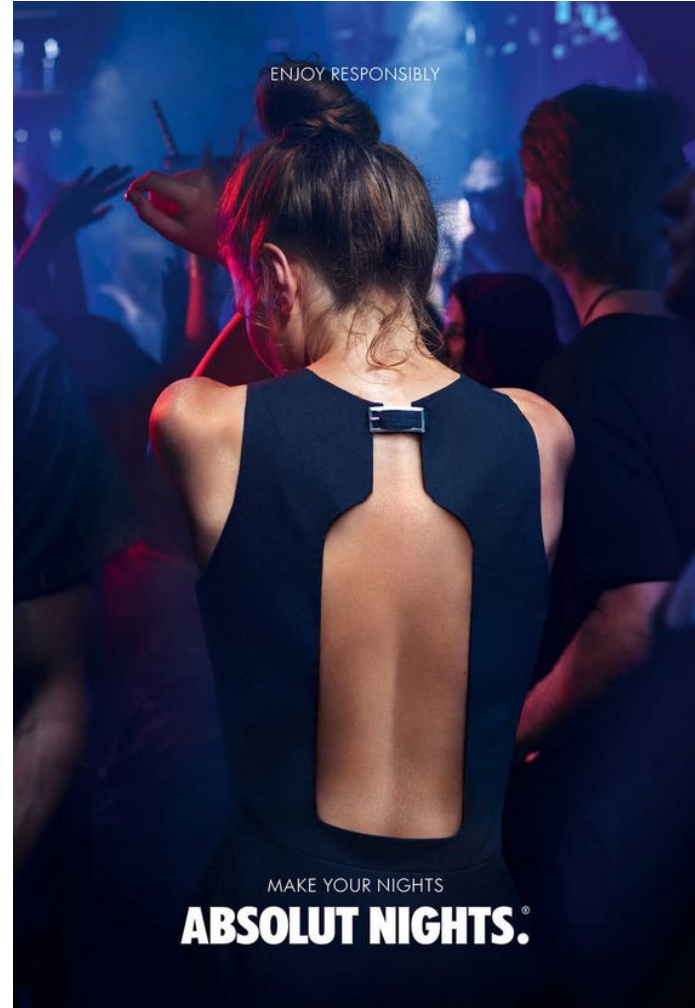
BEWARE THE HEAT

LITTLE BOTTLE · BIG FLAVOR

Sorry flash, we got a **delivery.**



ENJOY RESPONSIBLY



MAKE YOUR NIGHTS
ABSOLUT NIGHTS.®

**OWN
THE WAVE.**



**OWN
THE ROAD.**



**OWN
THE CHALLENGE.**



JUST DO IT.

THANK YOU

REFERENCES

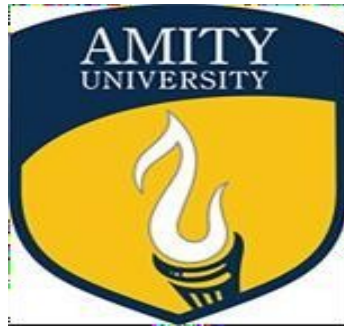
WEBSITES:

- indiatimes.com
- feedough.com
- theminimalist.com
- britannica.com
- mad-over-marketing.com

BOOKS:

- Designing is contagious
- Goodbye things
- The joy of less

Amity University Rajasthan, Jaipur



DISSERTATION

TOPIC:-

HOW DIGITAL ART TECHNIQUE CAN BE USED AS A PAINTING MEDIUM

In partial fulfillment of the requirement for the degree of
M.F.A

Under the Supervision of
Mrs. Manisha Prajapat

By:
Priyanshi Khandelwal

ACKNOWLEDGEMENT

In pursuit of this academic endeavor I feel that I have been especially fortunate as inspiration, guidance, direction, co-operation, love and care all came in my way in abundance and it seems almost an impossible task for me to acknowledge the same in adequate terms.

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Words are not enough in offering my thanks to Manisha Ma'am for the amicable and mellifluous ambience support and help in carrying out my work.

I convey my sincere thanks to my beloved and respected Parents for their blessings and affectionate encouragement. Now I would like to thank the almighty God for giving me patience, strength and for being with me and showing the path of light.

PRIYANSHI KHANDELWAL

CERTIFICATE

This is to certify that dissertation entitled “HOW DIGITAL ART TECHNIQUE CAN BE USED AS A PAINTING MEDIUM” has been submitted for the paper “Master of Fine Arts (M.F.A), (Painting)”, Semester May 2022,

The dissertation entitled “HOW DIGITAL ART TECHNIQUE CAN BE USED AS A PAINTING MEDIUM” embodies research work carried out by Priyanshi Khandelwal under my supervision in Department of Fine Arts, she has successfully completed her dissertation work.

Prajapat

Fine Art

Rajasthan Jaipur.

Mrs. Manisha

Assistant Professor

Amity School of

Amity University

DECLARATION BY THE CANDIDATE

I **PRIYANSHI KHANDELWAL** M.F.A(Painting) hereby declare that the dissertation entitled "HOW DIGITAL ART TECHNIQUE CAN BE USED AS A PAINTING MEDIUM" submitted to Amity Institute of Fine Arts, Amity University Rajasthan, has been done by me under the supervision and guidance of Mrs. Manisha Prajapat in partial fulfillment award of degree M.F.A.

Place:

Date:
Candidate

Signature of

The Timeline

- 1) Prehistory (includes Paleolithic, Mesolithic and Neolithic)
- 2) About Indian Art (includes Painting, Murals and Miniatures)
- 3) Old and New Techniques of Painting
- 4) Digital Art
 - i). Revolution
 - ii) Method
- 5) Old and New Techniques of Digital
(How it is growing and helpful in painting in modern era)

Prehistory

In the past where there was no paper, language, written letters, and hence no books or written documents, that period is known as the Prehistoric period. Creating art is a core characteristic of human culture, but the lack of archaeological evidence has limited our knowledge about the origins and evolution of this aspect of society.

Also, it is difficult to understand how Prehistoric people survived until scholars began to excavate Prehistoric sites. Only paintings and drawings are the oldest art forms practiced by human beings to express themselves using the cave wall as their canvas. The prehistoric paintings are in the form of murals. These murals were made by prehistoric man using their tools on the inner walls of the cave. The prehistoric paintings were produced in preliterate, prehistorical cultures beginning somewhere in very late geological history, and continued until the culture either developed writing or other methods of keeping a record, or made significant contact with another culture that makes some record of major historical events.

By combining the information collected from old tools, habitat, bones of both animals and human beings, and drawings on the cave walls scholars have constructed an accurate knowledge about what happened and how people lived in prehistoric times.

The origins of Indian Art find their way back in the roots of civilization. It was when the Indus Valley Civilization reached its peak that most Indian art forms are believed to be originated. The earliest forms of Indian Art originated back in around 3500 BC and the history of these forms has been influenced by the cultural as well as religious aspects. The diverse culture of the country has its impactful imprint on the aesthetic masterpieces, be it paintings, sculptures, writings, or musical works. Having been gloriously blessed with a picturesque landscape and a glorious history, India is renowned as a scintillating combination of spiritual as well as modern.

From the 2nd Century B.C., the Indus Valley Civilization flourished in the northwest area of the country, which is Pakistan to the present date. The evolution towards a sophisticated and civilized culture happened in the Harappan period. Dating Roughly, somewhere from 3200-1200 the history

of Indian Art during the Indus Valley civilization is observed to be influenced by the advancements that happened in Science and Culture. The artistic expression of this period can be traced back to Rock paintings and Temple Arts. Its existence came to light through unexpected archaeological discoveries from 1924 onwards at Harappa in the Punjab and Mohenjo Daro in Sindh

Until that time art historians still considered the cyclopean wall of Raja Griha as the earliest architectural remain. The first discoveries of this Civilization were made in the valley of the Indus River and the Punjab but later excavations prove that the civilization had a far greater extension because sites have been found scattered from Northwest frontier to the foot of Himalaya down to Gujarat and Eastwards as far as the Ganges valley from the north of Sind to Saurashtra in the south and from Baluchistan in the west to the Ganga Yamuna Delta in East

According to the latest information by paleo-archeological, the oldest art was created by humans during the prehistoric Stone Age, between 300,000 and 700,000 years ago. The Stone Age epoch of ancient history is divided into three main eras, I.e.:-

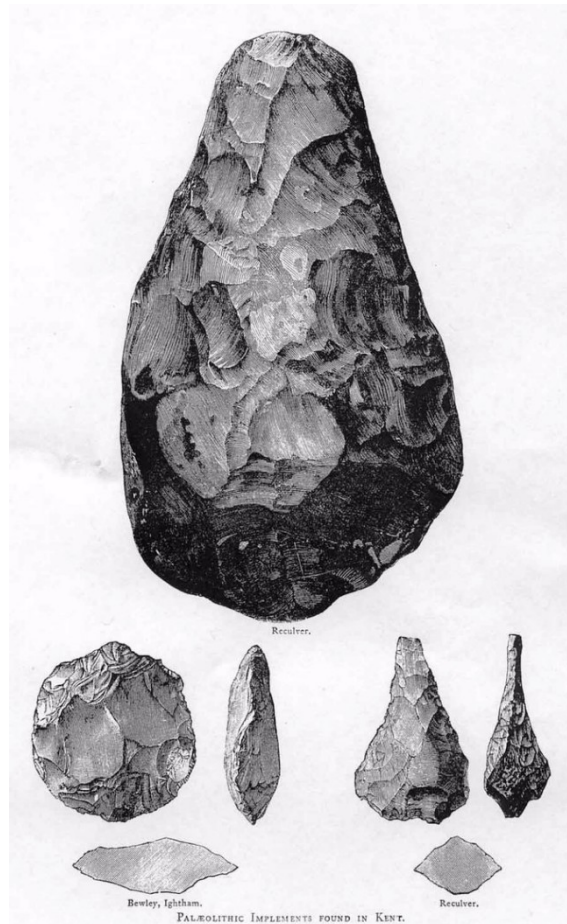
- Paleolithic,
- Mesolithic
- Neolithic.

Paleolithic Art

The prehistoric period in the early development of human beings is commonly known as the 'Old Stone Age' or 'Paleolithic Age'. The Paleolithic Age, or Old Stone Age, spanned from around 30,000 BCE until 10,000 BCE, period covering between two and one-half and three million years, depending on which scientist has done the calculations and produced the first accomplishments in human creativity and lasted until the retreat of the ice, when farming and use of metals were adopted. The Age is characterized by the use of stone tools, although at the time humans also used wood and bone tools and other organic commodities were adapted for use as tools, including leather and vegetable fibers, however, due to their nature, these have not been preserved to any great degree. Also, the period was marked by the rise of Homo sapiens (the species that you and all other living human

beings on this planet belong to) and their ever-developing ability to create tools and weapons.

Surviving artifacts of the Paleolithic era are known as paleolith and has a number of paleolith that range from stone, bone, and wood tools to stone sculptures.



Acheulean hand-axes: The types shown are (clockwise from top) cordate, ficron, and ovate.

The Paleolithic period is separated into three phases:

(1) Lower Paleolithic (2.5 million years-100,000 years ago)
(The earliest subdivision)

(2) Middle Paleolithic (300,000-30,000 years ago)

(3) Upper Paleolithic (40,000-10,000 years ago)

We did not get any evidence of paintings from lower or middle paleolithic age yet whereas in the Upper Paleolithic period, we see a proliferation of artistic activities. Some evidences are a preference for aesthetic emerged in

the Middle Paleolithic due to the symmetry inherent in discovered artifacts and evidence of attention to detail in such things as tool shape, which has led archaeologists to interpret these artifacts as early examples of artistic expression. Generally, artifacts dating from the Lower and Middle Paleolithic remain disputed as objects of artistic expression, while the Upper Paleolithic provides the first conclusive examples of art making.

The Upper Paleolithic Period is characterized by the emergence of regional stone tool industries, such as the Perigordian, Aurignacian, Solutrean, and Magdalenian of Europe as well as other localized industries of the Old World and the oldest known cultures of the New World. These industries also exhibit greater complexity, specialization, and variety of tool types, such as those made of bone, ivory, and antlers, and the emergence of distinctive regional artistic traditions involving paintings and sculpture and musical instruments.

World Was Like and Art of the Time

Men at this time were strictly hunter-gatherers, meaning they were constantly on the move in search of food. These modern men also developed an understanding and use for art. This discovery raises the strong probability that Asian "modern man" and European "modern man" did not coincidentally develop independent painting skills at exactly the same time, but already possessed those skills when they left Africa.

Subjects of early works consist of simple human figures, geometric designs, small sculptures. There were only two kinds of art: Portable or Stationary, and both forms were limited in scope.

Portable art or **Small sculptured pieces** during the Upper Paleolithic period was necessarily small in order to be portable and consisted of either figurines or decorated objects. The works from this area include simple but realistic stone and clay figurines, were carved from stone, bone, or antler or modeled with clay. Most of the portable art from this time was figurative, which means it depicted something recognizable, whether animal or human in form. These small stylized figures are characteristically rotund, emphasizing parts of the female body associated with sexuality and fertility,

many are so abstract that only protuberant breasts and exaggerated hips are clearly distinguishable. The figurines are often referred to by the collective name of "Venus," as they are unmistakably females of a child-bearing build. Some famous Venus are:

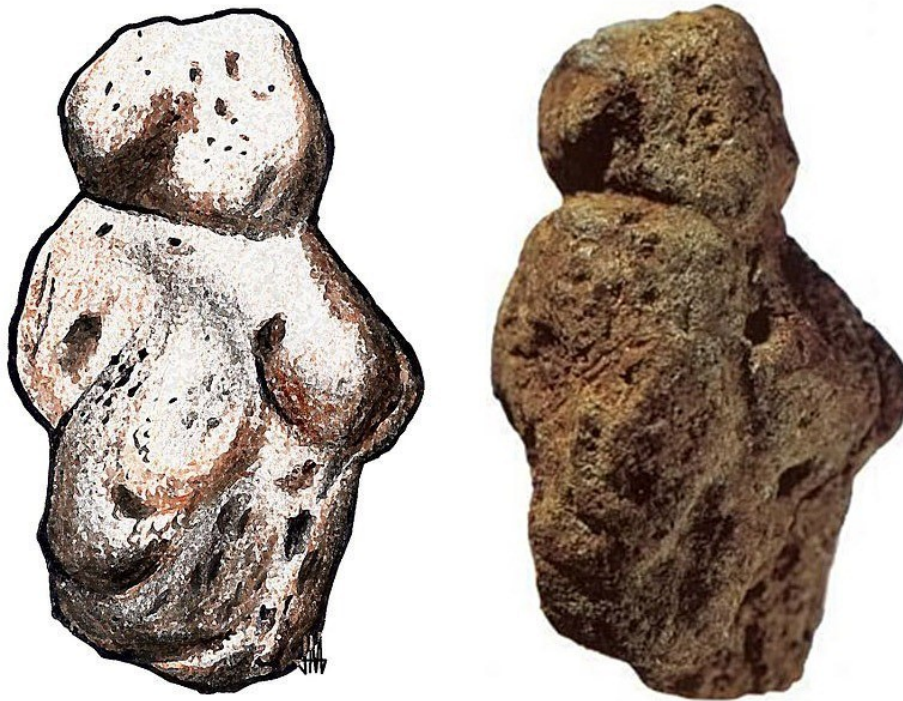
- ◆ Venus of Tan-Tan
- ◆ Venus of Berekhat Ram

Venus of Tan-Tan: This is an alleged artifact found in Morocco that is believed by some, to be the earliest representation of the human form. The Venus, a 2.3-inch-long piece of quartzite rock dated between 300,000 and 500,000 years ago during the Middle Paleolithic. It was discovered in 1999 on the north bank of the Draa River, just south of the Moroccan village of Tan-Tan. There is controversy among archaeologists to its nature and origin. Some archaeologists believe that it was just a combination of geological forces as well as tool-based carving. Visible smudge stains have been interpreted by some as remnants of red ochre pigments. For others, it is simply the rock's shape the result of natural weathering and erosion, and any human shape is a mere coincidence.



The Venus of Tan-Tan: Alleged artifact found in Morocco

Venus of Berekhat Ram: The Venus of Berekhat Ram, a contemporary of the Venus of Tan-Tan, found at Berekhat Ram on the Golan Heights in 1981. Some believe it to be a representation of a female human figure, dating from the early Middle Paleolithic, however the claim is highly contested. The figure is a red tuffic pebble, about 1.4 inches long, which has at least three grooves, possibly engraved with a sharp-edged stone tool. The grooves have been interpreted as marking the neck and arms of the figure by some, while others believe these to be purely naturally-occurring lines.



The Venus of Berekhat Ram: Oldest art piece that predates human

Stationary art or monumental paintings, was just that didn't move. The best examples exist is cave paintings in western Europe, created during the Paleolithic period. Paints were manufactured from combinations of minerals, ochres, burnt bone meal, and charcoal mixed into mediums of water, blood, animal fats, and tree saps. Experts suggested that these paintings served some form of ritualistic or magical purpose, as they are located far from the mouths of caves where everyday life took place. Cave paintings contain far more non-figurative art, meaning many elements are symbolic rather than realistic. The clear exception is in the depiction of

animals, which are vividly realistic humans, on the other hand, are either completely absent or stick figures.

First discovery of cave paintings in the world was made in India (1867-68) by an Archaeologist, **Archibold Carlyle**, twelve years before the discovery of Altamira in Spain which is the oldest rock paintings site of the world.

In India, remnants of rock paintings have been found on the walls of caves situated in several districts of Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Telangana, Karnataka, Bihar, and Uttarakhand.

Some of the examples of sites early rock paintings are **Lakhudiyar in Uttarakhand, Kupgallu in Telangana, Piklihal and Tekkalkotta in Karnataka, Bhimbetka and Jogimara in Madhya Pradesh etc.**

Paintings found here can be divided into three categories: **Man, Animal, and Geometric symbols.**

Some of the characteristics of these paintings are:

- ✓ Human beings are represented in a stick-like form.
- ✓ A long-snouted animal, a fox, a multi-legged lizard are main animal motifs in the early paintings (later many animals were drawn).
- ✓ Wavy lines, rectangular filled geometric designs and a group of dots also can be seen.
- ✓ Superimposition of paintings – earliest is Black, then red and later White.

Mesolithic art

The Mesolithic Period, or Middle Stone Age, is a term which describe specific cultures that fall between the Paleolithic and the Neolithic Periods. The start and end dates approximately from 10,000 BCE to 8,000 BCE I.e., it covers a brief time span of about 2,000 years. This era saw the beginning of settled and agricultural communities given that human beings do not have to live in caves or follow herds any more. The art of this period has no relevant artistic meaning in the form of representation in comparison with predecessor times.

Pottery was the one that begins to be produced largely at this time and it was mostly utilitarian in design or we can say a pot, just needed to contain

water or grain only and not necessarily exist as a feast for the eyes. The portable sculptures of the Upper Paleolithic were largely absent during this era and This is the reason why people settled and did not require an art with small objects or portable material to travel. The artistic designs were mainly left up to later peoples to create. The invention of the bow and the arrow occurred, that helped the people to provide more food from hunting of animals and the development of ceramics for food storage. It was definitely a step forward. The tools used have distinguishing factor among these cultures. These tools were generally composite devices manufactured from small chipped stone tools called microliths and retouched bladelets.



Backed edge bladelet

The Art of this period reflects the change to a warmer climate and adaptation to a relatively sedentary lifestyle, population size, and consumption of plants, all evidence of the transition to agriculture. It is difficult to find a unique style of artistic production during the Period, and art forms because food was not always available, and people were often forced to become migrating hunters and settle in rock shelters. The most interesting art consists of paintings similar to the cave paintings from the Paleolithic era, these move abroad towards cliffs or “walls” of natural vertical rock, often semi-protected by outcrops or overhangs of natural rocks. These cave paintings have found in places ranging from the extreme

north of Europe to South Africa, as well as in other parts of the world, the largest concentration of them exists in the East of Spain. The paintings overwhelmingly depicted animals; rock paintings were usually of human groupings that were typically seems to engaged in either hunting or rituals whose purposes have been lost to time.

Mesolithic Rock Art

The painting is highly stylized, rather like glorified stick figures, those ones are far from being realistic. These figures are more like pictographs than pictures, and some historians feel they represented the primitive beginnings of writing. The groupings of figures are painted in repetitive patterns resulting in a nice sense of rhythm even if they are not sure of the action in which they are involved. The most common ones are Hunting scenes, scenes of battle and dancing, and possibly agricultural tasks and managing domesticated animals can also be seen. In some scenes gathering honey is also ne shown by the people of that era.



The Man of Bicorp



Dance of the Cogul

Above rock art is a good example of the depiction of the static art movement. In this painting you can see nine female figures dancing around a male figure with abnormally large phallus, the figures were rare that was not present in Paleolithic art. Along with humans, several animals, that includes a dead deer or buck impaled by an arrow or atlatl, are also depicted there.

Neolithic Art

This Era began after the end of the last Ice Age and typically begins to follow a prescribed course as Iron and bronze are discovered. The art of these distinct periods is comprised of art of people that had progressed from hunter-gatherers to permanent settlers, mainly living in farming communities. The art from this era were weaving, architecture, megaliths, and increasingly stylized pictographs were on their way to becoming writing. Sculptures became bigger, in part, as people didn't have to carry it around anymore; pottery became more widespread and was used to store food harvested from farms. This is the period when the architecture and its interior and exterior decoration appeared first. People begin to live in one place, settle down, year after year.

As the era is also called the “New Stone Age”, it brought more intellectual thought and advancement. Many structures follow the sun or moon in such a way that suggests they are calendars, in some parts drawn with lunar maps. Great efforts were put into the modeling of heads, with wide-open eyes and bitumen-outlined irises. The sculptures represent men, women, and children. Women are recognizable by features like resembling breasts and slightly enlarged bellies, but neither male nor female sexual characteristics are emphasized, and none of the sculptures have genitals. Only the faces have detail.



Figures from ‘Ain Ghazal

They were produced to be free-standing, and were likely intended to be viewed only from the front, because of their disproportionate flatness. The makers of the statues would not permit them to last long. As they may have been produced for the purpose of intentional burial and never been displayed, so they were buried in pristine condition.

Art for Ornamentation

The art was created for some functional purpose almost without exception. There were more images of humans than animals, and the humans looked more identifiably as the people began to be used for ornamentation.



The picture comprises an arc-shaped ornament with holes at either end, probably half of a bracelet; two flattened disc-shaped pendants with central holes in them; two awl-shaped pendants; a flattened pendant with spiked end; a thick ornament with rounded side and flat reverse, drilled through one end for suspension; and a handle-shaped implement. Together with four mottled buff and ivory-colored jade flattened ornaments, also includes two of irregular rounded-rectangular shape with two holes and one of irregular oval shape with four holes, each with subtly notched sides; and a disc of rounded-square shape with hole at the center.

Indian Art

India has been referred to as the “Sone ki Chidiya” i.e., the Golden Sparrow in the past owing to its rich heritage. India has a complex history spanning thousands of years and find its origin way back in the roots of civilization around 3500 BC and the history of these forms have been massively influenced by the cultural as well as religious aspects. India is the only major Asian culture known to be visited by the ancient Greeks and Romans, caused fascination as an exotic and mysterious land ever since. Our Indian Art is rich in its tapestry of ancient heritage, medieval times, Mughal rule, British rule, progressive art and now contemporary art with a 5000-year-old culture and Jewelry is considered one of the oldest forms of Indian art that remains dates back to the Harappa civilization. The earliest record of India art originated from a religious Hindu background, but was later replaced by a soaring popular Buddhist art. The residents of the Indus Valley Civilization were already adorning themselves with gold, and started creating ornamental pieces such as necklaces, earrings, bracelets, crowns, amulets, pendants, and rings. Indian Art had survived in its own land and spread from time to time all over the world and his was possible because of those kings who recognized budding talent patronized art and themselves were great connoisseurs. Every king has left a deep impression of his affinity to the artist community and even today, art is patronized by the rich and famous in the country.

Indian art is a term used in art history to group study the different artistic expressions created in the historical regions of the Indian subcontinent, including modern-day India, Bangladesh, and areas of Pakistan and Afghanistan. It covers several art forms, historical periods, and influences. Be it paintings, sculptures, writings or musical works Indian art has its impactful imprint on the aesthetic masterpieces due to its diverse culture.

Human life is a rich fabric that is given color and texture by the many happening that shape it. The mundane actions that characterize every day as well as the extraordinary happenings that make and keep our lives interesting are all threads that get woven together to form this tapestry. The one thing that is common to all these threads is the fact that they evoke

feelings in us, we respond to them with our emotions before they can become a part of our internal life. Indeed, life can be thought of as a continuous sequence of emotions that arise in various contexts and circumstances. These emotions, or rasas, are what give life different hues shades and colors. This it is not surprising that most performing art, which tries to present to the 'viewer a slice of human life focuses precisely on these rasas, or motions in order to appeal to the audience. That rasas are the mainstay of performing art, or natya, is a fact that has been well-recognized for centuries now. The Natya Shastra is an ancient Indian text dated between 2nd century BC and 2nd century AD which analyses all aspects of performing art. It is often called the fifth Veda because of its importance. In it one finds a thorough exposition on the rasas, or emotions that characterize Life as well as Art. The Natya Shastra describes nine rasas or Nava Rasas that are the bass of all human emotion. Each is commented upon in detail. It is useful to keep in mind that a rasa encompasses not just the emotions, but also the various things that cause that emotion. These two things go hand in hand and are impossible to treat separately. This duality is part of every rasa to varying degrees. Today we try to bring to you a flavor of each of these nine rasas, explaining what each one means and presenting it to you through some Indian art form.

Philosophy of the Art Canons of India

Rasa is the essence to the Indian Art and the theory is mentioned in Chapter 6 of Ancient Sanskrit text Natya Shastra attributed to Bharata Muni. Every Rasa corresponds to a particular Bhava. The Natya shastra has carefully described the Bhavas used to create Rasa. The following table states the nine moods (Nava rasa) and the, corresponding Bhava. Every Rasa is identified with a specific color for the use in visual arts. In this concern Indian drama and literature is based on 'Bhava' or the state of mind i.e. rasa. It is the Prana of Indian aesthetic. Rasa is the aesthetic pleasure derived from creation. Rasa is divine ultimate truth that creates particular mood and that particular mode that is Bhawa creates rasa. It is about human state of mind that means, what the mind feels and expression of feeling there after

Shringara

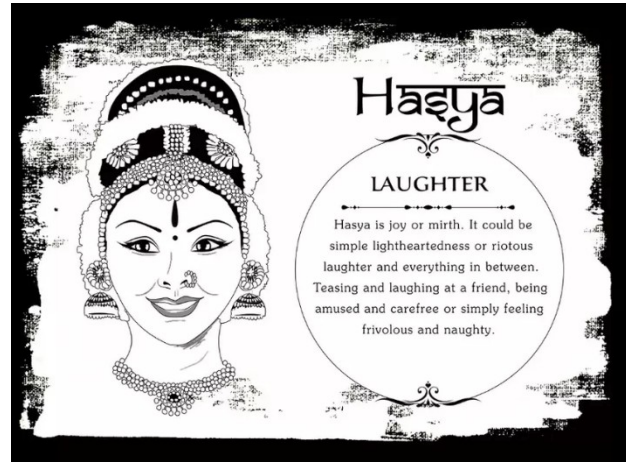
Shringara means love and beauty. This is the emotion used to represent that which appeals to the human mind, which one finds beautiful, which evokes love. This is indeed the king of all rasas and the one that finds the most frequent portrayal in art. It can be used for the love between friends, the love between a mother and her child, the love for God or the love between a teacher and his disciples. But the Shringara or love between a man and a woman is easily the most popular form of this rasa. The sweet anticipation of a woman as she waits for her lover is as much Shringara as the passion she feels for her first love, a passion. So heightens her sensitivity that even the moonbeams scorch her skin. In Indian music too this rasa finds wide portrayal through beautiful melodies.



Hasya

The joy to the soul. The rasa is used to express joy or mirth. It can be used to depict simple lightheartedness or riotous laughter and everything in between. Teasing and laughing with a friend, being amused and carefree or simply feeling frivolous and naughty -these are all facets of hasya rasa. Lord Krishna's childhood, when he was the darling of all Gokul is filled with many stories of his naughty activities. This mirth, which endeared him to all, is one of the common sources of hasya in all ancient Indian art forms.

Clearly, where there is hasya, all is well with the world, there is joy all around and all are of good cheer.



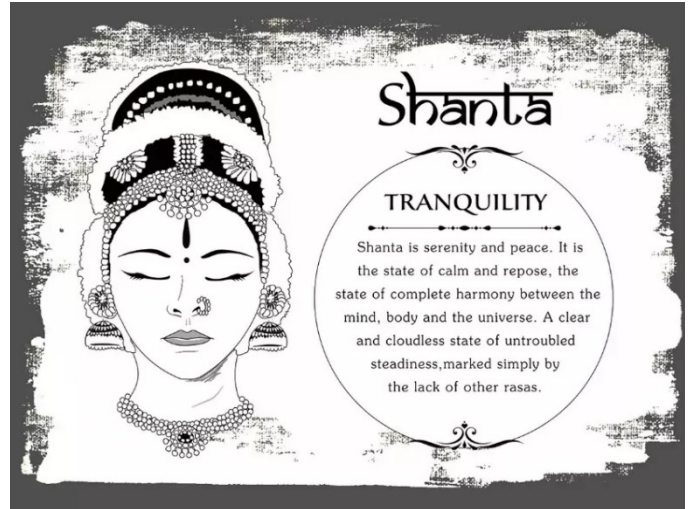
Vibhatsya

Vibhatsya is disgust. The emotion evoked by anything that nauseates us, that revolts or sickens us is vibhatsya. When something comes to our notice that is coarse and graceless, beneath human dignity, something which revolts or sickens us it is Vibhatsya that we feel. When Prince Siddhartha, as young nobleman, saw for the first-time sickness, old age and death, he was moved to disgust which later metamorphosed into sorrow, deep introspection and peace, as he transformed into Gautama, the Buddha, or the enlightened one. Not surprisingly, this emotion is usually represented fleetingly. It usually acts as a catalyst for higher and more pleasant emotions.



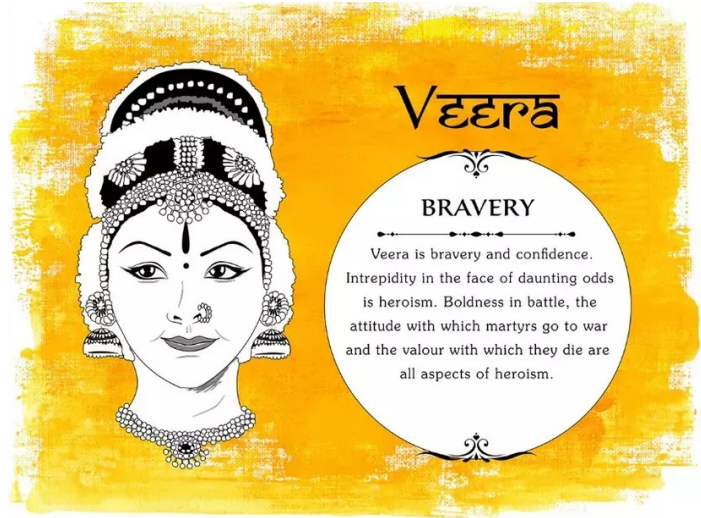
Shanta

Shanta is serenity and peace. It represents the state of calm and unruffled repose that is marked simply by the lack of all other rasas. Because all emotions are absent in Shanta and there is controversy whether it is a rasa at all. According to Bharata Muni, the author of Natya Shastra, the other eight rasas are as proposed originally by Brahma, and the ninth, Shanta is his contribution. Shanta is what the Buddha felt when he was enlightened, when he reached the higher spiritual plane that led him to salvation or nirvana and freed him from the cycle of life and death. Shanta represents complete harmony between the mind, body and the universe. Sages in India meditate for entire lifetimes to attain this state. In music it is often represented through a steady and slow tempo. Shanta is a clear and cloudless state. Shasta is untroubled steadiness. Shanta is the key to eternity.



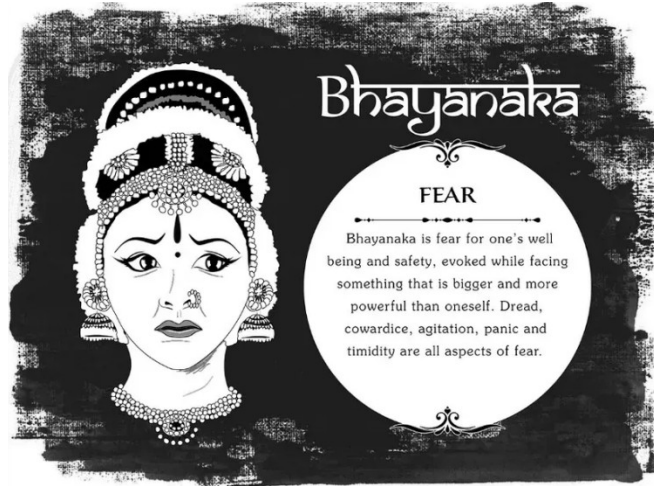
Veera

Veera is heroism. It represents bravery and self-confidence. Manliness and valiance are the trademarks of a Veer or a fearless person. Courage and intrepidity in the face of daunting odds is heroism. Boldness in battle, the attitude with which martyrs go to war, and the bravery with which they die are all aspects of heroism. Rama, the hero of the Ramayana, is typically the model for this Rasa. His confidence and heroism while facing the mighty ten-headed demon king Ravana is part of Indian legend, folklore and mythology. A somewhat different type of heroism is displayed by characters like Abhimanyu, who went to war knowing fully that he would be severely outnumbered and almost certainly die and yet fought so bravely as to earn accolades even from his enemies. In Indian music this rasa is represented by a lively tempo and percussive sounds.



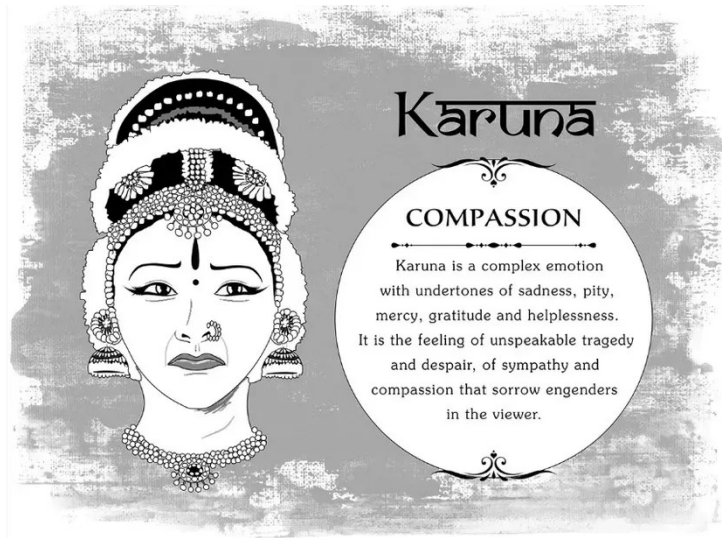
Bhayanaka

Bhaya is fear. The subtle and nameless anxiety caused by a presentiment of evil; the feelings of helplessness evoked. by a mighty and cruel ruler, and the terror felt while facing certain death are all aspects of bhaya. The fear for one's well-being and safety is supposed to be the most primitive feeling known to man. Bhaya is the feeling evoked while facing something that is far bigger and more powerful than oneself and which is dead set on one's destruction. Bhaya is the feeling of being overwhelmed and helpless. Dread, cowardice, agitation, discomposure, panic and timidity are all aspects of the emotion of fear. Bhaya is also used to characterize that which causes fear. People and circumstance, that, cause others to cower in terror before them are central to portrayal of the rasa as those feeling the fear.



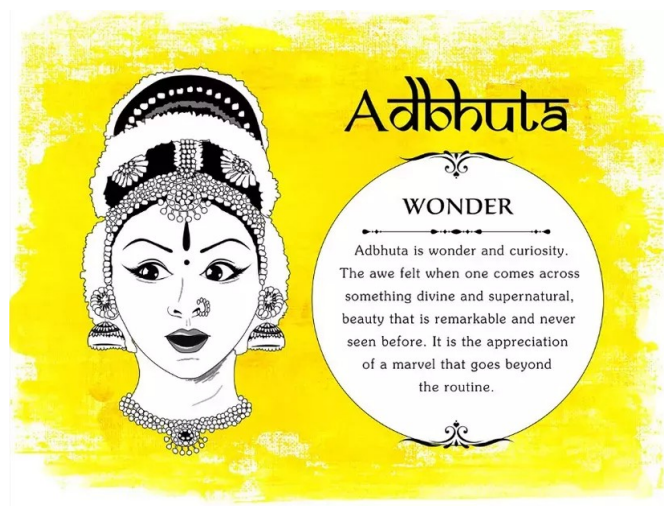
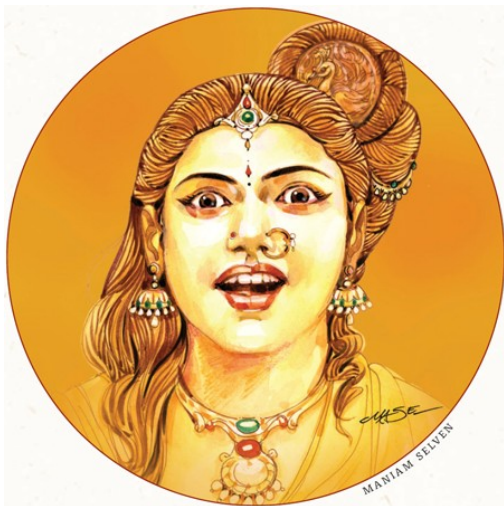
Karuna

Karuna is grief and compassion. The feelings of unspeakable tragedy and despair, utter hopelessness and heartbreak, the sorrow caused by parting with a lover, the anguish caused by the death of a loved one are all Karuna. So also, the compassion and empathy aroused by seeing someone wretched and afflicted is Karuna. The sympathy and fellow feeling that sorrow engenders in the viewer is also karuna. Karuna can be of a personal nature as when one finds oneself depressed, melancholy and distressed. More impersonal sorrows relate to the despair regarding the human condition in general, the feeling that all human life is grief and suffering. It is Karuna of this sort that the Buddha was trying to overcome on his path to salvation.



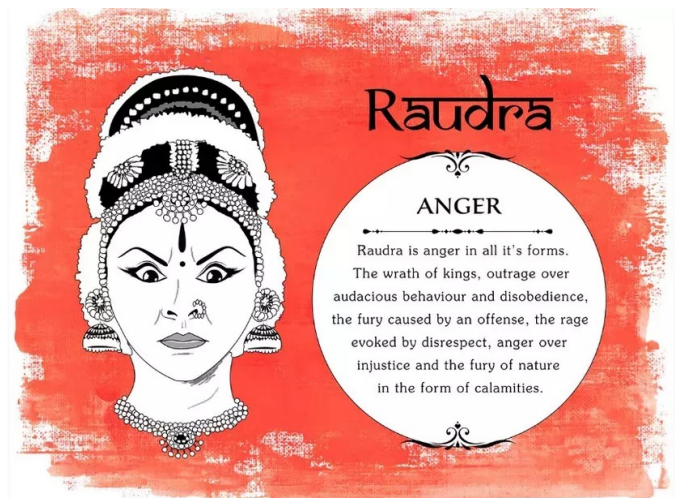
Adbhuta

Adbhuta is wonder and curiosity. The awe that one feels when one comes across something divine and supernatural, some power or beauty that is remarkable and never seen or imagined before is Adbhuta. Adbhuta is the curiosity of man regarding the creation of the world and all its wonders, the astonishment caused by seeing something unusual and magical. The appreciation of a marvel that goes beyond the routine and the mundane is Adbhuta. The glory of a king returning from a successful battle, the magical feats of a god are both Adbhuta to a common man. Adbhuta is when divinity makes a surprise appearance in the world of men.



Raudra

Raudra is anger and all its forms. The self-righteous wrath of kings, outrage over audacious behavior and disobedience, the fury caused by an offense, the rage evoked by disrespect and anger over injustice are all forms of Raudra, probably the most violent of rasas. Raudra also encompasses divine fury and the fury of nature which is used to explain unexpected calamities and natural disasters. In Indian mythology, Lord Shiva, the Destroyer, is thought of as the master of all disharmony and discord. Shiva performing the Tandava — a violent dance what creates havoc in the three worlds namely the sky, the earth and the nether world.



Highlights of rasa theory are :-

- ◆ Rasa means aesthetics, juice, essence, and taste in the Indian art
- ◆ It is undefinable realization and intense feeling with detachment
- ◆ It is the soul of the poetry
- ◆ Rasa is an emotion and cannot be described
- ◆ It is the pleasure experience by each class of the people
- ◆ This concept is not experienced in common situation but only in the art form.

RASA	BHAVA	MEANING	COLOR
SHRINGARA (Erotic)	RATI	DELIGHT	PALE LIGHT GREEN
HASYA (Humorous)	HASA	LAUGHTER	WHITE
KARUNA (Pathetic)	SHOKA	SORROW	GERY
RAUDRA (Terrible)	KRODH	ANGER	RED
VEERA (Heroic)	UTSAHA	HEROISM	PALE
BHAYANAKA (Fearful)	BHAYA	FEAR	ORANGE
VIBHATSA (Odious)	JUGUPSA	DISGUST	BLACK
ADBHUTA (Wondrous)	VISMAYA	WONDER	YELLOW
SHANTA (Peaceful)	CALM	PEACE	WHITE

Including 'Rasa' which is the Great Taste and 'Chhanda' which is rhythm we need to follow "Shadanga" for our Art of Painting in History. 'Shadanga' of Indian Art first mention in Vatsyayana's celebrated text Kama Sutra. It is a word consisting of two very important words, one is shad, which means 'SIX' and the other one is anga, which means 'PART'. Shadanga weaves the language of an art work. It defines the principles of creation of an artwork. It mirrors the limbs of art, without which an artwork is deficient. According to the Hindu Shilpa or the Code of Art 'Shadanga' are the fundamental rules of Painting.

Yashodhara in his commentary on Vātsāyana Kamasutra (Book, 1. Chapter III) has mentioned the above six laws as forming the six limbs of Indian Painting. Art has had a very long life in India, from the cave paintings of the pre-historic times to the contemporary creation, it has come a long way and matured gracefully. Mesmerizing paintings of Ajanta Caves, artworks of Raja Ravi Varma or even in a modern day' Hussain. In Ist CE, India had evolved "Shadanga" or the six limbs of painting' which are considered as the prime principles of art

'Shadanga' I.e.:-

॥ रूपभेदाः प्रमाणानि भाव-लापरव-चीजनम् । सादृश्यं वर्णिकाभक इति चित्रं षडङ्गकम्

॥

Shadanga or Six Canons of Indian Painting

1. **Rupabheda** - The Knowledge of Appearances.
2. **Pramānani** - Correct perception, Measure and structure,
3. **Bhava** - Action of Feelings on Forms.
4. **Lāvanya-yojanam** - Infusion of Grace, artistic representation
5. **Sadrishyam** - Similitude.
6. **Varnikābhanga** - Artistic manner of using the brush and colors.

Rupabheda - The Knowledge of Appearances

Rupa means the outer form or appearance of the subject visual as well as mental and on the other hand Bheda means difference. To create a painting and artist must have a sound knowledge about the different form of art that exist. He has to know how the form of life are different from the form of death. Both the forms have their own characteristics, features and sublimity. Rupabheda enables and artists to depict the things as they appear

Pramanani - Accuracy and Precision of measurement and structure.

Pramanani teaches us the exact measure proportion and distance of the subject. It also provides proper structure and atomic to the objects too. For instance if someone ask you how blue is Sky the measurement of such is futile, also the depth of the ocean cannot be detected in few waves strokes

Bhava - The feelings on forms

Bhava means emotions of feeling and intention or an idea. This aspect of art depict the feelings on the form expressed by the artist. It is the only aspect which can bring the sense of life and passion

Lavanya Yojanam - Blending Grace in an artistic representation.

Your painting should be gracefully high in its artistic quality. Pramanani is for proportion and Bhava is for expression but Lavanya Yojanam is for controlling the overexpression of these two.

Sadrishyam - Resemblance

It suggests the way of depicting similarities. Perhaps this is the most challenging task of creating an artwork

Varnikabhangam - An artistic way of making use of brush and colors

The term Varnikabhangam means the way a subject is being drawn and colored. This principle focuses on the way of strokes are being applied on the Canvas and the knowledge of artists about the colors. If the artist does not have the knowledge or way of using brushes and colors he only end up applying meaningless strokes on the Canvas until he learnt how to use the brushes right

All the above 5 principles can be mastered simply via perception but we can never learn Varnikabhangam without some real hand on practice.

These limbs are also there in Chinese Art. Art critic Hsieh Ho in the 5th Century A. D. wrote down the following Six Canons of Chinese Painting and these are follows:-

- (1) Spiritual tone and line movement.
- (2) Manner of brushwork in drawing lines.
- (3) Form in its relation to objects.
- (4), Choice of colors appropriate to the objects.
- (5) Composition and grouping.
- (6) The copying of classic models.

It is unimportant to try to fix the exact date of these Canons or to prove which of them is older, but it is significant that this thought about the Six Canons of painting should exist in India and that Hsieh Ho instead of dividing his Canons into four or six sections should divide them into six. The folder books such as the Sutrārtha and the Agana of Bābhrabya from which Vātsāyana made large extracts for his Kamasutra mentioned the books in which he may have found the six limbs of painting. But inspite of this dearth of facts we have no doubt that the six laws of painting existed in India long before the time of Vātsāyana and Yashodhara. The commentary of Yashodhara may be more recent, but that does not imply that the thought about the six laws of painting did not exist before the time of Yashodhara. We find Vātsayana in the concluding chapter of Kamasutra admitting that for his compilation he did not rely on the older Sastras only, but he had practical demonstrations of all the 'Arts and Sciences given to him by men who had been still practicing the sixty-four Arts and Sciences. Thus, even if we do not claim any priority over the Six Canons of Chinese Painting, we certainly have the right of saying that our thought of the six limbs of painting is purely our own, and is as important as the Six Canons of Chinese painting mentioned by Hsieh Ho. It is curious that no European or Indian writer about Indian Art has taken any notice of these six laws of Indian painting.

Prehistoric Paintings

Rock paintings are the earliest expression of mankind. It serves as an important source material to understand the world of prehistoric people. It was the prehistoric artist's "perception of reality"

In India, paintings and carvings have been known to exist from the Mesolithic Age. The tradition continued through the Neolithic Age, the Iron Age and the early historic period. Many foreigners have not understood Indian art yet because they have no background or knowledge of the religion and symbols. They tend to confuse the meaning and misinterpret it. Indian Art represents a mystical outlook of the people and a spiritual connection. With awareness and different artists using interpretation techniques even ancient art is being appreciated.

The two most dominant forms of expression in Paleolithic parietal art are drawing and engraving, which occupies an important place in cave and shelter iconography. The dating of the parietal art figures in the caves show that engraving and drawing were perfectly mastered as of 30,000 years BCE. Spray painting, modelling and sculpture appeared somewhat later in an underground context. Ancient people made the art to decorate walls and to protect caves with paint made from dirt or charcoal mixed with spit or animal fat. In cave paintings, the pigments stuck to the wall partially because the pigment became trapped in the porous wall, because the binding medium i.e. the spit or fat dried and adhered the pigment to the wall. Large areas were covered with fingertips or pads of lichen or moss. Twigs were produced to drawn or linear marks, while feathers blended areas of color. Brushes made from horsehair were used for paint application and outlining. Paint spraying, accomplished by blowing paint through hollow bones, yielded a finely grained distribution of pigment, similar to an airbrush. The oxides of iron dug right out of the ground in the form of lumps were presumably rich in clay. This consistency was conducive to the formation of crayon sticks and also could be made into a liquid paste more closely resembling paint. It is believed that the lumps were ground into a fine powder on the cave's natural stone hollows, where stains have been observed. Shoulder and other bones of large animals that were stained with color, have been discovered in the caves and presumed to have been used as mortars for pigment grinding. The pigment was made

into a paste with various binders, including water, vegetable juices, urine, animal fat, bone marrow, blood, and albumen. This technique is very much similar to the modern Tempera Painting.

Tempera Paintings and Technique

Tempera painting is derived from the word temper. According to dictionary the word “tempera” refers to the ‘firmness and flexibility’ of an object or ‘to bring to a desired consistency’. Tempera is an ancient medium, having been in constant use in most of the world’s cultures until it was gradually superseded by oil paints in Europe, during the Renaissance. Tempera illustrations were used to keep colored particles permanent, hard-bottomed & elastic on its ground and the main quality of tempera is its emulsion. It is not natural to mix water & oil together but in emulsion oil content and water like substance such as milk or eggs are mixed together. Distemper is a crude form of tempera made by mixing dry pigment into a paste with water, which is thinned with heated glue in working or by adding pigment to whiting (a mixture of fine-ground chalk and size). It is used for stage scenery and full-size preparatory cartoons for murals and tapestries. When dry, its color have the pale, matte, powdery quality of pastels, with a similar tendency to smudge. Indeed, damaged cartoons have been retouched with pastel chalks. Natural emulsions like casein, egg etc. also stick well on the surfaces while substances like gum stick on the oil-free surface. Saponification with oil, resins and wax produces emulsions. A good emulsion doesn’t leave oil. The boundaries of working in tempera are very wide. The work that are not done in other medium can be done in this medium. Tempera can be more closely related to acrylic colors in nature and it dries quickly. Tempera doesn't become yellow over time like oil dyes and painters can make their own color with the help of dry color with egg and water. It leaves marks when applied on paper. Emulsions are usually translucent in nature. Gypsum and Casein Grounds are best to tempera on wooden surface and some other popular surface that can be used to paint tempera are canvas, hardboard, paste board, paper, mural etc.

Casein is a type of glue that is made with milk protein. It is the most strongly adhesive substance and should be made fresh each day as required. Casein is also good for painting on mural and if mixed with lime becomes waterproof. Liquefied Casein should be used before working on mural as it dries quickly, becomes hard & shiny. Casein emulsion can be used on solid surface such as wood but with frescoes dye only as it contains alkaline element lime. Artificially dried casein is in powdered form. It can also be used with oil dyes & can be sticks to oil surface.

Technique

The initial drawing should be made very clear and the surface should be as clean as possible.

Drawing can be started on dry surface d can be moist with a sponge.

Tempera color should be dipped in water and placed is wide mouth to vessel & emulsion should be added at the time of painting.

Now a days two major methods of illustration are prevalent:-

- ✚ Unvarnished Tempera
- ✚ Varnished Tempera

1.) Unvarnished Tempera

- a. This is the easiest use of tempera.
- b. Unvarnished oil tempera gives more lustrous effects.
- c. Unvarnished tempera is commonly used for decorative work

2.) Varnished Tempera

- a. Applying varnish on the paintings made by tempera increases its harmony and make colors more attractive.
- b. Some colors like Ultramarine, madder lake, viridian, etc. become faded after applying varnish on them.
- c. It is mistaken to use tempera as an oil medium as tempera is basically a watercolor, so its best qualities should not be sacrificed.

Brushes for tempera

The most suitable brushes for tempera are long haired, round, pointed sables.

To avoid blobs of color the extra color must be wiped with the cloth or tissue that absorbs extra color we must choose a long-haired brush the hair retain more color & can be worked for longer than short haired brushes

Other suitable brushes are quill sables and extra long-haired, round lettering brushes with either flat or round pointed ends.

These types of brushes provides traditional effects but for creative technique many types of brushes can be used.

Emulsions can be of three types:-

- ✚ Natural Emulsion
- ✚ Synthetic Emulsion
- ✚ Wax Emulsion

Natural Emulsion:-

- ✚ It can be made by mixing equal amount of flaxseed or linseed oil, resin, two part of water and an egg.
- ✚ Egg should be mixed with oil first and then with water.
- ✚ If 5% of gelatin or Gluten solution is added instead of water, the band strength would increase.
- ✚ While working with colors, the yellowness of the surface causes a slight disturbance because of egg, but this Yellowness flies itself after few weeks.
- ✚ The Emulsion should always be made fresh otherwise its bonding power is reduced.

Synthetic Emulsion:-

- ✚ These emulsions are different from natural emulsions in their nature.
- ✚ They are not permanently hardened & remain soluble in water.
- ✚ Their adhesion to oil surfaces is not firm.
- ✚ **Glue Emulsion** is also comes under this emulsion. They are soluble in water but insoluble in fatty oils & non-essential oils, whereas resins are insoluble in water and soluble in oils.
By dissolving bubble gum in boiling water with fatty oils, egg like emulsion can be made
It doesn't shines when dried and remain loose on oil surface.

To make glue emulsion more effective we can add a small amount of egg emulsion to it.

Gum emulsions gives pastel like effect as they are light in nature.

Gum emulsions are used in manufacturing of water color & Cherry gum gives color great transparency.

Wax Emulsion:-

- ✚ Wax emulsion is milky white & lasts for years.
- ✚ It can be mixed with fat oil or resin or varnish.
- ✚ Painting made with wax emulsions have surprisingly soft effects.
- ✚ When it is applied on gypsum on wood it shines extraordinary.

DIGITAL ART

INTRODUCTION AND DEFINITION

It is an overarching term that refers to all mechanized or computer-based art i.e., art generated with the aid of digital technology. Any form of artwork that is produced or manipulated through digital medium (Softwares, graphics and renderers) can be referred as digital art.

"Digital art is using new technologies for the digital, computer-based composition, display, and reproduction of images and sounds"

- Katherine Thinson Jones

"Digital art is a general term for a range of artistic works and practices that use digital technology as an essential part of the creative and/or presentation process"

-Paul Curator

"Digital art is anything involving computers and art such as using a computer to create art or digitized art displays"

-Boyd Writer

It is a range of artistic works and practices that use digital technology as an essential part of the creative and/or presentation process. It is a term applied to contemporary art that uses the methods of mass production or digital media. To sum up in a sentence any art that is made with the help of a computer can be called as digital art.

Digital Art brings Traditional Art, Technology, Maths and Science together. It requires a creative spirit and the knowledge of art, design and computers. It is a form of an artistic creation produced using digital technology. It is derived from the concept of traditional art forms, but with the components of new technology.

It has been argued that digital art is not a real art because traditionally speaking; art refers to painting, carving, drawing, sculpture or anything that has been physically produced by the hands of an artist. But digital art is now widely accepted as a real art because it involves creativity and the knowledge of art and principles. It is any piece of art that becomes digital in its final version.

Also an interesting thing about digital art can be noticed that adequate complex interactions may occur between Artists, Medium and Viewer.

It is the new digital media which gave the artists an opportunity to design unique creations using traditional and contemporary combinations when the internet took off. It is like any other art which is just created using different and more tools than traditional arts. The medium or tool used in this art is the computer and software through which the artist express his/ her vision, message and emotion.

The term 'Computer Art' is used less frequently to describe artists and designers working with the computer today. Many artists who now work with computers incorporate this technology into their practice as just one tool amongst many that they may use interchangeably. This is part of a more general shift towards artists and designers working in an increasingly interdisciplinary manner. Many no longer define themselves as practitioners of a specific media as the field of digital art is now much vast and globally spread.

Since the 1970s, various names have been used to describe the process including computer art and multimedia. However, digital art is itself placed under the large umbrella term new media art

It has not only expanded the defining of art but has increased the accessibility of art to the world.

Many people think of digital art as a recent phenomenon, perhaps conceived around the time that Instagram arrived, allowing people to share images wildly. However, the term *digital art* encompasses so many things which have been created for over 50 years. Beginning crudely in its early years as a marriage of math and art, it has truly exploded recently, not only improving in quality but also expanding in scope and style.

Digital Art – The Beginning

Digital art began in the computer lab. Scientists experimented with the computer as a tool for creating art, using room-sized computers to create shapes and lines with algorithms, allowing the computers to manipulate results based on the calculations provided. Creating both abstract displays and replicated works of traditional art, the results were truly unique. The computerized technique also perfected the technique of utilizing groups of small symbols to create larger images, exhibited in 1966 in *Young Nude*, the first pixelated example of a human figure.

In 1949, Georg Nees created the first displayed work digital art with *Generative Computergrafik* and the Howard Wise Gallery hosted the first exhibition of digital artwork in 1965 with “Computer Generated Pictures.” While the technological world was growing rapidly with the expanded use of computerization in business, 1967 saw the first organized group of digital artists called EAT (Experiments in Art and Technology). Formed by a group of artists and computer scientists, these individuals

saw immense potential in this collaboration and wanted to encourage and promote its growth. Within a few years, other artists joined the style, expanding to include interactive and kinetic art techniques.

It may be difficult to call Digital Art a Technique for two reasons:

- ✚ First, it encompasses a variety of techniques.
- ✚ Second, the variation in techniques is continually being modified as new ways to use technology to create works of art are born.

Digital art encompasses both artworks created using digital technology (on a form of canvas) and those works which can only be viewed on a screen (like an experience).

Evolution

Art Pieces /Instruments



MECHANICAL DEVICES



ANALOGUE COMPUTERS

1950

In the 1950s, many artists and designers were working with mechanical devices and analogue computers in a way that can be seen as a precursor to the work of the early digital pioneers who followed.

One of the earliest electronic works in the V&A's collection is 'Oscillon 40' dating from 1952. The artist, Ben Laposky, used an oscilloscope to manipulate electronic waves that appeared on the small fluorescent screen. An oscilloscope is a device used for displaying the wave shape of an electric signal, commonly used for electrical testing purposes. The waves would have been constantly moving and undulating on the display, and there would have been no way of recording these movements on paper at this time. It was only through long exposure photography that the artist was able to record these fleeting moments, allowing us to see those decades later.

Laposky photographed numerous different combinations of these waves and called his images 'Oscillons'. The earliest photographs were black and white, but in later years the artist used filters in order to produce striking colour images such as 'Oscillon 520'



1960

Computers were very expensive in the 1960's. Only research laboratories, universities and large corporations could afford them. Regardless of these constraints, when the computer came into existence that's when digital art started emerging.

Many of the earliest practitioners programmed the computer themselves. At this time, there was no 'user interface', such as icons or a mouse, and little pre-existing software. By writing their own programs, artists and computer scientists were able to experiment more freely with the creative potential of the computer.

Early output devices were also limited. One of the main sources of output in the 1960s was the plotter, a mechanical device that holds a pen or brush and is linked to a computer that controls its movements. The computer would guide the pen or brush across the drawing surface, or, alternatively, could move the paper underneath the pen, according to instructions given by the computer program. Another early output device was the impact printer, where ink was applied by force onto the paper, much like a typewriter.

In this picture we can see John Lansdown using a Teletype (an electro-mechanical typewriter), about 1969-1970.

In earlier times most of the work was focused on geometric forms and on structure, as opposed to content. This was, in part, due to the restrictive

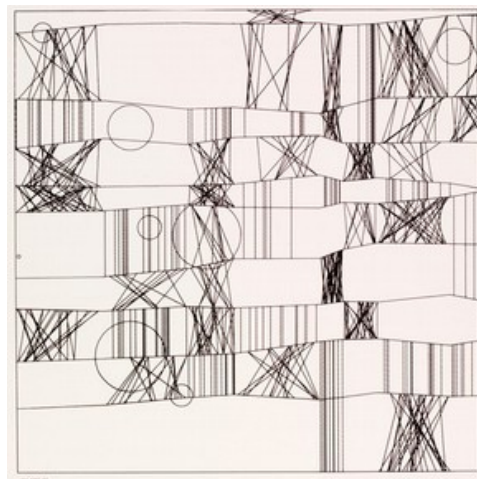


nature of the available output devices, for example, pen plotter drawings tended to be linear, with shading only possible through cross hatching.

Some early practitioners deliberately avoided recognisable content in order to concentrate on pure visual form. They considered the computer an autonomous machine that would enable them to carry out visual experiments in an objective manner.

Both plotter drawings and early print-outs were mostly black and white, although some artists, such as computer pioneer Frieder Nake, did produce plotter drawings in colour. Early computer artists experimented with the possibilities of arranging both form and, occasionally, colour in a logical fashion.

'Hommage à Paul Klee 13/9/65 Nr.2', a screenprint of a plotter drawing created by Frieder Nake in 1965, was one of the most complex algorithmic works of its day. An algorithmic work is one that is generated through a set of instructions written by the artist. Nake took his inspiration from an oil-painting by Paul Klee, entitled 'Highroads and Byroads' (1929), now in the collection of the Ludwig Museum, Cologne.



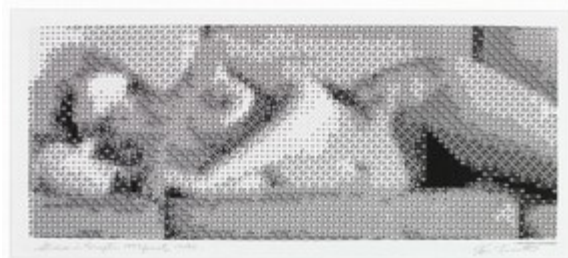
Frieder Nake, 'Hommage à Paul Klee 13/9/65 Nr.2', 1965. Museum no. E.951-2008. by the American Friends of the V&A through the generosity of Patric Prince

Nake had trained originally in mathematics and was interested in the relationship between the vertical and the horizontal elements of Klee's painting. When writing the computer program to create his own drawing 'Hommage à Klee', Nake defined the parameters for the computer and the pen plotter to draw, such as the overall square form of the drawing. He then deliberately wrote random variables into the program which allowed the computer to make choices of its own, based on probability theory. In this way, Nake was able to explore how logic could be used to create visually exciting structures and to explore the relationship between forms. The artist could not have predicted the exact appearance of the drawing until the plotter had finished.

Bell Laboratories

Bell Labs, now based in New Jersey, was hugely influential in initiating and supporting the early American computer-art scene and produced perhaps the greatest number of key early pioneers. Artists and computer scientists who worked there include Claude Shannon, Ken Knowlton, Leon Harmon, Lillian Schwartz, Charles Csuri, A. Michael Noll, Edward Zajec, and Billy Klüver, an engineer who also collaborated with Robert Rauschenberg to form Experiments in Art and Technology (EAT). The Laboratory began life as Bell Telephone Laboratories, Inc. in 1925 and went on to become the leading authority in the field of new technologies.

Bell Labs was heavily involved in the emerging art and technology scene, in particular it contributed to a series of performances entitled '9 Evenings: Theatre and Engineering' organised by EAT in 1966. The performances saw 10 contemporary artists join forces with 30 engineers and scientists from Bell Labs to host a series of performances using new technologies. Events such as these represent important early recognition by the mainstream art world of the burgeoning relationship between art and technology. The executive director of Bell Labs was employed as an 'agent' for EAT, his task to spread the word about the organisation in the right circles, namely industry. As a result, many artists and musicians used the equipment at Bell Labs out of hours.



Leon Harmon and Ken Knowlton, 'Studies in Perception', 1967 (original image 1967). Museum no. E.963-2008. by the American Friends of the V&A through the generosity of Patric Prince

Amongst many things, Bell Labs was particularly influential in the development of early computer-generated animation. In the 1960s, the laboratories housed an early microfilm printer that was able to expose letters and shapes onto 35mm film. Artists such as Edward Zajec began to use the equipment to make moving films. Whilst working at Bell Labs, computer scientist and artist Ken Knowlton developed the programming language BEFLIX- the name stands for Bell Flicks - that could be used for bitmap film making.

One of the most famous works to come out of Bell Labs was Leon Harmon and Ken Knowlton's *Studies in Perception*, 1967, also known as *Nude*.

Harmon and Knowlton decided to cover the entire wall of a senior colleague's office with a large print, the image of which was made up of small electronic symbols that replaced the grey scale in a scanned photograph. Only by stepping back from the image (which was 12 feet wide), did the symbols merge to form the figure of a reclining nude. Although the image was hastily removed after their colleague returned, and even more hastily dismissed by the institution's PR department, it was leaked into the public realm, first by appearing at a press conference in the loft of Robert Rauschenberg, and later emblazoned across the New York Times. What had started life as a work-place prank became an overnight sensation.

1970



FIRST IBM COMPUTER



FIRST DIGITAL PRINTER

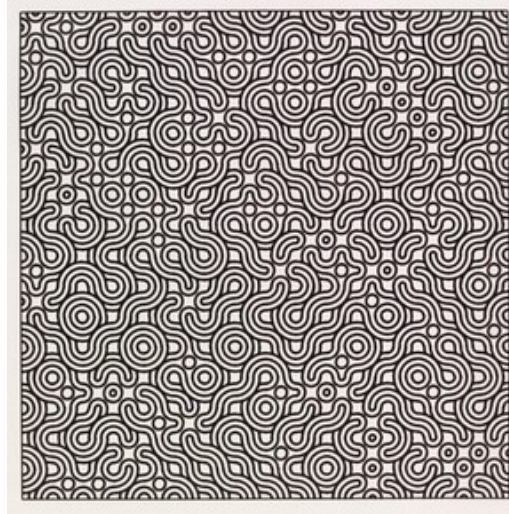
1970's, other than artists with mathematic and scientific backgrounds joined the scene.

A number of artists had begun to teach themselves to program, rather than relying on collaborations with computer programmers. Many of these artists came to the computer from a traditional fine art background, as opposed to the scientific or mathematical background of the earliest practitioners. Artists were attracted to the logical nature of the computer and the processes involved.

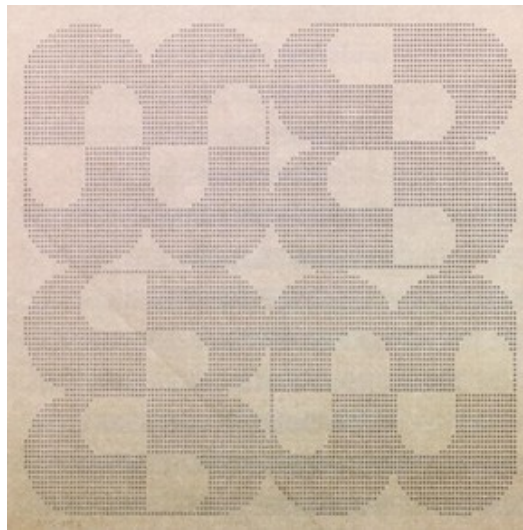
In the early 1970s the Slade School of Art, University of London, established what was later called the 'Experimental and Computing Department'. The Slade was one of the few institutions that attempted to fully integrate the use of computers in art into its teaching curriculum during the 1970s. The department offered unparalleled resources with its in-house computer system.

Paul Brown studied at the Slade from 1977 to 1979. His computer-generated drawings, use individual elements that evolve or propagate in accordance with a set

of simple rules. Brown developed a tile-based image generating system. Despite using relatively simple forms, it would have taken a long time to write a program to produce a work such as this.



Paul Brown, 'Untitled Computer Assisted Drawing', 1975. Museum no. E.961-2008. Given by the American Friends of the V&A through the generosity of Patric Prince



Manuel Barbadillo, 'Untitled', about 1972. Museum no. E.158-2008. Given by the Computer Arts Society, supported by System Simulation Ltd, London

1980

The growth of the digital age started in the 1980's. Computers were affordable and easily available to most. This is most commonly achieved by the use of layering techniques in image editing and paint software.

The 1980s saw digital technologies reach into everyday life, with the widespread adoption of computers for both business and personal use. Computer graphics and special effects began to be used in films such as 'Star Trek II: The Wrath of Khan'

and 'Tron', both 1982, as well as in television programmes. Combined with the popularity of video and computer games, computing technology began to be a much more familiar sight at home, as well as at work.

The late 1970s had seen the births of both Apple and Microsoft and the appearance of some of the first personal computers. PCs were now available that were affordable and compact, and ideal for household use. Alongside this, inkjet printers developed to become the cheapest method of printing in colour. The development of off-the-shelf paint software packages meant it was much simpler to create images using the computer. As this new medium entered popular culture, the type of art being produced changed. Much of the new work of this period demonstrated a clear 'computer aesthetic', seemingly more computer-generated in its appearance.

This image by Kenneth Snelson was created using a 3D computer animation program. The image forms the left side of a stereoscopic image. Accompanied by a near identical image placed to its right and viewed simultaneously, the two images would have created the illusion of a 3D environment.



Kenneth Snelson, 'Forest Devils' MoonNight' (detail), 1989, Museum no. E.1046-2008. Given by the American Friends of the V&A through the generosity of Patric Prince

Facts about Digital Art

One of the pioneers of computer art is Vera Molnar. A French artist who invented the "Machine Imaginaire." It transformed different geometric shapes.

In 2008 David Thorne sold this art work of a seven legged spider on eBay for \$10,000 for the drawing.

UK held its first Major Digital Art Auction in July 2014 with 23 works by 23 artists estimated to be worth £53,600 - £75,150

Present

The impact of digital technology has transformed activities such as painting, drawing, sculpture and music/sound art, while new forms, such as net art, digital installation art, and virtual reality, have become recognized artistic practices. More generally the term digital artist is used to describe an artist who makes use of digital technologies in the production of art. In an expanded sense, "digital art" is a term applied to contemporary art that uses the methods of mass production or digital media. Digital art is no longer the “new thing” as conceptual, virtual, and immersive works have appeared in museums and galleries worldwide. The new focus is more on the experience nature of digital works, as visitors are invited to enter a virtual scene, participate in the presentation, and create an individual encounter each time. As technology is introduced rapidly, so will new aspects of this general “technique.” Where digital (now popularly known as “new media art”) will venture, one can only imagine.

Different forms of Digital Art

- Animation
- World Wide Web Design
- Computer Graphics Design
- 3D Modelling
- Architecture
- Photography
- Photopainting
- Digital Collage.
- 2D Digital Painting
- 3D Digital Painting
- Vector Drawing
- Algorithmic / Fractals
- Integrated Art
- Digital architecture
- Digital Poetry

EXAMPLES

Notable Artist's Work

Although the digital art world is now filled with technology-minded artists eager to share their works, there are notable trailblazers who made this all possible.

Frieder Nake is the first known artist to create a digital algorithmic work in his recreation of a Paul Klee work titled *Hommage à Paul Klee 13/9/65 Nr.2*.

Michael Noll, a computer scientist by training, created some of the earliest computer-generated art and animation works and whose work was he first to be professionally exhibited in the United States. A pioneer in virtual reality, he created the first 3D device, called a "feelie" device to increase the mastery of computer graphics.

Jeff Koons, inspired by Andy Warhol, mastered the use of digital technology and his pop paintings and sculptures are famous for their visual opposition to what is traditionally considered "fine art," and appeal by the masses. An avid showman and self-promoter, his balloon dog sculptures are perhaps his most well-known works.

Miguel Chevalier. A pioneer in digital art, creating digital sculptures and using virtual reality in his works. His 2005 digital mixed media installation *Flying Carpets in Marrakesh*, Morocco, attracted thousands of visitors.

Nam June Paik's *Electronic Superhighway: Continental U.S., Alaska, Hawaii* in 1995 garnered him the title of "father of video art." He used closed circuit cameras and TV monitors, providing viewers with a personalized presentation of the art, inviting them to one of the earliest participatory video works.

Manfred Mohr's *Cubic Limit I* is one of the earliest examples of using symbols and computerized structure to create an artistic pattern.

James Faure Walker can be described as both a digital artist and a painter. Since the late 1980s Faure Walker has been integrating the computer into his practice as a painter, incorporating computer-generated images into his paintings, as well as painterly devices into his digital prints. He moves between the tools of drawing, painting, photography and computer software, blending and exploiting the different characteristics of each. His work frequently plays on the contrast between physical paint and digital paint, and sometimes it is difficult to differentiate between the two.

Faure Walker aims to complete at least one drawing each day, either in pencil, pen or watercolour. These drawings are always abstract, and have their roots in gestural mark making, rather than being figurative drawings of objects. In the same way, the artist uses software packages such as Illustrator and Photoshop to explore digital motifs, or linear marks and patterns. A motif that has been created digitally might then be projected onto a canvas using a digital projector, where the artist can begin

experimenting with the pattern or motif in the physical medium of paint. Faure Walker creates digital photographs of his paintings in progress, so that he can try out changes and additions on the computer before adding them to the canvas. He applies this same method to his production of large digital prints such as 'Dark Filament', incorporating found imagery such as a botanical illustration.

Marcin Jakubowski A concept artist and illustrator, Marcin Jakubowski works as a freelancer from Gdansk, Poland. Marcin has completed projects in several fields, including TV commercials and shows as well as CG animations. Many of Marcin's illustrations have a dark, sci-fi look and feel to them, with gigantic machines, brilliant robotic battle scenes, and futuristic technology.

Salvador Ramirez Madrid From Guadalajara, Mexico, Salvador Ramirez Madriz is a digital artist with a portfolio quickly growing with impressive works. Much of his illustrations are beautiful digital drawings of people of different ages, but his most stunning images are of children and young people. Salvador seems to have a talented knack for capturing the life and innocence of a child so vividly that you almost feel as if the drawing is of a real person.

Jason Seiler (pronounced Syler) is an illustrator from Chicago, Illinois, who specializes in incredibly creative and expressive caricatures. Seiler has won many awards for his illustrations and worked with a number of large clients, including Rolling Stone, MAD Magazine, Business Week, The Wall Street Journal, TIME Magazine, The New York Times, and much more. From the beginning of his career, Jason was able to see the humorous side of any character drawing; in fact, his drawings of a high school history teacher got him into trouble, until his principle hired him to draw caricatures of other faculty members. His talent is clearly visible in his work; in addition to caricatures, Jason also does digital paintings and portraits.

David Revoy An illustrator, concept artist, and art director, David Revoy presents an incredible portfolio on his website. He mostly works from his home in France as a freelancer, offering services such as artworks production, art direction, and even teaching and conferences. Much of Revoy's work includes incredibly expressive characters, often done in very earthy and natural colour schemes.

Michael Oswald describes his work as "photomanipulation on steroids," which is probably the most accurate description anyone could use. His technique involves beginning with a photo (often a stock photograph) of a model and completely manipulating the image into an amazing work of art.

BLACK MARKET



By Stephanie Syjuco

Stephanie Syjuco (born 1974) is mixed media conceptual artist based in San Francisco.

She creates large-scale spectacles of collected cultural objects, cumulative archives, and temporary vending installations, often with an active public component that invites viewers to directly participate as producers or distributors.

"Black Markets", a series of re-imagined shops: photographs of marketplaces with the products digitally blacked out, and museum installations with the familiar decor and shelving design of a high-end boutique, but displaying unidentifiable lumps of "merchandise" wrapped in black papier mache.

Showed how shapes, even when blotted out in black, can still be the main figure in an image.



Points to be noticed in this digital art form -

- The Form
- The Medium
- The Subject Matter
- The Style

METHODS

HOW ARE DIGITAL ARTS CREATED?

Digital Arts are created using various digital tools and technologies as the main construction of the presentation more than just the traditional mediums, which has revolutionized the way of producing and experiencing arts.

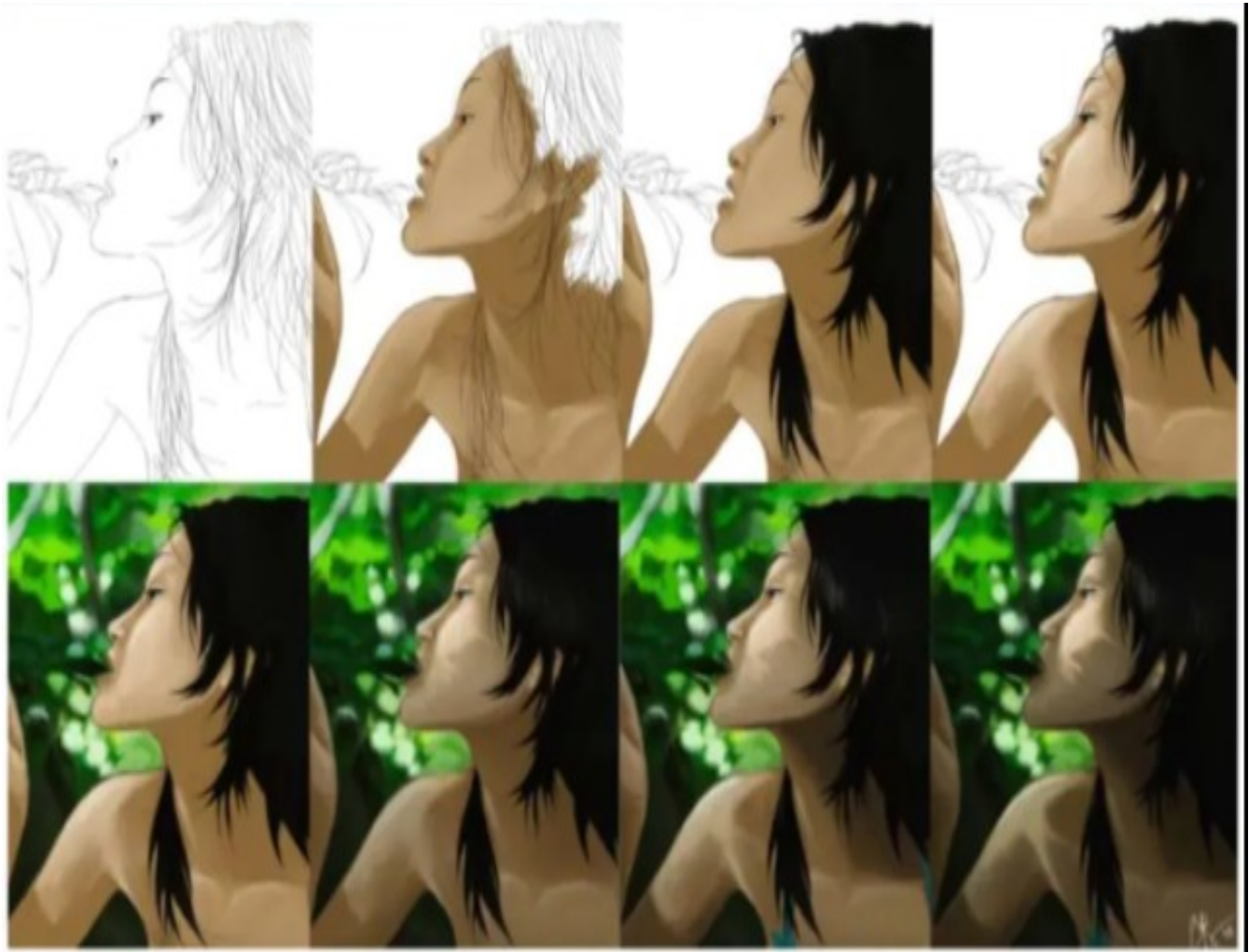
IMPORTANT THINGS TO REMEMBER

Basic Elements of Design-

- Lines
- Size
- Shapes
- Texture
- Form
- Space
- Colour/Tone

Basic Principles of Design

- Composition
- Unity
- Balance
- Contrast/Emphasis
- Proportion Repetition
- Rhythm
- Harmony



Top Rated Essential Software's for Digital Art

- Photoshop
- Cinema 4D
- Illustrator
- Mari 2
- 3ds Max
- Unity Pro
- Flash Professional
- ZBrush 4R6
- Painter x3
- Toon Boom Studio 8

Types Of Digital Art

DIGITAL PHOTOGRAPHY – The artist uses a digital or conventional camera. By using photographs from a conventional or digital camera, photos are digitized then manipulated a computer, making modifications which range from sharpening the image to drastically re-creating the image in assorted colours, arrangements, and even breaking the photograph down to multiple parts.

The artist uses a digital or conventional camera. The photographs are digitised and translated to computer environment where the artist uses image editing and special effects software to perform darkroom type manipulations.

This term was invented with the discovery of computers, which introduced the use of digital cameras to produce the perfect shot which other cameras could not achieve.

Prior to the advent of digital cameras was the era of photographic films stuffed into camera rolls which after being clicked, took a long time to be developed. Even after being developed, these pictures weren't as professional as expected.

However, with the introduction of the digital camera and the advancement of technology, the concept of digital camera was born. This modification is a boon to photography and soon took a flight during the 1990s.

These digital cameras used electrical photoreceptors which were embedded in the camera itself and helped produce the perfect shot. Following this, photography was made accessible to almost all individuals because it was introduced on the cellphone which either had to be a smartphone or an android phone.

However, the sanctity and the perfect shot which could be produced by digital cameras were not present in cell phones. So, professional photographers who are in business usually invest in DSLRs because of its features and clarity.



on



VECTOR DRAWING –

The artist uses vector drawing software and creates the image totally in the virtual environment. This makes use of shapes which are outlined and can be filled with various colours and patterns. This tends to produce a harder edged or graphic look. Andy Warhol led this type of work, agreeing to be a representative for the fledgling Commodore computer in 1985.

The term “vector” is used to refer to a certain format that allows images to be saved while still being available for usage within a painting. ‘Bezier curves’ is the French-based term used for representing the mathematical basis of vectors.

Vector painting includes shapes and lines that can be represented in geometrical formulas. One can control their colors, shadows, transparency, groups, and so on.

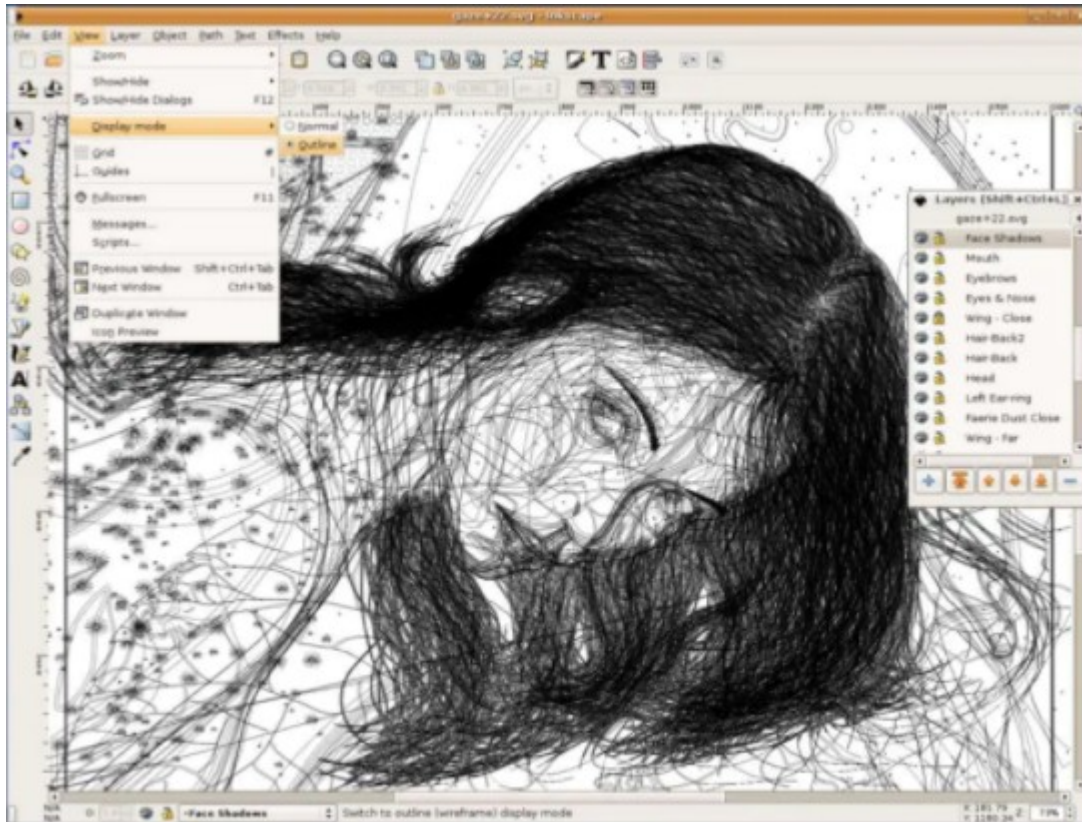
The size of manual vector paintings can be converted from small to large without compromising the quality and sharpness of the piece. These changes can be done by simply entering the desired dimensions of the painting.

One advantage that comes with a manual vector painting is the artist can set its resolution and size up to the printer’s maximum potential of handling it.

Creating a manual vector painting requires simple shapes such as triangles, circles or squares. Another method is to create custom shapes with hands and make use of provided tools to transform them.

Manual vector painting is different from raster art because one has to work on it the same way they would be working on a sculpture, hence, leaving aside chances of spontaneity or intuition. In other words, it is less unlikely for the artist to be able to express or impose his/her own characteristics into the art when working on a manual vector painting.

Even so, his/her original choice of colors, composition, subject, etc, can still be observed by a knowledgeable audience.



ALGORITHMIC/FRACTALS-

This is art produced exclusively by mathematical manipulations. This is the so called "computer generated" art. There is a specific type of beauty involved in the culmination of this art form which is considered as a part of computer art and digital art, being a part of the greater family of new media art.

New media art, although a metaphor for signifying the interruption of modernity into the presentation of art, is born from the pure art forms generated from the ancient periods. The factor of modernity changed it into digital art with the advent of technology.

The art here lies in the invention of the mathematical formulas themselves and the way the programs are written to take advantage of the display capabilities of the hardware. The art also lies in the creative intentions and subsequent selections of the artist/mathematician. This allows mathematicians to use software, calculations, and colour graphics to create both patterned and realistic images. Fractal artist uses fractal objects to get still images and media. Fractal art is also known as a form of algorithmic art created by calculating fractal objects and representing the calculation results as still images, animations, and media.

(Can be created using Apophysis Software)



PHOTO PAINTING-

This combines the disciplines of photography and painting.

The artist uses image editing and paint software to go beyond dark room technique to add further expression to the image. In this technique, he artist takes a photograph and uses computer tools to virtually “paint” the picture, modifying it from its original form, but often maintaining the general layout of the subject matter. This form of digital art was invented with the use of computers where editing and photo shopping came into the picture. Photo-painting is done in succession to digital photography. After clicking the perfect picture and viewing it on the computer, there are a bunch of professionals who are equipped to handle the editing part specifically.

The photo painting is not a manual process. Rather, the digital picture is painted on the computer itself with some tools downloaded from certain software and apps.

Photo-painting is a very crucial editing skill which should be undertaken by every photographer. The company which hires a professional editor who is well versed with photo painting is better equipped to send out pictures dictating the company's goals. This is extremely beneficial to the company because the edits will put them on a pedestal.

Since photo painting is available on apps which is downloadable, it is accessible through phones as well, which can be easily linked to social media. However, not everyone can do photo painting. A certain amount of skill is required in that expertise.



DIGITAL COLLAGE-

This is a technique of combining many images from varying sources into one image. By taking multiple images, artists layer and edit pictures to create unique works of art. This is most commonly achieved by the use of layering techniques in image editing and paint software.

We are all familiar with the concept of a collage because we use it in our day to day lives, when we tend to edit pictures or create memories. However, just as the definition of a normal collage goes, digital collage is slightly different.

This means that instead of putting several whole pictures together, different textures and ideas are taken from several sites and then collaborated under one picture.

Digital collage is said to be present under the domain of photoshop which is a well-used edit feature, used by almost every business to make the picture more appealing.

The process of digital collage is a complicated one and will require particular skills to fulfill the criteria under its operation. Photoshop is accessible to everyone on your smartphones or any other device and is used at an alarming rate for updating content on social media sites. It has been widely used for fashion blogging since it is such a profitable business at present.



INTEGRATED DIGITAL ART-

This is a technique of combining many images from varying sources into one image. This is the "mixed media" of the digital art world. Artists combine any number of the techniques to achieve unique results. The digital environment is much less restricted than conventional mediums in this type of integration and manipulation.

The original meaning of this term is a combination of more than one form of art, also known as "interdisciplinary art", that is mostly used in learning environments to help the audience grasp a concept better, or can also be for the sole purpose of entertainment.

The gist of integrated art in the digital world is to merge two or more media in order to achieve one single piece of art.

In this type of art, there is a lesser influence of restrictions when it comes to the digital environment rather than mediums which are conventional. The artist has immense control over how he/she wants the outcome to look like.

Following the concept of integrated art, a mixed media or hybrid painting is the outcome of using more than one media or even multiple software on the same artwork. One popular sample of such style is a vector-raster hybrid painting. To

achieve a mixed media, the artist has to make use of the shapes/lines from vector along with one brush style from raster.

The merit of using more than one software helps increase the contrast level as well as the sharpness of colors of vector. The same benefit applies to the main palette of raster too.

In many cases, Bezier curves can be used in the background to help smoothen shapes and lines of raster without involving the artist's effort. By using this method to smoothen curves, it prevents any possible loss of resolution. The default storage format for this particular hybrid is raster.



2D DIGITAL PAINTING/2D COMPUTER GRAPHICS

The artist creates 2D images totally in the computer virtual environment with the use of painting tools that emulate natural media styles. With 2D painting, artwork is created with virtual painting tools in an editing program using two-dimensional models. Sometimes referred to as "Natural Media".

Digital painting forms the crux of digital art right now and is effectively one of the most practiced digital art forms of this era. By this era, I meant the era of technologically advanced machines which come in handy in almost all digital art operations. With the help of the computer, 2D art can be undertaken professionally, using multiple features which it can entail.

The cruciality of 2D digital painting for business propaganda and campaigns is reflected in the company's success in the long-run. 2D digital painting is basically digital painting on a plain surface with no added effects.

It is a very basic form of digital painting which is required to be very catchy for visual as well as artistic satisfaction. 2D illustrations are imperative in a company's marketing process to gain publicity by putting the goals and aspiration out in the form of artistic representation.

2D digital painting fulfils this need and is preferred over hand-drawings which come with a lot of imperfections which may take ages to re-do. 2D art is digitized and can be altered with the app itself. For this purpose, all companies hire an exceptionally skilled group of digital artists who specialize in the creation of 2D digital art.

2D computer graphics is the computer based generation of digital images-mostly from two-dimensional models (such as 2D geometric models, text, and digital images) and by techniques specific to them. This technique may combine geometric models (also called vector graphics), digital images (also called raster graphics), text to be typeset (defined by content, font style and size, colour, position, and orientation), mathematical functions and equations, and more.

(Can be created in any Graphic software such as Flash and Illustrator)

Traditional paintings and drawings had a particular charm about them for sure, because of their authenticity and the hard work put behind them to turn them into masterpieces.

This art was well appreciated, until the advent of technology and the use of computers which demanded that art be transformed into digitally specific claims which could be applied to the modern world of entertainment and media.

2D computer graphics are derived from 2D dimensional models like texts and digital images. It works on transforming the traditional forms of art into digital art which can be used in projects and animation for the media and entertainment industry. 2D graphics are generally derived on traditional graphics like typography, cartography, technical drawing and advertising.

All these domains are extremely beneficial for promotions or for running a business and 2D graphics play a major role in securing the fate of the company through its skills and expertise.

2D graphics are extremely beneficial for businesses or any other franchise because it can be converted to any area of output and can be utilized to fit many aspects of the digital market instead of just one.

For this reason, important documents and accessories are always saved on the device in the form of 2D graphic designs, for its flexibility and multiple usability. 2D

graphics has recently taken the internet by storm because of its usefulness in every aspect of digital art which is utilized for any business or academic purposes.



3D DIGITAL PAINTING/3D COMPUTER GRAPHICS

Another imperative part of the digital painting domain is the 3D digital painting, a more popularised version of 2D digital paintings.

This precisely implies that it contains features which are common with 2D digital paintings, but is a more specialized version which can also be rendered. Basically, the 2D digital illustration forms a base on which the 3D digital painting is structured.

In the 3D digital paintings, extra effects can be incorporated into the illustrations. This concept of digital art has been more popularized and widely used than the 2D

digital painting model. It has been recorded that the 3D model of digital painting has a better chance of catching the eye of customers than the 2D model, resulting in an increase in consumer traffic.

Consumer traffic is a profitable aspect of businesses because it puts the company on the radar where it is at par with other competing businesses in the market.

Recently, there has been a spike in the job requirements for 3D digital artists. It is a highly specialized job that requires extraordinary training courses and skill adaptation to be suited for the job.

The most successful companies have a special wing to incorporate 3D digital artists, who work very diligently to maintain the standards of the company by coming up with new designs and creative ideas.

The artist uses 3D modeling and rendering software to essentially sculpt intual space. More like sculpture, this technique utilizes modelling software to essentially sculpt on the computer. Items traditionally created by hand or machine can be re-created on the computer. This method also makes use of all of the other methods like - 3D computer graphics - (in contrast to 2D computer graphics) are graphics that use a three-dimensional representation of geometric data (often Cartesian) that is stored in the computer for the purposes of performing calculations and rendering 2D images. Such images may be stored for viewing later or displayed in real-time.

Three basic phases of 3D Graphics-

3D modelling - the process of forming a computer model of an object's shape

Layout and animation-the motion and placement of objects within a scene

3D rendering - the computer calculations that, based on light placement, surface types, and other qualities, generate the image

3D COMPUTER GRAPHICS is the technique of rendering three dimensional scenes and shapes on a digital computer using specialized 3-D software.

(Can be created using Software like Maya, 3D MAX, AutoCAD etc...)

The 3D computer graphics is a modern concept which has come in with technological advancement and the development of the computer sciences and is a modified version of the 2D computer graphics.

The 3D computer graphics has the task of representing the three-dimensional aspect of geometric data which is found in almost every model or structure. The 3-dimensional computer graphics calculates these geometric data and stores it in the device for future reference.

The 3D computer graphics are also used to render 2D images to provide it with a better representative quality. There is not much difference in the processes involving

the 2D and 3D graphics when it comes to the programs and software that these two forms imbibe to produce the calculations.

Another important aspect of 3D models is that the model aspect is only defined by the mathematical representation of the structure.



DIGITAL ARCHITECTURE

Digital architecture uses computer modelling, programming, simulation and imaging to create both virtual forms and physical structures. The terminology has also been used to refer to other aspects of architecture that feature digital technologies.

Architecture created digitally might not involve the use of actual materials (brick, stone, glass, steel, wood). It relies on "sets of numbers stored in electromagnetic format" used to create representations and simulations that correspond to material performance and to map out built artefacts. Digital architecture allows complex calculations that delimit architects and allow a diverse range of complex forms to be created with great ease using computer algorithms.



DIGITAL POETRY

It is a form of electronic literature, displaying a wide range of approaches to poetry, with a prominent and crucial use of computers. It can be available in form of CD-ROM, DVD, as installations in art galleries, in certain cases also recorded as digital video or films, as digital holograms and on the World Wide Web or Internet. There are many types of 'digital poetry' such as hypertext, kinetic poetry, computer generated animation, digital visual poetry, interactive poetry, code poetry, holographic poetry (holopoetry), experimental video poetry, and poetries that take advantage of the programmable nature of the computer to create works that are interactive. It is sometimes called e-poetry, electronic poetry or cyber poetry. It is a relatively new area of literature, much of it written since the 1990s.

Jason Nelson, a digital poet explains the Digital Poetry:

“in the simplest terms Digital Poems are born from the combination of technology and poetry, with writers using all multi-media elements as critic texts Sounds, images, movement, video interface/interactivity and words are combines to create new poetic forms and experiences.”

DATA MOSHING

Data-Moshing - removes key-frames between two videos, thus allowing the pixels to run together. It's a technique used to compress two videos together, removing key frames from a file so the videos' pixels "bleed" into one another.

Data-moshing can also be termed as a process whereby media files can be manipulated to produce the desired visual effects or images when the file is decoded. The status of the decoded file allows the entry of snippets from other media

files and editing of the existing ones. This data-moshing process is most common in videos rather than images. This is because the decoded video files have more scope to be manipulated than images that do not have too much space. Modern video files have a complex method of not crossing the storage space. This is done by not downloading the entire image on the device, but only snippets of the image is downloaded. The frames which store the entire picture are called the I-frames where the median file can be represented without any additional information or data. The other frames where only a part of the image can be saved are the P-frames and B-frames. The P and B-frames only contain the difference of the information gathered from the previous incomplete file and the remainder of the next file, instead of storing the entire image. The P-frame and B-frame is used to manipulate media files which are encoded. The videos that we encounter on a daily basis on television, YouTube, or any other movies that you watch, all have elements of data-moshing incorporated in them to make them more attractive to visually and artistic perception. This is produced as an amalgamation of the P-frames and B-frames. Usually, this kind of manipulation produces a repetition of the images resulting in a defect in the video. This is where the images must be improved to put them on display. (Can be created using Software such as Adobe after effects)



Dynamic painting

Dynamic painting is a form of digital art, where paintings are constantly being updated and changed. It is an art that has been generated algorithmically by a

computer system. There have been many attempts at producing generative art; the history of it goes back to the early days of computer development. Modernity and Industrial Revolution gave birth to technology and the adoption of new methods of turning physical labor into mental labor, where the work of the manual laborers was demolished and was instead replaced by the use of specialized skills to operate these machines produced by capitalist giants. Dynamic painting developed as a form of digital art, where the art or picture was painted by an autonomous system, namely a computer, where there was minimal physical labor used to complete the work. However, maybe a glimpse or the supervision of an artistic mind was required to complete the painting process. However, most of the digital painting is done without the supervision of a mastermind. The modern machines attempt at making the realm of digital paintings more independent and immune to control, so in a few years, you will not need humans to control the work, but just the machines doing the service themselves. The different types of dynamic paintings include music, visual arts, software art, architecture, and literature. Music and art have always complemented each other. Most of the iconic musicians and artists collaborate and weave an entirely historic piece of art which is persistent throughout generations. Digital painting transforms this music and art into a musical digital painting, which is more professional as it is creative. The area of visual arts, software art, architecture as well as literature is used as a canvas to paint their digital stories in. The use of these different genres only increases the scope of creativity as well as employment. (Can be created usng photoshop)



PIXEL ART

Pixel art - consists of a type of digital art in which the image is created at the pixel level. It uses faster graphics software and it is certainly one of the first ever developed types of digital art. People are very likely to have enjoyed some sort of pixel art even though they might be unaware of it. For instance, most of the computer and video games were based on pixel art and moreover, nowadays phone games are also based on the same technique. Pixel art is a form of digital art, created through the use of raster graphics software, where images are edited on the pixel level.

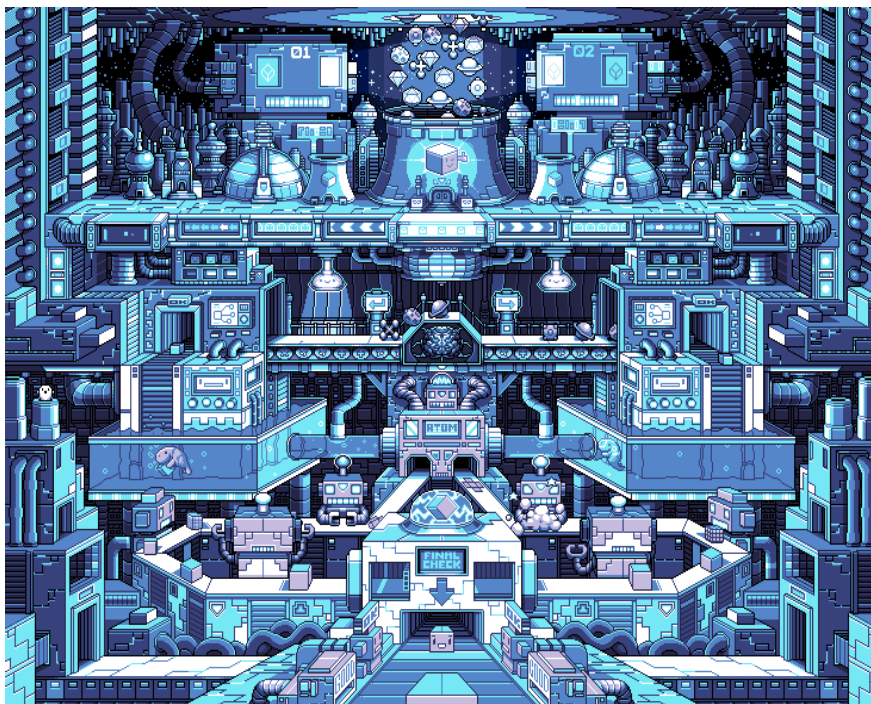
This type of digital art is mainly associated with videos and images which are used for movies, games, or aesthetic ventures.

There is a specific software where the pixel art can be produced, and it supports the 8-bit and 16-bit computers, including some graphic calculators and video game consoles. Pixel art is a pure form of aesthetic used in the elaboration of video games and other animated videos where it produces the desired effect which is incomplete in the case of other forms of digital art.

The idea of pixel art eminently emerged with the idea of modernizing of video games. This means that the aesthetic level of the video games created must match with the societal standards and expectations on these games.

This form of visual ecstasy can only be achieved with the adoption of pixel art as a form of digital art to infiltrate movements in the characters of the video games. What you see on the screen or play with is an intersection of several software programs to produce the desired art.

In case the video games or images need to be modified, or new effects need to be produced, the process of spriting is taken over. Spriting is specifically a term used to denote the editing and specialization of the already existing pixel art that you have produced.



Raster Paintings

Another very important domain of the forms of digital art is raster paintings. This is a form of digital painting which has been popularized because of its innate resemblance to that of a real hand painting. Since the other forms of digital art was giving out a rather virtual image of illustrations, deep down, traditionality is always appreciated more than virtual illustration.

So, to give it a more aesthetic vibe, traditional forms of painting are converted to digital art where there are apps you get a brush to make your own painting online.

It resembles an actual painting because the drawing takes place in strokes. Given the features, not everyone can do raster paintings without having to know the art of using a brush in reality first, before applying it on the computer.

To illustrate art in its raw form digitally, raster paintings are the best way to go about it. But other than this, it is not advisable to go for this form of digital art on a professional basis. The diameter of the creation is very restrictive because it is as low as 72 dots per inch.

In addition to this, the image cannot be expanded. Corrections to the image is also a very long and hard process which can be fatal if certain targets have to be met for the business.

EVOLUTION IN TECHNIQUES OF DIGITAL ART

“Digital Art” describes the technological art works with fluidic boundaries offering as many as possible interpretations of the term. The term itself has evolved through time and whereas computer art, multimedia art, and cyber-art were standard in the 1960s-90s, the rise of the World Wide Web and Internet added a layer of connectivity resulting in a shift in language. As such, we now prefer the terms digital art and new media which can be used interchangeably with some nuances.

Art historians often categorize digital art as twofold: object-oriented artworks and process-oriented visuals. In the first scenario, digital technologies are a means to an end, and function as a tool for the creation of traditional objects like paintings, photographs, prints, and sculptures. In the second case, the technology is the end itself, and artists explore the possibilities entailed to the very essence of this new medium. This latter category — often associated with the term “new media” — refers to all computable art that is digitally created, stored and distributed. In other words, while some works rely on digital tools to magnify an already-existing medium, others use digital technology as an intrinsic and indissociable component in the

making of the artefact. With these definitions in mind, the list below presents current practices linked to the digital medium.



Andrej Ujhazy, Ljjkbkjbkjbkjbkjbk, 2016. This digital painting was created with the use of MS paint and Photoshop, among other software.

Digital painting appeared in the 1990s and embrace traditional painting techniques like watercolours, oil painting, and impastos. While the artist develops a graphical design with the use of a computer, tablet or stiletto, the process itself is similar to painting with traditional materials and result in painterly aesthetics. Digital paintings also share features that are specific to computer art visuals like the repetition and distortion of elements and can result in abstract imagery. The last year has also seen the rise of 3D painting entailed to the use of virtual reality with Google's app Tilt Brush and its artists in residence.

Digital photography includes the use of images taken from reality through photographs, scans, satellite-imaging, and other possible records of what exists. This segment often mixes what is and what is not, blurring boundaries and distorting our understanding of truth. Traditional techniques of collage and the assemblage of elements, as well as the overlaying and blending of visuals through morphing technology, are part of this strand of digital imagery led by artists like Nancy Burson, Daniel Canogar, Thomas Ruff, and Andreas Gorsky.

Sculpture results from a design on computer-aided software, which can later be either displayed as physical objects/models or shown as virtual images on screens. Computing allows for the manipulation and controlling of complex geometry, as well as their 3D visualization, significantly enhancing traditional design abilities to foster grander creative ideas.

Digital installations closely relate to the sculptures for their 3D nature but offer a new typology in their relation to the viewer. Mostly, this type of artworks can be interactive — that is responding to visitors' inputs (e.g., body movements, voices, touch). Alternatively, these art pieces can be immersive, presenting viewers with a new spatial environment or altering the nature of their surroundings. Virtual reality (VR) and augmented reality (AR) are typical examples of the technologies promoting this kind of experience. Nonetheless, these installations require expensive material, logistical, computational, and architectural planning. Ultimately, this art form is now suited to museums, and institutional and public spaces, offering the vast areas and infrastructures for people to experience the medium entirely. Leading protagonists in the design of installations include Team Lab, Rafael Lozano-Hemmer, Michel Bret and Edmond Couchot.

Videos, animation, and the moving image constitute the most obvious scene for the questioning of reality. This technology allows the full recording of an event through both space and time, while simultaneously dealing with montage and the transformation of what honestly happens. Two strands define the moving image: live action on the one hand, and animation and 3D Worlds on the other. The moving image is often the privileged medium for the development of virtual reality and immersive environments, which explains its close link to installation art. Examples of digital artists working with video include Pipilotti Rist, Ryoji Ikeda, Yoshi Sodeoka, Toni Dove and Jacques Perconte.

Internet and networked art are process-oriented objects looking at the functioning of computing structures and networks. The web is an intricate net of information similarly to any network, and artists working in that field mean to highlight or challenge the complexity and nature of these systems (e.g., Mark Napier, Olia Lialina). Beyond this pure stamina, internet art also includes all works that are meant to be distributed on the web, or that take inspiration and information from the net as a basis for their artistic development. Krist Wood stands as an excellent example of the latter practice, both because of his artistic practice and his involvement with the Computers Club and Internet Archeology.

Software art focuses more specifically on computational engineering as in the machine's language, communication systems. These works can either be connected — interfering in live action with visitors — or auto-generated — meaning visuals result from set algorithms and codes. Whereas the artist encodes following an idea/concept, the resulting images and other stimuli entirely depend on the computer process. Artists such as Adrian Ward and Casey Reas are notable for their use of programming languages.

Mixed Media is essential to the digital medium. As opposed to traditional creation, computation implies elements of different nature can be associated and

coordinated to produce a whole experience for the viewer. Artworks can thus combine, still and moving image, augmented reality, sound, photographs, and so on. One medium of the artwork can also be singled out meaning one digital creation can result in various physical outputs, depending on the joint wishes and purposes of commissioners, artists, and curators.



REPORT AND VIVA

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MFA– SEM 2

MINIMALISM

– A DESIGN CONCEPT IN ADVERTISING

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CERTIFICATE

This is to certify that the report entitled “Minimalism – A Design Concept in Advertising” has been submitted for Master of Fine Arts (M.F.A.) – Applied Arts, 2nd Semester, 2021.

The research work is carried out by Sanika Pendse under my supervision in Amity School of Fine Arts, Amity University, Rajasthan.

She has successfully completed her report work.



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WHAT IS ADVERTISING?

Advertising is a medium of communication for the users of the product or services. It is like a public announcement to promote a product, any kind of services, different events or even publishing a job vacancy.

Advertising is basically a part of Marketing. Advertisements are a guaranteed method of reaching the mass audience. Most of the time advertisements can have an immediate impact on business. It's effect could be seen in boosted brand recognition or improved trade and profits.



HOW IT ALL STARTED?

In the ancient and medieval period, advertising took place only by word of mouth. The first step toward actual advertising came with the development of printing in the 15th and 16th centuries. Later in 17th century, weekly newspapers in London began to carry advertisements and by the 18th century such advertising was blooming. Soon, the books and the leaflets also became the most common source of advertisement. Later, ads had started to print in magazines as well.





There was a time when people got so overwhelmed about the concept of advertisement that they started to cut some of the advertisements from the newspaper or magazine and paste it on empty walls. It became a trend.

It was in the year 1786 that Mr. William Taylor opened his office in London that is today known as the first ever advertising agency in the history of marketing companies.

In 19th century the advertising industry started to grow more and more. So finally the son of a newspaper publisher, Robert Palmer took the initiative and established first ever advertising agency in the United States of America. His major contribution was the formation of the newspaper advertising market by setting aside a large amount of space for ads and reselling it at higher rates. This system is used till this present day.

In the beginning of the 20th century, advertising was everywhere. In those times advertising agencies were fully responsible for their content and pictures. On June 4, 1917, five regional industry groups and 111 charter members formed the American Association of Advertising Agencies. It is now called the 4A's. It is one of the most popular and successful agency in the world. Their headquarters is situated in New York. They have more than 1300 offices and hold 85% of total U.S. advertising spend.



This was the first color advertisement designed by 4As. And soon it became one of the most popular poster for ages. The guy in this illustration poster is Uncle Sam, he was the first ever human who was tagged as an influencer of a community, so 4As decided to use him in an advertisement to grab the attention of the larger mass. It worked like a charm. And so the poster was named as “The most famous poster in the world.”

THE GOLDEN AGE OF ADVERTISING



In early 1900s, advertising became a whole movement when it came to radio and television. Since it was speaking to people directly through their radios and TVs, it felt more realistic and personal.

The first advertisement that hit the radio was in 1922 by radio host H.M. Blackwell at the cost of \$50 for 10 minutes of time slot.

Personalization in advertisement took another big leap in 1930 when Rosser Reeves introduced the idea of a Unique Selling Proposition. Since a USP (now know as unique value point too) describes the unique thing about you business or your service for the customer. It should be very specific and highly personalized to differentiate your brand.



The next major milestone in advertising timeline came on July 1, 1941, when the first legal and continental commercial was showcased on TV screens on WNBT. This Bulova Watch Company ad was brief with only 10seconds spot.

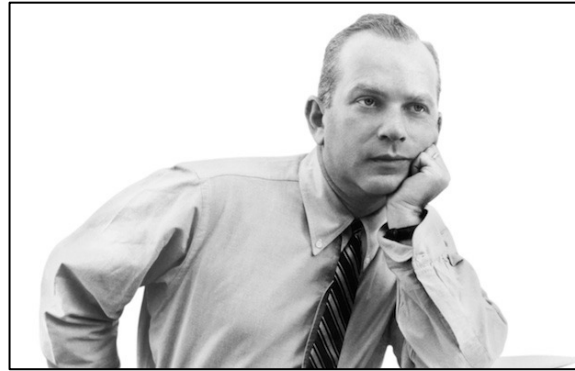
The period from the 1960s to 1980s is considered as the golden age in the history of advertising because in this period, industry legends such as David Ogilvy, William Bernbach and Mary Wells Lawrence revolutionized the industry and totally improved standards of the advertising industry.

The best ideas come as jokes. Make your thinking as funny as possible.

-David Ogilvy



David Ogilvy



William Bernbach



Mary Wells Lawrence

Soon professionals started thinking out big ideas, relying on marketing concepts, researching on data and allocating big budgets.

Companies began building characters around their products to establish more of a connection between the viewers and the brands. Tony the Tiger for Frosted Flakes or the Snap, Crackle and Pop gnomes for Rice Krispies, both of which are still seen on cereal boxes today were made in this era.



Among all the different characters that emerged, the advertisements in this time had one main purpose which was to SELL the product or the service. While the characters played a major part in creating an ad-culture for consumers, they made sure the product was always at the forefront.

That is until digital advertising became a trend and with it came several major game-changers in the evolution of personalization and advertising.

THE DIGITAL ERA

This period was known for introducing new channels and mediums and a drastic shift in motive. Rather than selling, the evolution of ads led to a focus on brand awareness, brand identity and solving problems. The product was no longer in the forefront or centre of the advertisement, the consumer was.

It all started when internet usage took off in 1992 with the introduction of online social networking services. When everyone suddenly began using the internet for personal reasons, advertisers jumped all over the opportunity to reach out the consumers there. They began shifting their attention to more digital advertisements, starting with display advertising on the the world wide web.

On October 27, 1994, the world of advertising was forever transformed by a small graphic ad with words, "Have you ever clicked your mouse right here? You will," in a rainbow coloured font. The age of banner ads had officially begun.



Although the previous year law firm 'Heller Ehrman White & McAuliffe' purchased the first online clickable web ad, the first banner ad was in fact purchased by AT&T in 1994.

The commercial web magazine, HotWired sold the ad to AT&T at \$30,000 with a run time of 3 months. From then, the term 'Banner Advertising' was coined. It was around this time that the concept of online advertising really blew up for publishers who were looking for a way to keep their content free.



You did! Now let's see what else you'll do.

We hope you will find this area interesting and exciting. For those of you unfortunate souls who don't yet have fiber to the home, we've tried to keep file sizes small and download times short.

Have you ever toured an [art museum](#) without leaving your seat?



Have you ever wanted to learn more about the latest in technology from [AT&T](#)?



Please help us [improve this space](#).



"Criticism is easy. Art is difficult."
Le Glorieux [1732], act II, scene 6

© Copyright 1994 AT&T

Design and production: TANGENT Design/Communications, Inc.

About 44% of the people who saw the ad clicked it and when they did, they landed on this site. Although the page lacked development, the ad set off a chain reaction that altered the course of the advertising industry and banner ads caught on extremely quickly. In 1995, Yahoo transformed itself from a web directory to commercial business. The company announced an advertising deal for their own primitive banner ads.

The publications planned to set aside a portion of its website to sell space to advertisers, just like the ad spaces which are sold in a print magazine. They called the ad spaces banner ads and charged advertisers an upfront cost to occupy the ad space for a particular time period, very different from today's PPC (pay-per-click) ads.



The web was rapidly expanding and the number of websites were rising day by day. Users needed a way to easily navigate the web and as a result, search engines began to steadily gain popularity.

Although other search engines existed, such as AltaVista, Infoseek and Lycos, the birth of the Google search engine happened. A player that, to this day, leads the digital advertising industry.

Mobile advertising came next as mobile phones came into existence.

The first ever mobile advertisement popped up in 2000 when a Finnish news provider sent free news headlines via SMS. This led to more experimental mobile ads and mobile marketing.

When the original iPhone was released in the year 2007, mobile advertisements came to smartphones. However, it was still new to the medium. Advertisers would simply reformat their desktop ads for mobile as they weren't well-designed and didn't provide an ideal user experience, there was a widespread of negative feedback from these first smartphone ads. Advertisers then began to design their ads "mobile-first."

In 2005, what was set to become the world's largest video advertising platform, YouTube, was launched. And soon started video ads as well.

Google saw the opportunity and purchased YouTube for \$1.65 billion. This was also the year that Twitter was publicly introduced.



With the introduction of Facebook ads in 2007 by Mark Zuckerberg, the number of targeting possibilities that advertising platforms could offer to businesses increased. That's how the advertising war between Google and Facebook and their development started. These companies are still expanding their advertising networks today.



In the year of 2010, photo and video-sharing social networking service, Instagram was launched. On April 9, 2012, Facebook bought Instagram for \$1 billion in cash and stock.

That's a look back at the history of how advertising began and how it evolved to online advertising. But the real question is what about the future?

TYPES OF ADVERTISING

1. Online Ads
2. SMS Ads
3. Television Ads
4. Ads in theatres
5. Radio Ads
6. Print Media Ads
7. Outdoor & Transit Ads

Most of the people wonder that minimal advertisement is included in which category, to answer it is in almost all categories.

As technology advances, so does the ability of advertisers to create ever more complex and flashy ads and deliver them in multiple ways. Advertising overpower people on television, the Internet and even their mobile phones. Volume and complexity, no longer attract consumer's attention the way they once did. Minimalism in advertising offers one potential answer for this problem.

TYPES OF ADVERTISING

1. Online Ads

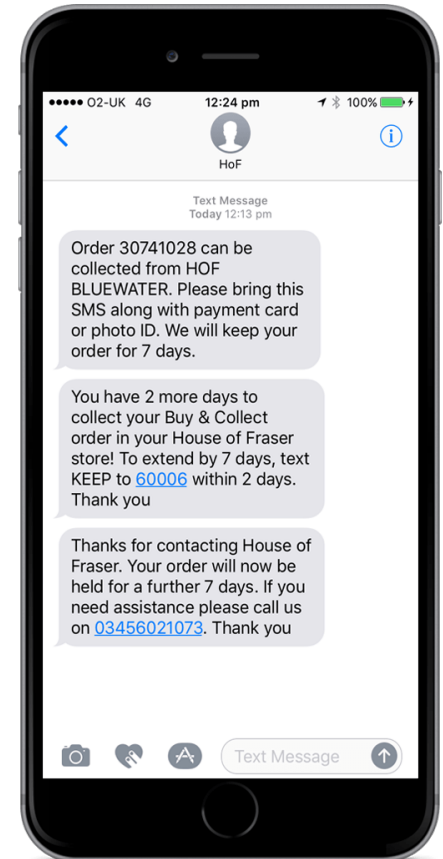
Having a website might be a low-cost strategy to attract new customers. At a reasonable cost, you may reach a global audience. Many customers conduct Internet research before selecting on a vendor. Customers may be enticed to buy from you if your website is well-designed. You may advertise your business online in a variety of methods, including paid advertising and improving your search engine results. Learn more about conducting business via the internet. Promoting your products or services on social media sites, blogs, search engines, and other websites that your target audience visits are other ways to advertise your business online. Learn everything there is to know about social networking.



TYPES OF ADVERTISING

2. SMS Ads

SMS advertising is a form of marketing which practices of delivering promotional or transactional text messages for marketing objectives (SMS). These messages are mostly used to send time-sensitive offers, updates, and notifications to people who have agreed to receive them from your company. As people become more attached to their phones, text messages become the most direct line of contact. This has made text message marketing, or SMS marketing, one of the most effective forms of communicating with customers when done correctly. Make sure your contacts have opted for SMS. Be mindful of the timing of your messages and include your company's name in your messages.



TYPES OF ADVERTISING

3. Television Ads

Television has a wide reach, making it excellent for advertising if you serve a huge market in a vast area. To persuade a buyer to buy from you, television advertising has the advantage of sight, sound, movement, and color. They're very helpful when you need to show how your product or service operates. Advertising is sold in units (example: 20, 30, 60 seconds) and costs vary according to:-

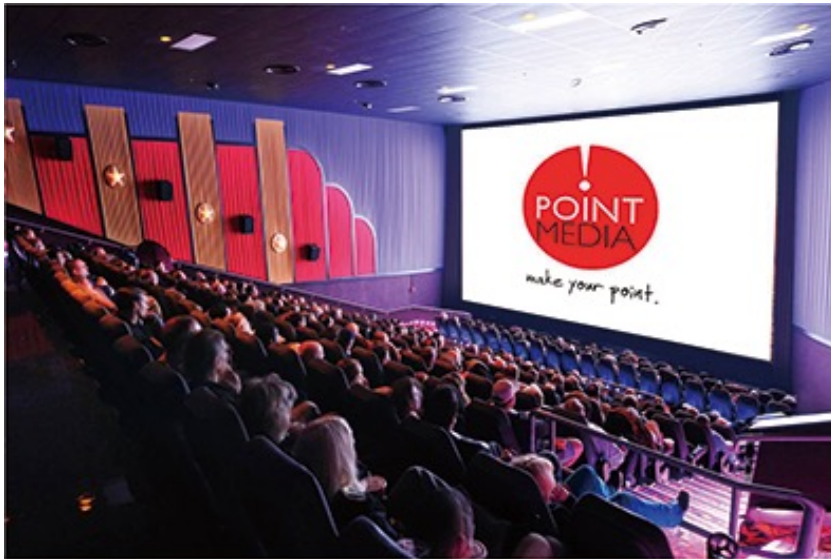
- the time slot
- the television program
- whether it is metro or regional
- if you want to buy spots on multiple networks



TYPES OF ADVERTISING

4. Ads in Theaters

In-cinema advertising refers to the on-screen and off-screen branding that consumers see in theatres; usually seen as a short audio-visual advertisement before the film starts and as posters in the refreshments areas of cinema halls etc. It has always been a very powerful medium for advertising.



TYPES OF ADVERTISING

5. Radio Ads

Advertising on the radio is a great way to reach your target audience. If your target market listens to a particular station, then regular advertising can attract new customers.

However, sound has its limitations. Listeners can find it difficult to remember what they have heard and sometimes the impact of radio advertising is lost. The best way to overcome this is to repeat your message regularly — which increases your costs significantly. If you cannot afford to play your advertisement regularly, you may find that radio advertising does not generate strong results.



TYPES OF ADVERTISING

6. Print Media Ads

- Newspaper :

Newspaper advertising can promote your business to a wide range of customers. Display advertisements are placed throughout the paper, while classified listings are under subject headings in a specific section. You may find that a combination of advertising in your state/metropolitan newspaper and your local paper gives you the best results.

- Catalogues and Leaflets :

Catalogues, brochures and leaflets can also be distributed to your targeted area. Including a brochure with your direct mail is a great way to give an interested customer more information about your products and services.



TYPES OF ADVERTISING

6. Print Media Ads

- Magazine :

Advertising in a specialist magazine can reach your target market quickly and easily. Your potential customers tend to read magazines at their leisure and keep them for longer, giving your advertisement multiple chances to attract attention. Magazines generally serve consumers (by interest group e.g. women) and trade (industry/business type e.g. hospitality).

If your products need to be displayed in colour then glossy advertisements in a magazine can be ideal — although they are generally more expensive than newspaper advertisements.



TYPES OF ADVERTISING

7. Outdoor & Transit Ads

There are many ways to advertise outside and on-the-go. Outdoor billboards can be signs by the road or hoardings at stadiums or commute platforms like railway stations, airports, bus stops etc. Large billboards can get your message across with a big impact.

If the same customers pass your billboard every day as they travel to work, you are likely to be the first business they think of when they want to buy a product.

Outdoor advertising can be very expensive especially for prime locations and supersite billboards.



WHAT IS MINIMALISM?

Minimalism is defined as a design or style in which the simplest and fewest elements are used to create the maximum effect. Minimalism had its origins in the arts—with the artwork featuring simple lines, only a few colours, and careful placement of those lines and colours. People in fact have started living a minimal life style as well, using less than 100 things. This is becoming a new trend.

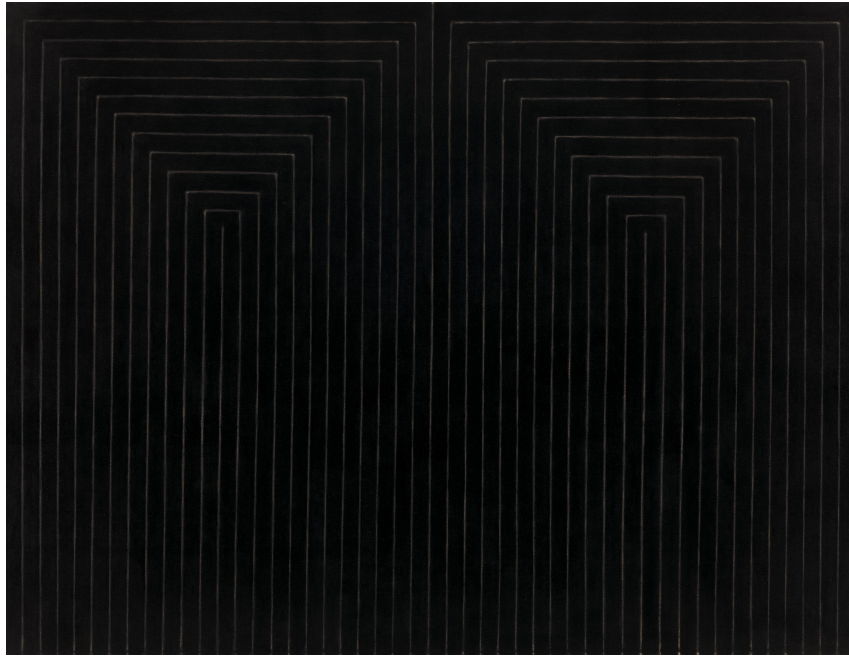
“Simplicity is the ultimate sophistication.” — *Leonardo da Vinci*

“The ability to simplify means to eliminate the unnecessary so that the necessary may speak.” — *Hans Hofmann*

HOW IT ALL STARTED?

Minimalism emerged in New York in the early 1960s among artists who were self-consciously rejected the typical art form, they thought that it had become stale and academic. A wave of new influences and rediscovered styles led younger artists to question conventional boundaries between various media. This art form was characterized by extreme simplicity of forms, lines and literal objective approach. Minimal art is also called the ABC art.

We usually think of art as representing an aspect of the real world (a landscape or a person or few objects) or reflecting an experience such as an emotion or feeling. With minimalism, no attempt is made to represent an outside reality, the artist wants the viewer to respond only to what is in front of them. The medium or the material from which it is made and just the form of the work are the only realities.



In 1950s, artist Frank Stella used commercial paint bought at a dollar per gallon with simple painter brushes to create his this minimal “Black Paintings” which made him famous when he was just 23. The works were foundational in the development of Minimalism, as his statement, "What you see is what you see," became the minimal movement's mantra. This painting

was exhibited at the Museum of Modern Art in New York in 1959.

Minimalism started to gain popularity in the 1960s and 1970s with Carl Andre, Dan Flavin, Donal Judd, Sol Lewitt, Agnes Martin and Robert Morris becoming this movement’s most important innovative artists.

Soon the form of minimalism was seen in sculptures, architecture, music, theatres and machines too.

The Minimalist focus on simplicity continues to exercise power in the creative field of advertising as well.

Try to cram too many visual elements into a blank space and you get only visual noise that the viewer overlook or ignore, rather than trying to sort out. Minimalist advertising aims to strip out virtually all the visual noise that appears in many ads and focus on single impactful visual message.



For example tech giant Apple, one of the most famous company, built an entire brand on a minimalist approach, from its logo to product design and the architecture in its retail stores.

Minimalism in advertising does not represent a cure-all, especially with branding elements, such as logos. Apple spent decades adjusting its logo from the original, much more complex design to its current minimalist design.

EFFECT ON DESIGN CONCEPTS

Applying the lesson of minimizing elements in advertising to focus on one key message, however, can improve response of the viewers and recollection of your ads.

Minimalist ads often prove memorable because they tend to capture our attention. The nature of these advertisements allows designers to manipulate the negative space in a way that draws the viewer's eyes to the key image or message. Whereas the viewer of a more cluttered ad might spend a fraction of a second on each element, the viewer of a minimalist ad spends the entire time focusing on a single message, a logo or a tagline. This additional focused time combined with the surprise the simple advertisements help the viewer to recall the brand later.

From the logo to the tagline as well as their product packaging, companies like HP, Google, Facebook, Microsoft, Mercedes-Benz, WhatsApp, McDonalds, LinkedIn, Twitter and many more have empowered the minimal mantra.



Minimalism in advertising leverages on the fact that a simple advertisement or design does the following:

1. Stands out from the clutter of competitors
2. Captures the attention of the audience or viewer with its simplicity
3. It's more iconic and easier to remember
4. Creates a better impression on the audience or viewer

“Less is more.” — *Ludwig Mies Van der Rohe*. This has never been truer in our design age.

It seems our world is developing at a lightning pace and people hardly have time to decode complexities anymore. It seems like 24 hours aren't enough and time has become more precious than ever before. People's attention span has also been reduced in many ways. It takes a lot more to get their attention and even harder to maintain their attention.

What does this mean for advertising? Capturing and holding the attention of your target audience are the bigger challenges now and this has further demanded reinforcement for alternative ways of showcasing products and services in a simpler space.

Here is where minimalism holds an upper hand. A single figure in a visual will catch attention faster than the one with five or more visuals. The time it takes the eye to find the image is shorter but the message delivered is quicker and more efficient because the message is direct and to the point without any chaos.

REGULAR AD AND MINIMAL AD

Nivea



Coca-Cola

Come on - let's have a 'COKE'!

Coca-Cola is real refreshment for everybody—any time of day. Out and about, or at home with the family, it's always the right time and place for 'Coke'. Pure and wholesome, delicious and refreshing, Coca-Cola is unlike any other drink in the world. Enjoy 'Coke' whenever you feel like a 'break'—and return to work (or play) wonderfully refreshed!



A vintage illustration for a Coca-Cola advertisement. A woman in a white dress with a purple sash and a black belt with stars is holding a large red Coca-Cola glass bottle. She is smiling and looking towards the viewer. In the background, there is a fair or garden fete with a striped tent, a sign that says 'GARDEN FETE', and other people. A man in a suit is holding a small Coca-Cola bottle. A woman in a blue dress is also holding a bottle. There are several more Coca-Cola bottles on a table in the foreground. The text 'Come on - let's have a 'COKE'!' is at the top. Below it is a paragraph of text. At the bottom, it says 'Call it 'Coke' or Coca-Cola- it's the same delicious drink'. There is also a small trademark notice at the bottom right.

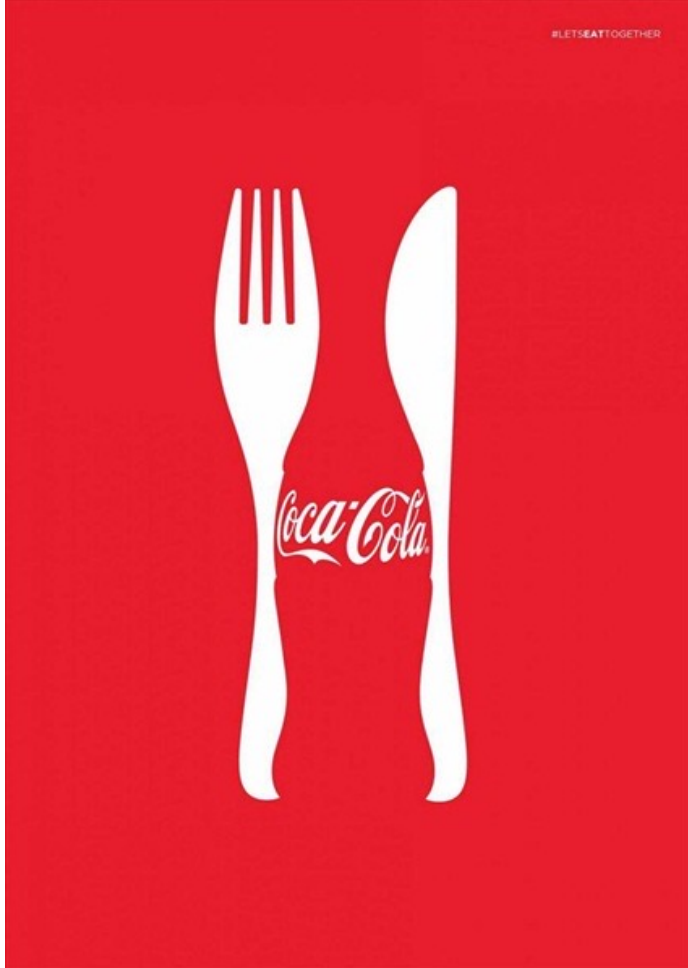
Drink
Coca-Cola

TRADE MARK REG.

'Coca-Cola' and 'Coke' are the registered
trade marks of The Coca-Cola Company

Call it 'Coke' or Coca-Cola- it's the same delicious drink

#LETSSEATTOGETHER




A red background with a white fork and knife. The Coca-Cola logo is written in white cursive across the handle of the knife. The text '#LETSSEATTOGETHER' is in the top right corner.

Coca-Cola

Colgate

Now! ONE Brushing With COLGATE DENTAL CREAM
Removes Up To 85% Of Decay And Odor-Causing Bacteria!

Only The Colgate Way Does All Three!
CLEANS YOUR BREATH while it
CLEANS YOUR TEETH and
STOPS MOST TOOTH DECAY!



Just One Brushing with Colgate's Stops Bad Breath Instantly!
Your very first brushing with Colgate's tooth-morning, no-mess-up-to-85% of the bacteria that cause bad breath! Yes, scientific tests prove that Colgate Dental Cream stops bad breath instantly in 1 out of 10 cases that originate in the mouth! Every time you brush your teeth with Colgate's you clean your teeth while you clean your teeth!

Just One Brushing with Colgate's Removes Up to 85% of Decay-Causing Bacteria!
Every brushing with Colgate Dental Cream removes up to 85% of the bacteria that cause decay! But...if your teeth were as porous as a sponge, how do you clean the Colgate way? Scientific tests showed that the Colgate way of brushing teeth right after eating stopped more decay for more people than ever before reported in all dentistry history!

Brushing Teeth After Eating Stops Tooth Decay Best!
Scientific tests over a 2-year period showed a startling conclusion: it's best to brush your teeth right after eating! In fact, 76% says should be the new action habit for almost 2 out of 3 people. Yes, the Colgate way of brushing teeth right after eating is the best home method known to help stop tooth decay!

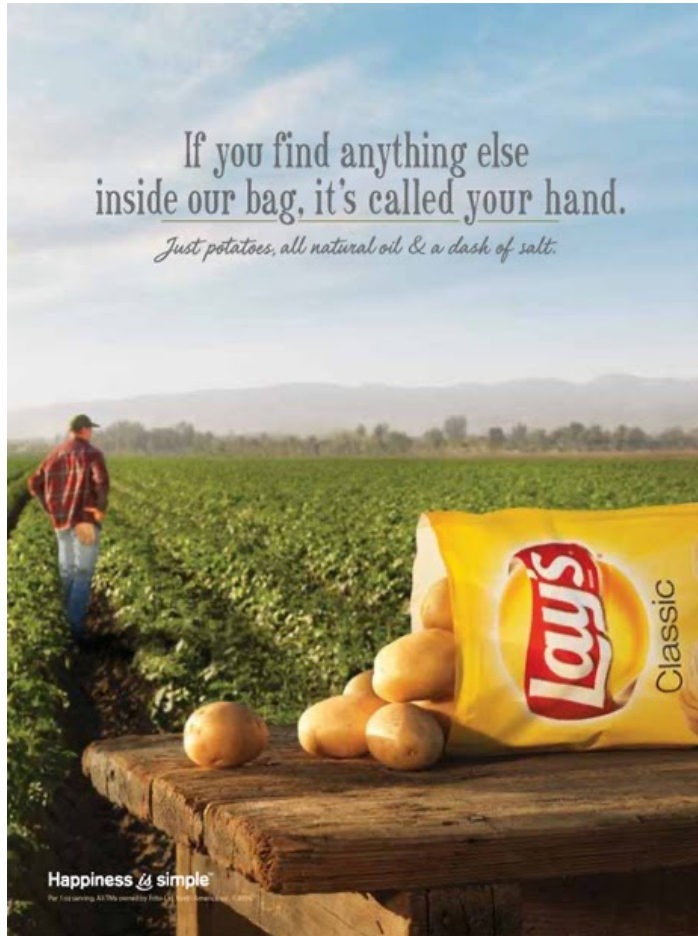
Gives You A Cleaner, Fresher Mouth All Day Long!

42



Healthy teeth with **Colgate**

Lay's



McDonald's

**THE BIG MEAL.
IT'S A GREAT DEAL FOR DINNER.**

Grab the Big Meal at McDonald's.
And you'll have yourself a Big Mac, a very large
order of fries and a great big drink.
All of which should make your stomach very happy.
Not to mention your wallet.



**The
Big
Meal**

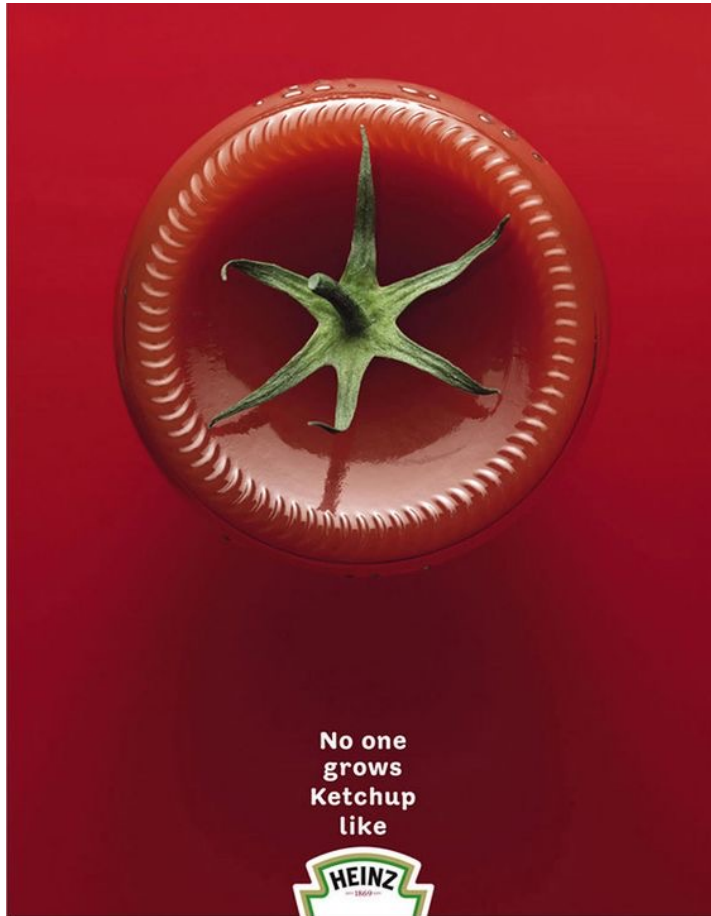
You deserve a break today. **McDonald's**

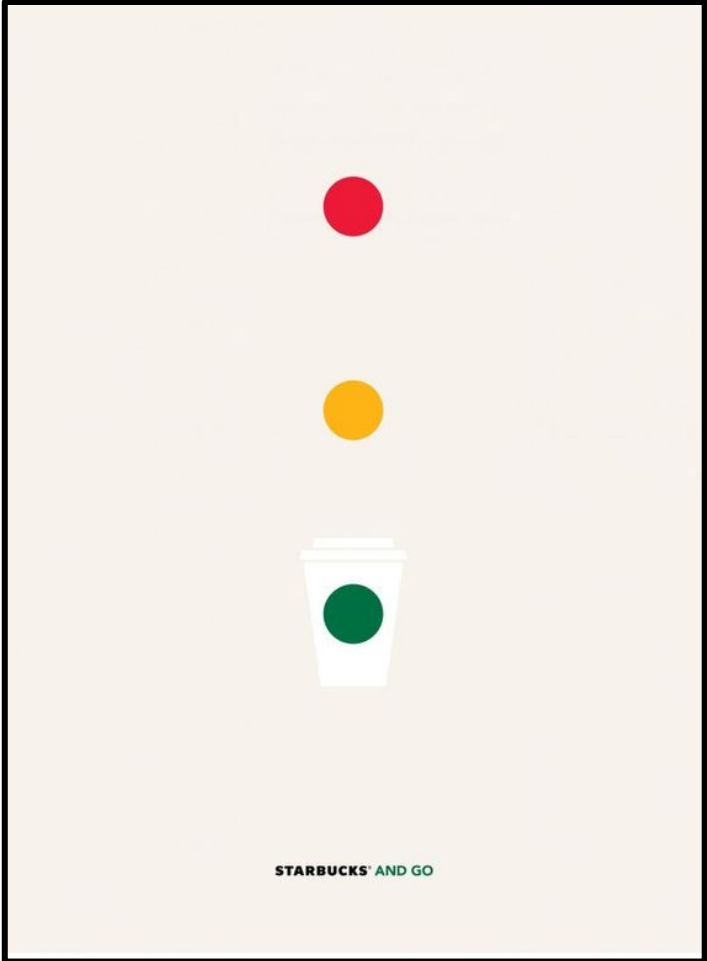
© 1971 McDonald's Corporation



Happy Holidays

CREATIVE MINIMAL ADS







Have a break, have a ...



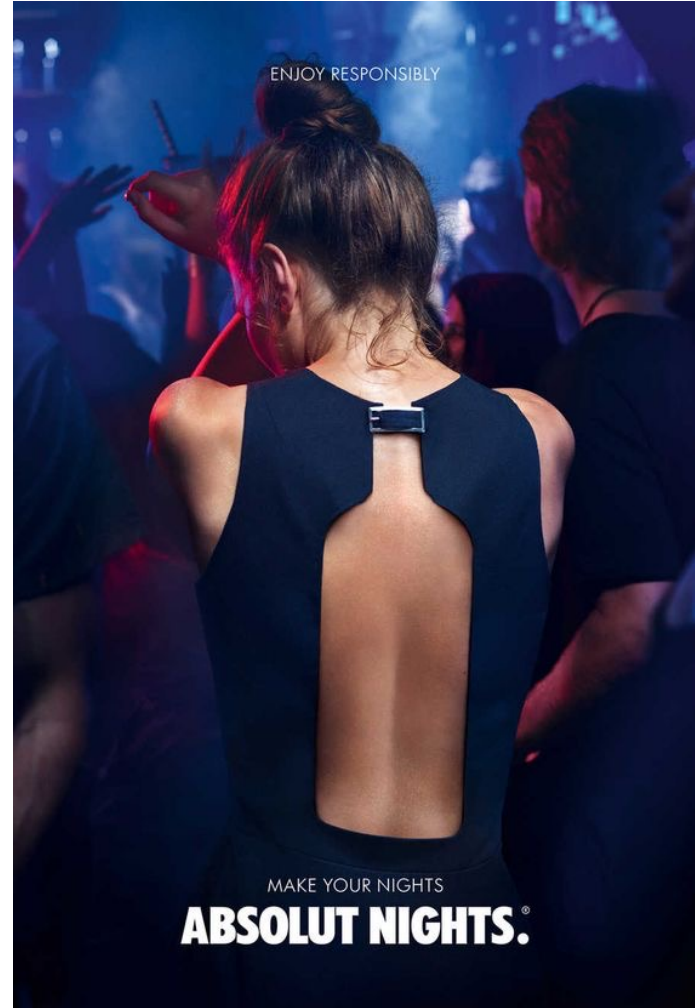
BEWARE THE HEAT

LITTLE BOTTLE · BIG FLAVOR

Sorry flash, we got a **delivery.**



ENJOY RESPONSIBLY



MAKE YOUR NIGHTS

ABSOLUT NIGHTS.

**OWN
THE WAVE.**



**OWN
THE ROAD.**



**OWN
THE CHALLENGE.**



JUST DO IT.

FAMOUS INDIAN ARTISTS AND THEIR MINIMAL WORK

1. Mitesh Mohakar (mitzey_moha)

Behance: <https://www.behance.net/mitzymoha>

Instagram: https://Instagram.com/mitzey_moha?utm_medium=copy_link

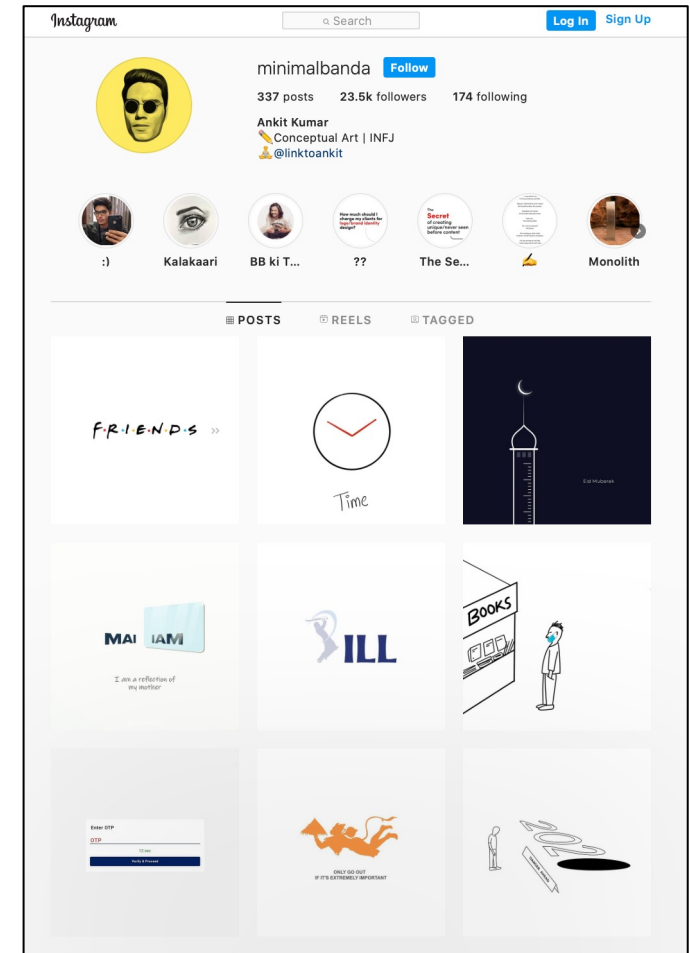
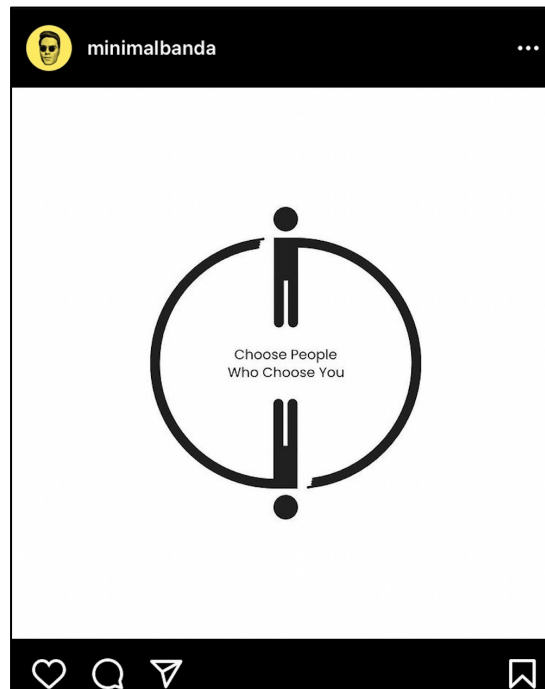
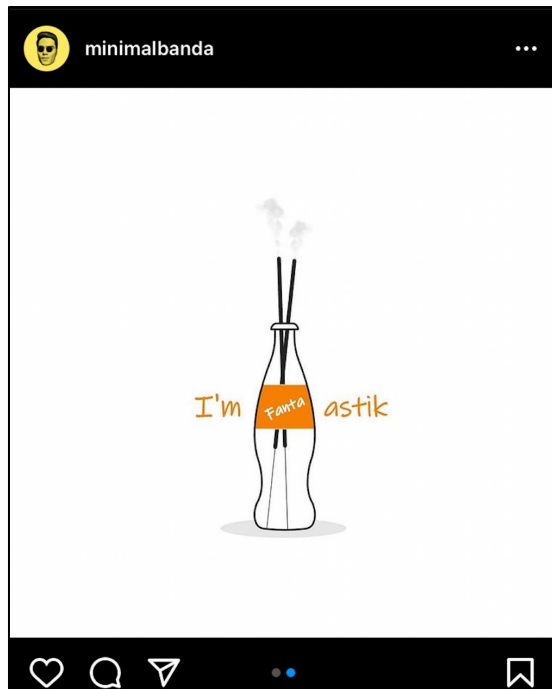
The image shows a Behance profile for Mitesh Mohakar, an Art Director at Saket Communications based in Pune, India. The profile includes a 'Follow' button, a 'Message' button, and statistics: 5,548 Project Views, 199 Appreciations, 79 Followers, and 77 Following. The profile was created on July 17, 2013. The main content area displays a grid of 12 minimalist artworks under the 'Work' tab. The artworks include: a black circle with two white eyes; a box of red chili peppers with the text 'oh! kerrr'; a hand holding a bottle of 'Clear Choice' juice; a purple background with the text 'OM' and a yellow circle; a woman in a purple burqa; a grey background with a white prohibition sign; a man's face with a green helmet and arrows; a person in a white cloud; a blue background with a white prohibition sign; a glass of milk with a 'WOO. krakoo' label; a person in a graduation cap; and a white teapot.

FAMOUS INDIAN ARTISTS AND THEIR MINIMAL WORK

2. Ankit Kumar (minimalbanda)

Instagram:

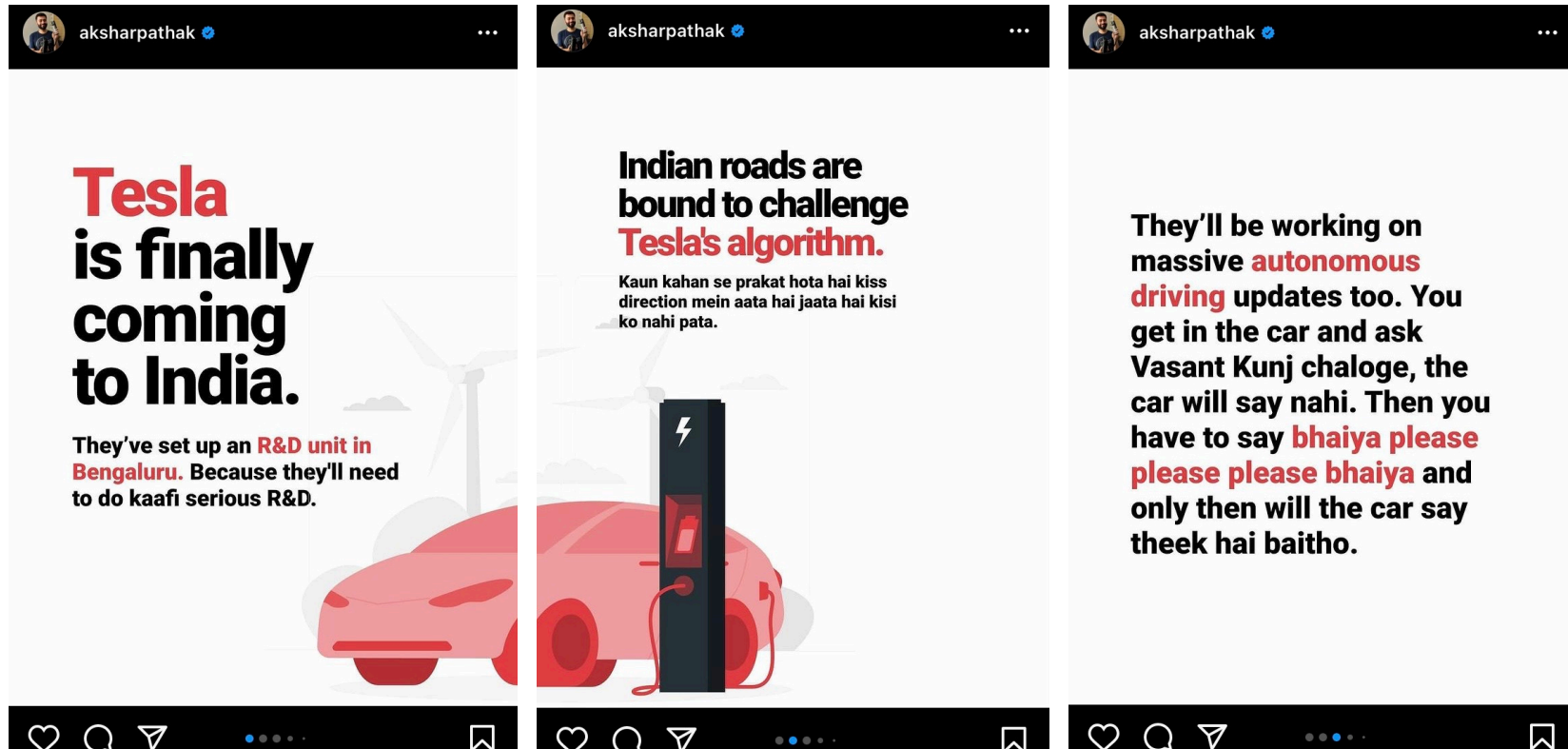
https://Instagram.com/minimalbanda?utm_medium=copy_link

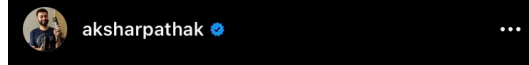


FAMOUS INDIAN ARTISTS AND THEIR MINIMAL WORK

3. Akshar Pathak

Instagram: https://Instagram.com/aksharpathak?utm_medium=copy_link





Tesla then needs to learn signs like pedestrians holding up **aashirvaad hand** which means **STOP** immediately, no other traffic signal matters at that moment.



Custom horns that say **tu jaanta hai mera baap kaun hai** for Delhi NCR.

When cops stop you in Bombay or Pune the screen will **flash Marathi phrases** to help you out.



Lastly, there's **kaali billi detection**.

Your car will stop till another one passes by.



THANK YOU

REFERENCES

WEBSITES:

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- feedough.com
- theminimalist.com
- britannica.com
- mad-over-marketing
- Instagram
- Behance

BOOKS:

- Designing is contagious
- Goodbye things
- The joy of less