



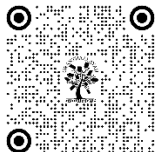


# ANALYZING INTENTIONAL PATINATION ON INDIAN SCULPTURES IN THE CONTEXT OF AGE, IMPERFECTION AND MATERIAL HIERARCHY

Aashu Chawla <sup>1</sup>  , Dr. Giriraj Sharma <sup>2</sup>  

<sup>1</sup> Research Scholar, The IIS (deemed to be University), Jaipur, Rajasthan, India

<sup>2</sup> Associate Professor, The IIS (deemed to be University), Jaipur, Rajasthan, India



Received 26 May 2024

Accepted 25 June 2024

Published 28 June 2024

**Corresponding Author**

Aashu Chawla, [aashuch21@gmail.com](mailto:aashuch21@gmail.com)

**DOI**

[10.29121/shodhkosh.v5.i1.2024.1207](https://doi.org/10.29121/shodhkosh.v5.i1.2024.1207)

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**Funding:** This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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## ABSTRACT

A layer of patina gets acquired over surfaces with the passage of time and usage. The ever-expanding definition of patina has been discussed in fields like chemistry, philosophy and aesthetics. Intentional patina is a process employed by sculptors to alter the surface of their artworks artificially without the risk of material damage. This paper aims to take a deep dive into explaining the fascination around patina. It discusses various aspects of aging, decaying, wear and tear, and alteration of visuals to explain its aesthetics. The paper takes post-modern and contemporary Indian sculptures as examples to illustrate its findings. It was found that intentional patina can undoubtedly add the context of time and environment the art was presumably exposed to. Variation in opacity, color, and texture of the patina can be used to celebrate imperfections and textures on the surface. There is also a break in the material hierarchy, choosing emotional attachment to a material over newer, polished finishes.

**Keywords:** Age Value, Imperfection, Indian Sculptures, Patina

## 1. INTRODUCTION

Philosophers for ages have been debating whether time is an absolute and objective reality or if it is a subjective experience. Effects of time, however, can be seen and felt on materials surrounding us. One could observe these effects as physical degradation due to erosion and corrosion. These are often also reflective of the implications of the material's environmental interactions. The skin tone of one's finger changes on prolonged wear of a ring, certain parts of a granite sculpture will lose details from the area that has been touched over and over again, and a sailor's

compass that has spent ages on the ocean bed acquires rust. Poetically, all this could be clubbed under 'Time painting over material'

This 'painting' or action of time is often loosely referred to as patina. The technical definition of the term patina has grown more inclusive over time. Initially, it was used to define the brown film that oil paintings acquire over time. Randolph talks extensively about how patina over old master paintings was considered 'tasteful' [Starn \(2002\)](#). Next, the term referred to the surface-level corrosion of sculpture made of copper and its alloys. Metallurgy of the alloy affects the patina's production rate, composition, and color. The dependence on the environment it is exposed to also factors in [Bureš et al. \(2019\)](#). Kingston broadened the definition by including the effects of human use to the effects of natural processes of time [Heath \(1900\)](#). He called it "cultural weathering". Patina has been loosely defined as the thin layer on the surface of a material that forms due to prolonged environmental exposure. It is important to note again that the environment dictates the aesthetic.

This effect of Patina is believed to be aesthetically pleasing giving rise to the 'Patina aesthetic'. There is an enhancement of visual experience through this alteration. A sense of history and the passage of time is added to the surface. [Muller \(2021\)](#) It acquires an 'age value'. Alois Riegl has written extensively on the 'age-value' of monuments and historic buildings. He explains it to be "our appreciation of the time which has elapsed since it was made and which has burdened it with traces of age." [Wells \(2017\)](#)

Sculptors have observed and tried to add this aesthetic to their works of art artificially. Intentional patina in sculptures is the process of altering the surface of a metal sculpture through various chemical actions under controlled conditions. These procedures are broadly categorized into two, hot and cold patina processes. In the hot process, the sculptors heat the metal to 150-200 °C, and mild chemicals are sprayed on the hot surface for a corrosion effect that leaves a lasting impact on the surface. In the cold process, the sculpture is introduced to a diluted acid bath for a prolonged period to create similar effects. In each of these processes the chemical bond thus formed are weak bonds with only the top layer of the metal which are often not detrimental to the metal. Intentional patina also acts as a barrier for nature to further corrode the metal.

However intentional patination has more to do with just technical expertise. Artists tend to research and observe how natural patina forms and try to replicate the patterns. Graedel explains in his paper how natural patina is rarely an even homogenous layer. He explains patina as 'onion skins' forming layer after layer. He also observed how vertical surfaces acquire less or delayed patina than horizontal and inclined surfaces [Graedel et al. \(1978\)](#). These minute observations and replication of them in artworks is a creative process that makes the illusion of time believable.

In an online survey conducted by [Jeremy \(2020\)](#) Wells, he showed 24 images of old, decayed building materials and 7 control images of new building materials based on aesthetic qualities, condition, and perceived age to a controlled group. [Wells \(2017\)](#) He concluded that ferrous metals, concrete, and deteriorated earthen building materials are often disliked by people. However, an appreciation of the ornamental patterns of the patina was noticed as long as the health of the metal was maintained.

This patina aesthetic is everywhere around us, from antique knick-knacks to patina on bronze sculptures in public squares, yet few scientific papers exist detailing the aesthetics behind intentional patination. The current paper tries to evaluate how one comes to value and attach emotional meaning to objects (more

specifically art) with context to experiencing their physical age. Thus, subsequently buy into the illusion of age through the intentional patina on sculptures. The paper uses Indian post-modern and contemporary sculptures to illustrate its findings. The paper also talks about the artificial patina process presumably adopted by the artists and the general chemistry behind it.

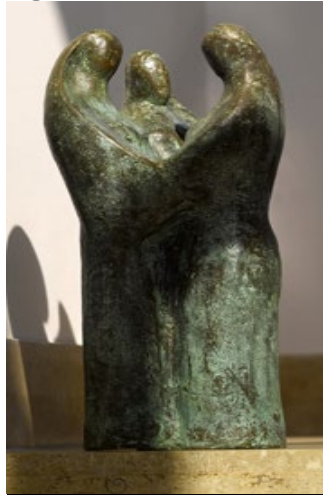
## 2. RESULTS AND EXPLANATIONS

### 1) Value of age

Surrounding ourselves with patinated artifacts may be an attempt to accept our inherent ageing processes and the certainty of universal deterioration [Wagner \(2019\)](#). There is a comfort in patina and the value of age. There is an acceptance of the natural process that comes with acceptance of age. Letting nature take its course over an object could be seen as respect for the life cycle and natural order. When a surface gets visibly altered it acquires a layer of history. This history reflects time and energy that has passed over the surface. The object becomes a physical embodiment of history, a tangible connection to the time before.

The patina aesthetic is also referred to as the 'Positive value of time' [Muller \(2021\)](#). Time has had both favorable and unfavorable consequences on objects. Although the technical term of Patina includes both aspects, the patina aesthetic is often referred to as a more refined, even controlled damage. Or as Jeremy Wells puts it the 'experimental construct of age value'.

**Figure 1**



**Figure 1** 'Three Grace', Pradosh Das Gupta, Bronze.

**Source** <https://timesofindia.indiatimes.com/blogs/plumage/prodosh-dasgupta-s-poetry-in-metal/>

Pradosh Das Gupta's oeuvre has a rich observation of patina. The artist has displayed a whole range of colours, textures, and finishes executing effects of time on his bronzes. In his sculpture "Three Grace" Gupta uses verdigris to tell the audience that the sculpture has spent a considerable amount of time in an environment with moisture in the air. Light green verdigris compounds like this have a complicated chemistry. If naturally occurring, this layer may include mixtures of brochantite, antlerite, atacamite, and other minerals depending on the exposure conditions. Intentionally, in a sculpture studio, it is a mix of Ferric Nitrate and Cupric Nitrate in varying consistencies that produces similar effects. [Chawla &](#)

Sharma (2022) Notice how the patina thins into an almost insignificant trace at the top of the sculpture. The artist tries to bring attention to the top of the ladies heads and arms, the metal there is shinier and seems to get less affected with time as the bottom. This is what was earlier explained as the positive effect of time: the artist gets to alternate between the shine, texture and colours of the artwork while attaching the artwork with the weight of time and experience in nature.

**Figure 2**



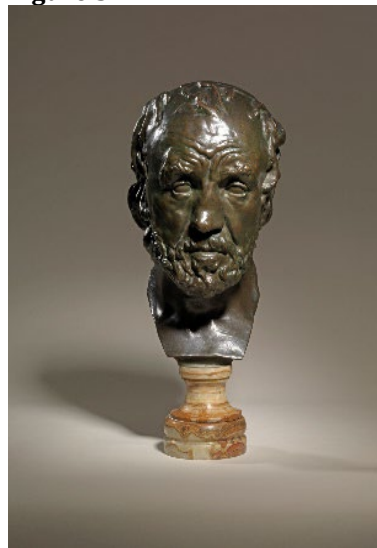
**Figure 2** 'Bull 5', Elanchezhiyan Pichaikannu, Bronze, 20x20x10in

**Source** <https://www.galleryartpositive.com/paintings/1337/bull-5>

Elanchezhiyan Pichaikannu's bull sculpture is used to illustrate a similar point. Yet instead of ageing the sculpture by decades, he uses a fresher looking reddish brown patina to give the sculpture a belongingness without compromising on the iconic bronze lustre. The bronze maintains its original surface near the horns, mouth and belly of the bull. One wonders if the sculptor was trying to remove patina from places where the bull is most touched (i.e. handled) in an Indian context. This kind of patina helps artists create a believable history around the work while customizing it to his vision.

## 2) Character of Imperfections

**Figure 3**



**Figure 3** 'Man with a Broken Nose', Auguste Rodin, Bronze, 13x7x7in, 1863

**Source** <https://sladmore.com/artworks/mask-of-the-man-with-the-broken-nose-1864/>

The concept of imperfections was truly celebrated during the rise of modernism in sculptures. Before that, the world saw sculptures as pristine specimens of perfection. Idealism prevailed, art did replicate nature but only nature's best was chosen to be represented. Hellenistic Greek era or Indian Gupta period are both known as golden ages of art history for their precise carvings and exaggerated body structures. With the advent of modernism came the rise of humanism. Society was celebrating individual human efforts and their flaws made their stories shine brighter. Rodin's sculptures elicit this perfectly. He started to submit sculptures to the salon with casting lines, chisel marks, broken limbs, and men with deformities. His iconic 'Man with a Broken Nose' illustrates this shift in choosing the subject of sculptures. According to Rodin this model had the "face of a live man which, when explored, was full of agitation and disorder" Rilke (2004). Where the Greek sculptors favoured the most celebrated athletes, modern sculptors preferred a common man with unique imperfections.

Age and experience bring in decay and defects; time takes away the glory of perfection to leave behind a matured sense of appreciation of flaws. The Japanese philosophy of wabi-sabi talks about how perfection and symmetry are often limiting to the artist Koren (2020). It is only when the artist begins to explore imperfections he truly unleashes the limitless potential of nature as a source of inspiration. Modern Indian artists have always gravitated towards austerity and sublimity.

A value is accumulated through use and relationships. When an object acquires patina, the usage of the object alters the base patina in areas where it has been handled. This can lead to further corrosion or removal of it.

**Figure 4**



**Figure 4** Untitled, Pankaj Panwar, Bronze

**Source** [https://www.1stdibs.com/art/sculptures/figurative-sculptures/pankaj-panwar-bronze-small-animal-sculpture-green-patina-famous-bengal-artist/id-a\\_2694741/](https://www.1stdibs.com/art/sculptures/figurative-sculptures/pankaj-panwar-bronze-small-animal-sculpture-green-patina-famous-bengal-artist/id-a_2694741/)

Character flaws, scars, dents, and scratches are all considered storytellers, and artists often use artificial patina to enhance faults and flaws in the surface of sculpture to cash in on these stories. As in the case of this untitled sculpture of Pankaj Panwar, he uses a dark grey patina for the body and then a bright blue patina in the crevices of the sculpture. The patina beautifully enhances the dents and changes of planes. On closer inspection all the scarring, marks and subtle textures too get a blue rim around them marking their stark presence. It shows that Panwar wants us to focus on the animal's dilemma. The dilemma that comes with its history of age but also its flaws and scars that show experience.

**Figure 5**



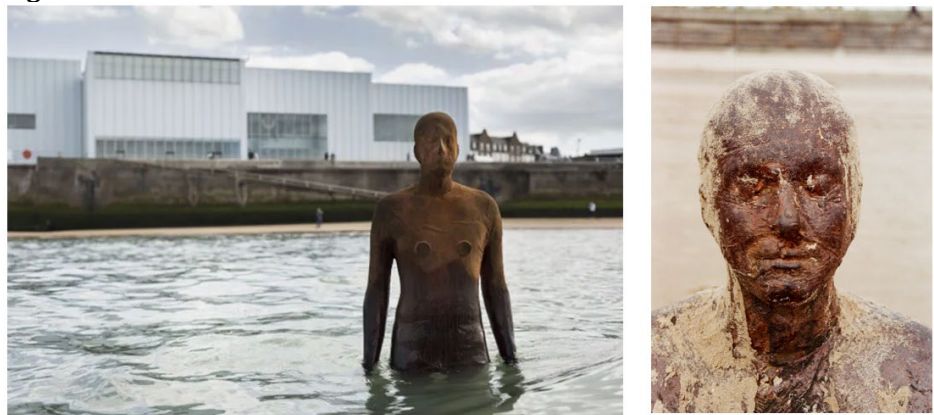
**Figure 5** 'Gaze Under Your Skin', Amol K Patil, Bronze and Kinetic Sculpture, 18x14x12in, 2020

**Source** <http://www.project88.in/individual-art-fair-work/3676068/1180>

Artist Amol K Patil talks about sufferings of farmers in this project of his. Even without context of the concept one can starkly notice the grey splotchy blobs over the dark brown patina. These defects and changes of color refer to the feet of a laborer who has been toiling in the fields for decades. Just as the soars on the feet mark memories of hard work and resistance, the imperfections in the patina here add important nuances to the overall feel of the sculpture.

### 3. SENSE OF ABANDONMENT

**Figure 6**



**Figure 6** 'Another Time', Antony Gormley, Iron Cast, Life Size, 2017

**Source** <https://turnercontemporary.org/whats-on/another-time/>

A metal sculpture will transform itself on cues of weather and the state of the light. Patina gives a sculpture a sense of belongingness to nature and abandonment from human interventions. Nature is always present to act as a reversal to human effort to achieve perfection [Koren \(2020\)](#). Patina is also the true nature of the metal, it is inevitable. Metal in its stable equilibrium will always have some amount of patina on it. A shiny metal is often considered a false witness to a metal. A fake viewing because it is a viewing that has stopped in time and is thus against nature. Nature leaves its traces on the materials, slowly reclaiming what once was. Observing something in this state of balance or equilibrium is shown to convey a sense of calmness. Peace and tranquillity are the effects artists aim to create with

some amount of artificial patina over the freshly cast polished shiny metal [Koren \(2020\)](#).

Antony Gormley's 'Another Time' represents the impact nature creates on human interventions. He has been making casts of himself in iron and installing them in various parts of the world letting nature take its course with them. This particular sculpture is left on the shore of the ocean to rust. [Figure 6](#) shows the aftermath of how nature tries to rust the iron, reclaiming the metal bit by bit over time. These kinds of artworks often remind us that it is nature that eventually drives the aesthetic. That material if left unaltered will be taken over by nature and time will alter it accordingly. This is also referred to in Wabi Sabi philosophy as the miseries of living in nature [Koren \(2020\)](#). Consider these visuals, a sunken ship on the ocean floor that has now seaweed growing on what once were polished wooden floors; or an abandoned swing set that is stuck due to rust where once were children swinging high and low. Both scenarios showcase how nature and patina grows over things that have not been paid attention to for long. Artists use artificial patina to tap into this effect too.

**Figure 7**



**Figure 7** 'Cries of the Molested', Somnath Hore, Bronze, 11.4x8.6x7.8in, 1994

**Source** <https://thewire.in/the-arts/man-artist-wound-somnath-hore-as-i-knew-him>

Somnath Hore's sculpture 'Cries of the Molested' does that very same thing. In fact, he uses patina both outside and inside of the sculpture, notice the dark green on the outside and the lighter green and browns on the inside. There is a combination of Cupric Nitrate and Sulphur to create this patina [Bureš et al. \(2019\)](#). Hore uses sheets of wax directly to mould its form. One can clearly see the curvatures of sheet and both sides of the curvatures are used to his advantage. Hore employs his works to throw light on themes of Bengal Famines and other atrocities in Bengal. This sculpture was meant to showcase the pain and agony of women in these situations but the dark and splotchy patina gives it the added effect of the desertion. The patina gives the illusion that it has been built over ages. Almost no shiny metal showing through adds to the effect that no human intervention took place. The cries were left unheard and the plight continued to grow.

Rajendra Tikku uses the same effect in his sculpture 'Folk tale'. In an interview with the artist, he told the researcher that patina took 12 years (1996-2008) of experimentation to develop. A combination of intentional and natural patina, the colours and the thinness of the patina is to marvel at. The consequences of no human touch are quite evident here as well. The patina adds the glory of history to the

sculpture while also pushing on the consequences of being left out for an extended period of time without any company. The feeling here, however, is of calmness, almost like the sculpture has made a truce with its surroundings.

**Figure 8**



**Figure 8** 'Folk Tale', Rajendra Tikku, Bronze, 1996-2008

Source Self

### 3) Against Material Hierarchy

Even though we have discussed the aesthetic of patina above, one cannot ignore the charm of a lustrous metal. Materials usually have a certain hierarchy in capitalist culture. It could be due to the context of money, availability, or durability. Acquiring or intentionally adding patina on metal often goes against this hierarchical system. A sculptor takes a shiny, golden bronze and converts it into something that is dull and unevenly colored.

**Figure 9**



**Figure 9** Untitled, N. N. Rimzom, Bronze, 13.5x9x8.25 in

Source <https://www.mutualart.com/Artwork/UNTITLED/4865D3532E595669>

There is a connection that material establishes not just with nature but with humans as well. There is an aesthetic charm in making objects last for longer, attaching to their personal experiences and nostalgia. A new object may hold more commercial value but has less emotional value. Thus, re-evaluating the material's worth with the added context of human emotion Muller (2021). An old watch, the



creases on your favorite shoe, or a torn childhood teddy bear are never evaluated on their commercial value of the material but rather on its context to one's life. Artists often use intentional patina to signify a personal context, a more profound meaning thus increasing their commercial worth.

To illustrate the difference in appeal, N. N. Rimzom's untitled sculpture can be taken into consideration. The artist chooses to put forth for viewers two versions of his work, one only polished and the other post-intentional patina. This blueish patina is obtained with a combination of Cupric Nitrate and Hydrogen Peroxide. The patchy brown and blue patina dulls the sculpture down the surface giving the form more volume. The viewer is more likely to notice all the indents and crevices of the form on the patinated sculpture. The polished sculpture however will have distractions of the environment and viewer's own reflection. The polished material will change its color according to the light it is put under. The shine also is not sustainable in the long run.

**Figure 10**



**Figure 10** Mother and Child (Gothic), Pradosh Das Gupta, Bronze, 12.25x7.25x8.75 in  
**Source** <https://www.invaluable.com/artist/das-gupta-prodosh-kusum-mn2u1ip7j5/>

Pradosh Das Gupta's *Mother and Child (Gothic)* has another approach in the same direction. The artificial patina here is made using mostly sulfur. For this kind of black patina to occur naturally, bronze needs to be exposed to an environment with an extensive amount of sulfur dioxide pollutants in the air Leygraf et al. (2016). Gupta turns his bronze into a solid dark mass completely transforming its basic characters of being bright and reflective. This not only gives the sculpture its environmental context but it gives the subject an added maturity that a freshly cast bronze would have lacked. It is now more intense and has more context that otherwise would have been overlooked by the fascination of golden shiny metal.

#### **4. CONCLUSION**

Just as art itself intentional patina has a complicated technicality behind it. Even though intentional patina is not limited to creating an illusion of age and decay, there are some artists who choose to replicate this side of nature in their art. The paper is

an attempt to understand how intentional patination enhances the language of sculpture in this specific context. In observing materials' age there is a catharsis of appreciating the life cycle. The surfaces of the sculptures are aged artificially to add a context of history to it. It becomes imperative, then, that the artist observes closely the patina with reference to its environment. Intentional patina speaks loudly of the presumed climatic and surrounding conditions it would have been exposed to. This gives the artist another dimension to play with.

Imperfections, dents, scars, and wounds on the human body have memories associated with them. The specific patterns of deterioration give a familiarity to the object. This is the emotion artists tap into with patina that is made to seep into textures and fissures enhancing the raw impure surfaces almost in celebration of its deformities.

In nature, human intervention can either form or remove patina from the surface. Pollutants in the air can cause a thicker layer over the metal and inconsistent touch can cause the patina to buff out the original metal revealing its original shine and finish. Artists have used complete dulled-down finishes with multiple layering of different colors of patina to reflect a sculpture that has been abandoned in nature. The paper uses two examples of sculptures to showcase both negative and positive portrayals of abandonment.

Society has been gravitating towards sustainability which makes it move towards antiques as an eco-friendly, reusable option that cannot be discarded due to patina. Personal attachment to a material trumps the consumer's approach to the material. Patina in its uniqueness gives the artwork an individual sense of belongingness that could not have been achieved otherwise.

Overall, intentional patination can be a powerful weapon in a sculptor's arsenal. Exploring this can add additional dimensions to the language of their art.

### **CONFLICT OF INTERESTS**

None.

### **ACKNOWLEDGMENTS**

None.

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