



## Original research

# A Study of Kinetic Aesthetics in Flexible Brass Fish Form of Belaguntha

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### Abstract

The Flexible Brass Craft of Belaguntha is one among such living legacies of India. Similar to Leonardo da Vinci in Italy, who pioneered the aerial-biophilic explorations during the 14<sup>th</sup> century CE, *Bindhaniratn* Bhikari Maharana in India pioneered the aquatic-biophilic explorations during 16<sup>th</sup> century CE – as evident by a Royal *Tamrapatra* (copperplate) Award, issued by the then king of *Ghumusar* Kingdom, his highness king Krushna Deb Bhanja, with the title of "*Bindhaniratn*". The tendency to bring harmless metaphoric biological forms into human habitation, to fulfil their desire to remain close to Mother Nature, is biophilia. The real-natural life-like metaphoric physical and movement similarities, demonstrated by a flexible brass craft product within the three-dimensional space of human habitation, uniquely justify the craft's existence and professional legacy for centuries. This craft involves highly detailed, structured aquatic-observational intelligence; modular craftsmanship with an extreme degree of manual precision; and product-materialization, without using any modern, legally permitted, mechanically or electrically operated hand-held machines for craftsmanship. Thus, the end-products are unparalleled outcomes in themselves. Currently, flexible brass artisans craft various forms, e.g., Fishes, Lobsters, and snakes, with surface, three-dimensional, and scale alterations. Interestingly, artisans reported that they also craft tortoises, crocodiles, and other aquatic forms upon specific orders. Craft is an excellent example of Kinetic Aesthetics. Artisans are socially belonging to the *Kansari* or *Brazier* community. This is a craft-based analogical case study. This paper aims to identify and analyze key aesthetic elements inherent in an existing biophilic Flexible Brass Fish form, through the lens of *Shadang* theory in the *Kamasutra*. As no previously published document encompassing a comparative study of the flexible brass craft of Belaguntha, in alignment with Indian aesthetic theories, has been found, this paper could be treated as a firsthand document.

**Keywords:** Flexible Brass Craft of Belaguntha, Aesthetics in Aquatic Biophilism, Kinetic Aesthetics in Flexible Brass Craft, Sadang or Shadang Theory in Kamasutra, Indigenous Brass Handcrafts of India, Handicrafts Invented in India.

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## 1. Introduction

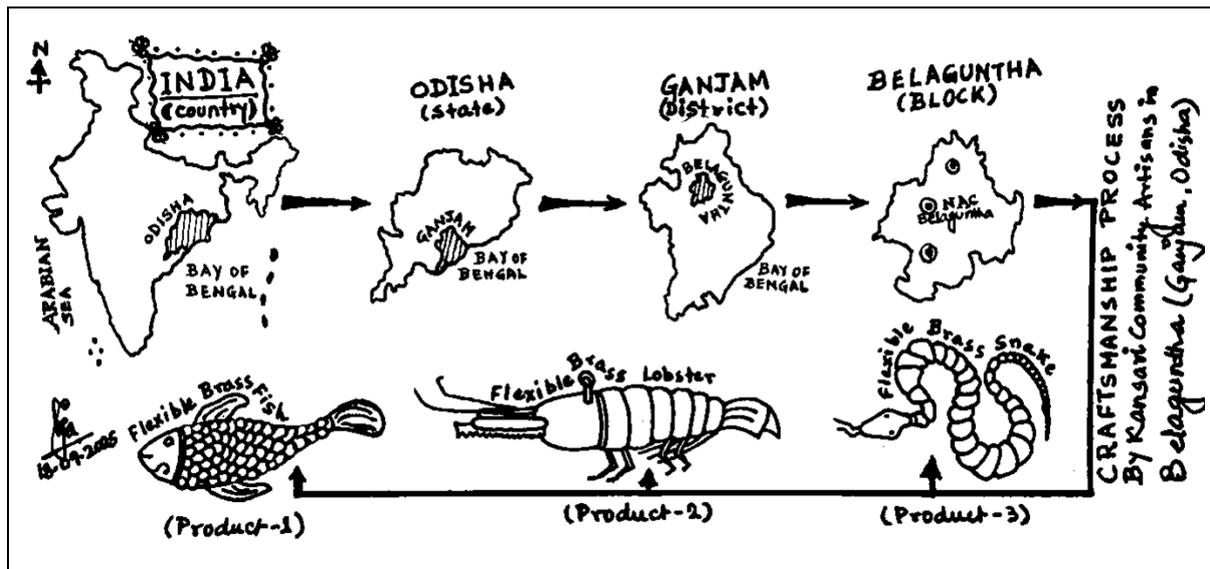
This case study aims to identify the bridge between Flexible Brass Craft-FBC of Belaguntha (Jha, 2016) through the lens of classical Indian aesthetics (Malla, 2001). Due to a metaphorical life-like physical form, precise arrangement of components, and bold demonstration of dynamic biophilic movements in three-dimensional space, a flexible brass fish form elicits various pleasurable cognitive effects in its end users (Berridge & Kringelbach, 2015). Many of them may effectively support various aesthetic aspects, in alignment with classical Indian ideologies. One of them is the Shadang theory, as presented by Maharshi Vatsyayan (Bhatt, 2025) in his book *Kamshutra* (Anand & Dane, 1982). This paper attempts to study and identify ideologically connecting nodes by evaluating their unique compositional arrangements; the on-use experiences of the end-user; and the physico-psycho combination of expressionism through biophilism, etc., in a flexible brass fish form. This paper presents an analysis of the kinetic aesthetic aspects embedded in a biophilic aquatic form of a flexible brass fish, crafted using traditional Flexible Brass Craft techniques in Belaguntha.

## 2. Purpose of Study

The purpose of this study is to develop a structured document that demonstrates at least a basic correlation between the Flexible Brass Craft of Belaguntha and its embedded aesthetic aspects. It is relevant to note that no evidence has been found in any pre-published documents showcasing aesthetic features in a Flexible Brass Fish form crafted in Belaguntha. As this is a declining handicraft, with only 6-7 artisans remaining—most of whom are occupationally partial migrants—this study is considered relevant. It aims to establish a connection between the classical aesthetic ideology of Shadang and the Flexible Brass Craft of Belaguntha (Subhedar, 2022). This research may create opportunities for future scholars in fields such as crafts, design, fine arts, aesthetics, and art history to undertake more detailed, in-depth studies, thereby enriching the knowledge base surrounding this craft.

## 3. Research Methodology

This study can be divided into two subsections. The first, the crafts study, is based on primary observations, data collected from field visits, and meetings with artisans both in groups and individually. The second, a comparative study of flexible brass craft and its connection to the alignment of the renowned Shadang Theory's aesthetic ideologies, draws on primary, secondary, and tertiary data sources. In addition, secondary and tertiary sources are used to enhance clarity throughout the discussion. Field photography was carried out using a Canon Powershot A460 and built-in cameras of Blackberry 9700, iPhone 5s, and iPhone 12. For compilation, MS Word 2025 software was used on a MacBook Air running Sequoia 15.6.1. The primary research and documentation period spanned 2010 to 2023 CE, although the author continues to engage with the craft community to support its holistic development. The reference sources follow the APA 6th edition format (Waikato Institute of Technology, 2015). All illustrations in this paper were created using the 'Ink on Paper' method.



**Image-1:** Craft Location, and the range of primary end-products of the Flexible Brass Craft of Belaguntha. **Source:** Field visit. **Disclaimer:** This is not a scaled map, and used here for academic-research purposes only. **Illustration:** Author.

#### 4. Flexible Brass Craft of Belaguntha: An Overview

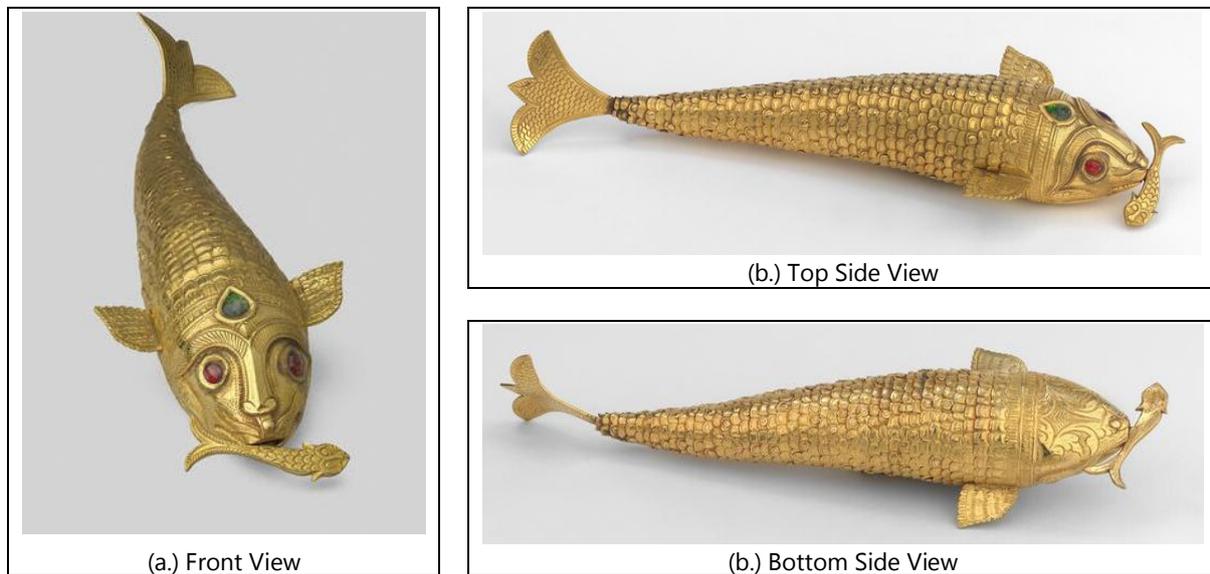
The Flexible Brass Craft of Belaguntha is a pioneer craft in the area of Aquatic Biophilism. This is a traditional metal craft that originated during the era of the *Ghumusar* Kingdom (Dash, 2016), around the 16<sup>th</sup> century CE or earlier, in the Belaguntha block area. This block is located in the Ganjam district of Odisha, India, at latitude 19°52'56.96" N and longitude 84°38'16.84" E (Latitude, 2025). As the available evidence and community-based social narratives indicate, this was a Royal Craft and was usually not available to the general public for purchase during the monarchical and colonial eras in India. This craft was remain a limited edition, exclusive craft for centuries, and was a symbol of High-End Royal Luxury, due to its very limited production of units upon receipt of pre-paid orders – placed by the then Royal Families; heavy use of Gold as the primary raw material for craftsmanship; strong patronage by the effluent Bhanja kings, and also, later by the British establishments, etc. All of the craftsmen involved belong to the *Kansari* community (Tanvir, 2013) – a popularly known social community name for Braziers, in India.

An illustrative business ecosystem during the royal era is attached here. However, over time, after the merger of Desi Riyasats into the Union of India in 1947 CE, thus ending the British colonial era, native kings suddenly lost their administrative and financial powers. The Indian Desi Riyasats were then termed as the Princely States by the British Government (Vikas, 2022). This change created significant setbacks for this royal patronised craft. Soon after, the craft community assessed the socio-political shifts around them and decided to find new ways to survive by reframing the entire business ecosystem—from sourcing raw materials to targeting end users. The shift from gold to silver, and later to brass as the primary raw material, was a major adaptation by the craftsmen to these factors, aiming to serve a wider audience in line with their affordability.

During my field visits, I did not observe any available, crafted, flexible fish forms in Gold at any location within the Belaguntha block. However, I later learned from a member of the Bikaner Royal Family of Rajasthan, who confirmed, based on childhood memories, that her

grandmother had a flexible goldfish approximately 10 inches long or slightly longer. She informed him that, as a grandchild, she was gifted the gold fish by her parents as a blessing with love on the occasion of her marriage. Furthermore, he told me that her grandmother once explained to her child-curiosity that her flexible gold fish was made by an unknown artisan from somewhere in Odisha. During the same conversation later, I showed him a flexible brass fish form (the same as in image-3) that I carried for this meeting. After careful examination, he confirmed that her grandmother's gold fish was almost identical in form and biophilic movements to it.

Furthermore, I discovered that the Royal Collection Trust of the United Kingdom houses a Flexible Gold Fish – images attached here. According to the publicly available information, this Flexible Gold Fish was presented to the Prince of Wales, King Albert Edward VII, who visited India during 1875-1876 CE, by the Thakur Sahib of Morvi (or Morbi) in Gujarat – Sri Waghji-II Rawji. It is an articulated gold fish, featuring a surface-inlaid pair of red, disc-shaped rubies to represent its eyes, and additionally a green, drop-shaped-cut emerald on its top (Royal Collection Trust, 1875).



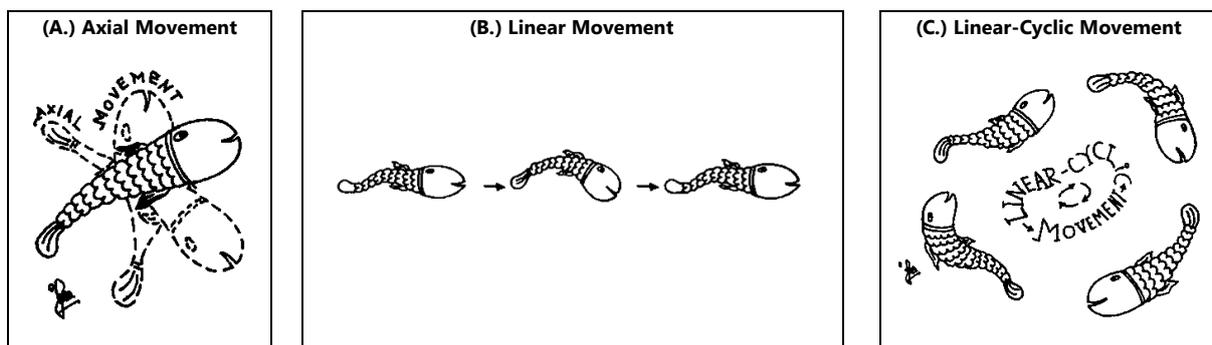
**Image-2:** Image of a Flexible Gold Fish, ornamented with inlaid Ruby and Emerald. **Dimension-** Length 202mm x Width 61mm x Height 36mm. Year: 1875CE. **Source, Photograph and Copyright:** The Royal Collection Trust, United Kingdom.

Interestingly, this flexible goldfish exhibits riveted axial joints, while a contemporary brass fish features wire-knotted axial joints. As this paper is an evidence-based case study, I am examining a physically available form of a Flexible Brass Fish that is under my current possession.



**Image-3:** An existing Biophilic Flexible Brass Fish form, crafted by Bindhaniratn Anant Maharana. Crafted in 1992CE. This is an unedited, raw image. **Material:** Brass. **Source:** Field Study. **Photography:** Author.

Before conceptualising a product, artisans study the movement patterns of a living biological fish by placing it into a transparent container and allowing it to swim in fresh water at normal room temperature. They meticulously observe the movements of each part, from bolder to finer, along its linear, axial, and cyclic pathways. Then they draw and develop components, surface textures, etc., through multiple phases of craftsmanship, using brass sheets of various gauges to craft different parts. Once they are qualitatively satisfied, they assemble each component using fine brass wires of different gauges. Later, these assembled forms are finished, packaged, and forwarded to the customer or the market for sale.



**Image-4:** Study of different movement patterns of fishes, by artisans, before conceptualizing design. **Source:** Field visits. **Illustration:** Author.

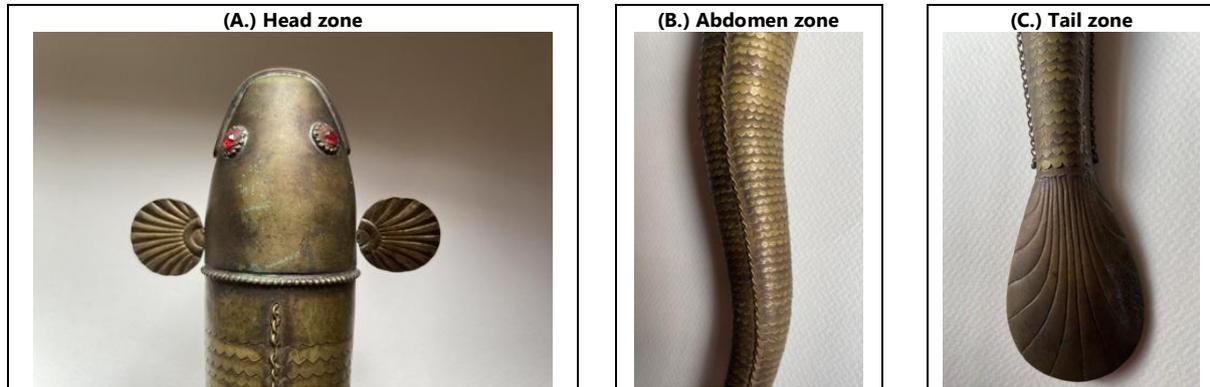
Flexible Brass Fishes can be broadly divided into three major components: (a) Head zone, (b) Abdomen zone, and (c) Tail zone. In terms of distribution, these zones represent twenty-five per cent, fifty per cent, and the remaining twenty-five per cent, respectively (Jha, 2016). The details for each zone are explained as follows:

(a.) *Head zone:* The head component carries a pair of one eighty-degree axially-rotating pectoral fins on both sides, a pair of red glass beaded eyes with eyelid definitions on the mid-anterior top, a mouth opening definition at the front, and a gill definition at the bottom. Contributing to balance the biophilic movement in alignment with the abdomen and tail zones. This component also carries a 'Ω' shaped base, at its bottom, to stabilise the overall fish form, in combination with the tail-bottom, during a flat-surface placement.

(b.) *Abdomen zone:* This zone is a composition of multiple scale-cut rings and is precisely arranged in a diameter-wise, gradual sequence. For its assembling purposes, a series of fine brass-wire cuts is being used. This zone connects the head zone with the tail zone. As per requirements, artisan ornaments this zone with dorsal and pectoral fins as well. The attached

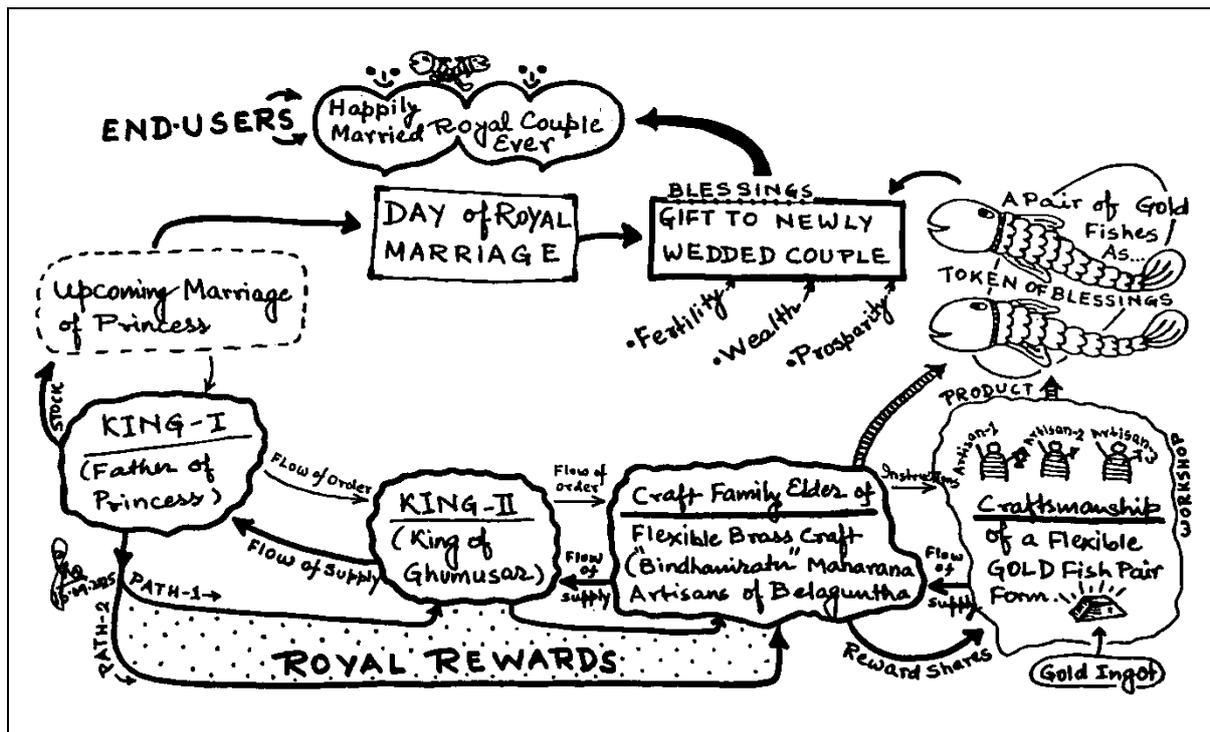
image does not carry these fins. As I found, during product examination, this zone is majorly contributing to achieving the biophilic movements in a flexible brass product.

(c.) Tail zone: This zone carries multiple curved lines and represents the caudal fin. Balancing the product – visually and physically during the biophilic animation process in motion, in three-dimensional space.



**Image-5:** Components of a flexible brass fish. **Source:** Field visits. **Photography:** Author.

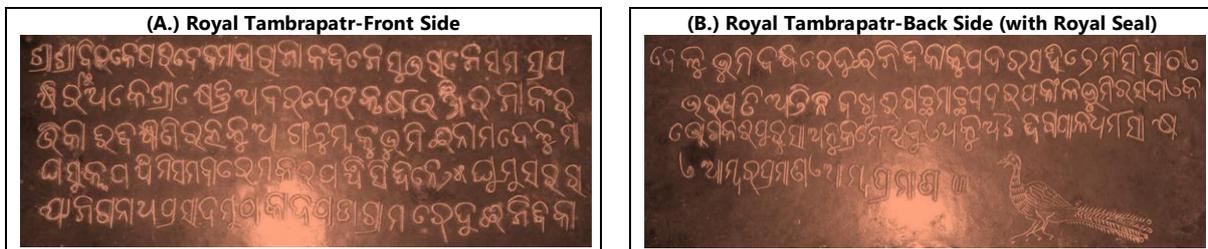
During various community-based meetings with artisans, I learned about the business ecosystem of that era. An illustrative example of the craft business ecosystem flow of Flexible Gold Fish is attached here.



**Image-6:** A Business-Ecosystem of biophilic Flexible Gold Fish, during the Ghumusar Dynasty era, under the patronage of Ghumusar Kings. **Source:** Social narration by craft-community artisans in Belagantha. **Illustration:** Author.

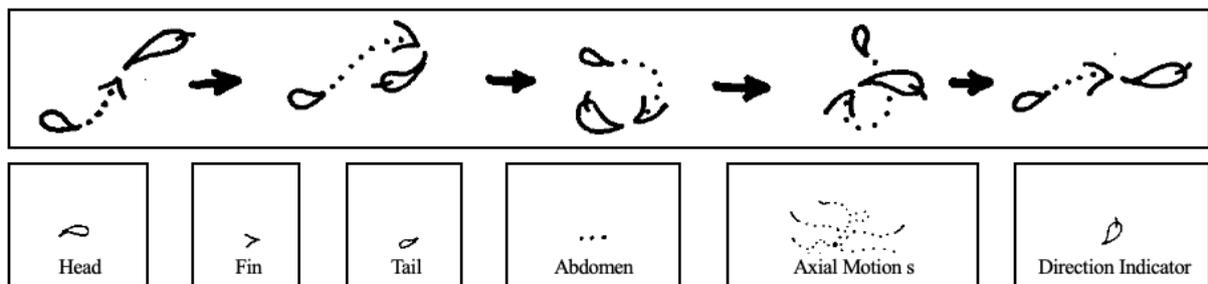
As previously written, due to the craftsmanship excellence, the king of *Ghumusar* had recognized the first known artisan of this craft, Bhikari Maharana, for his craftsmanship excellence in Flexible Brass Craft, with a Royal Award of Bindhaniratn by His Highness Maharaja Krushna Deb Bhanja. A copy of the original award- the Royal *Tambrapatr* is displayed here, as

evidence, through which, lifelong all forms of care to the awarded artisan and her wife, a huge land with all of its natural products, etc., were granted. According to the crafts-community members, this award was considered the 'apex artisan honour' for their craftsmanship excellence during the then *Ghumusar* kingdom. But through field visits, I came to know that this craft with a glorious past, has over the period of time, now turned into the bracket of Highly Endangered Craft. And today, struggling to sustain with only a total remaining workforce of three skilled artisans in the Belaguntha-NAC area (NACB, 2025) from this craft's inventor and founder- *Bindhaniratn's* Maharana paternal root; and, only four Semi-skilled artisans in K-Nuagada village, who are born out of Sundari Maharana (later known with her accepted in-laws family name- 'Sahu') and her husband- Dandapani Sahu (Jha, 2016). She was the grand-granddaughter of 'Bindhaniratn Bhikari Maharana'. Today, Maharana's mainstream family resides in Belaguntha-NAC area; whereas, Sundari Maharana's great-grandchildren are residing in K.Nuagada village – both of these locations are situated within the geographical territories off Belaguntha block area.



**Image-7:** Both Sides of the original Royal Tamrapatra, awarded to Bhikari Maharana by His Highness King Krushna Deo Bhanja of Ghumusar kingdom in Utalakshri Script. **Photography:** Author.

Furthermore, this section explains the term 'Aquatic Biophilism', which gives a distinctive identity to Belaguntha's handcrafted flexible brass products, including a fish shape. This term combines two words: 'Aquatic', meaning life underwater, and 'Biophilism', derived from 'Biology' and 'Philia'. 'Biology' is the scientific study of living zoological and botanical organisms, while 'Philia' signifies the innate human affinity for other forms of life. Therefore, 'Biophilism' refers to humans' natural connection with nature, even within built environments (TEDx, 2022). Accordingly, the range of flexible brass crafts from Belaguntha—such as fish, lobster, and snake—can be classified under the zoological subset of Biophilism. This craft, a fine manual metalwork, meets this criterion both visually and through tactile experience. Its biophilic qualities in three-dimensional space are distinctive, owing to its dynamic axial movements in response to force and placement within human habitats.



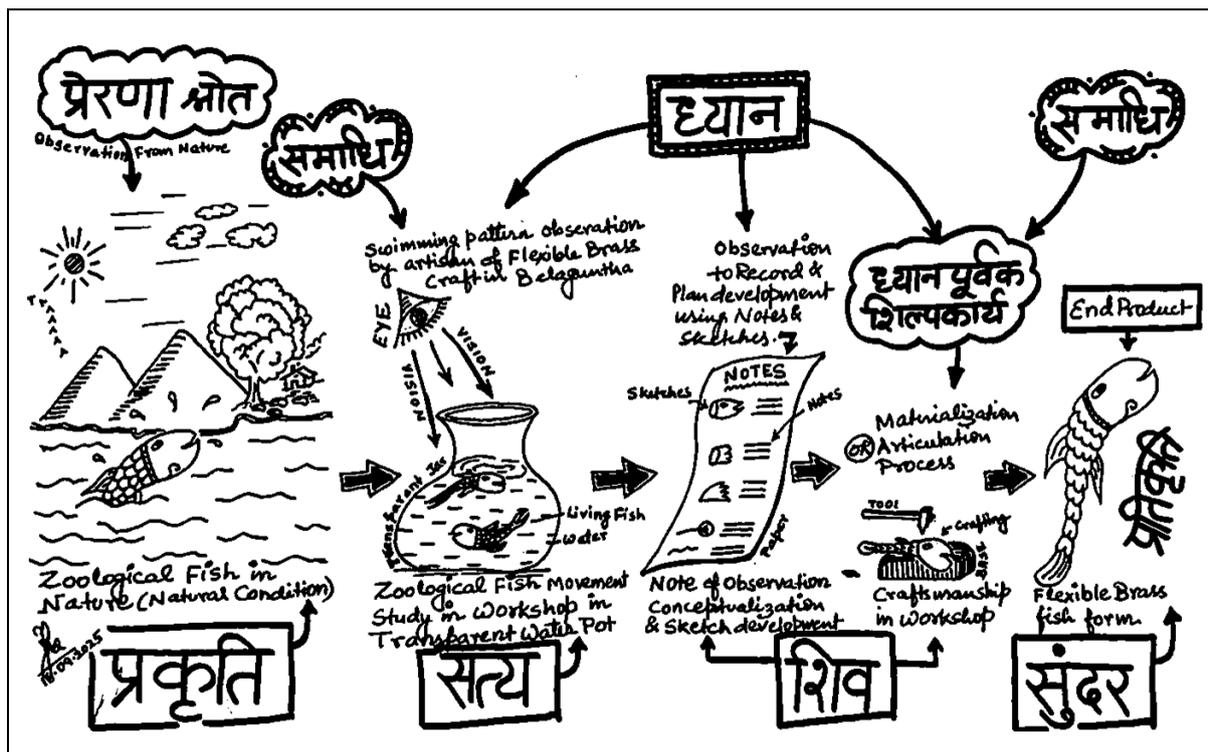
**Image-8:** Illustration of a biophilic sequence of movement by a flexible brass fish form, with abbreviations. **Source:** Field visits. **Illustration:** Author.

The phenomenon of 'Aquatic Biophilism' is achieved by a flexible brass fish through multimodular, high-precision craftsmanship, which involves component development phases,

assembling, and finishing, etc., through highly skilled hands. This is a metaphorical metalwork that replicates several aquatic zoological forms and is highly effective at providing visual pleasure to its audience.

### 5. Flexible Brass Fish through the Lens of Indian Aesthetics: A Study

The classic Indian aesthetics is primarily a spiritual and philosophical inquiry that transcends perception of form, so that it could engage with the super-sensuous reality, i.e., truth. It is a well-experimented psychoanalytical process that is rooted deeply in the esoteric concept of Adwait, which seeks to unveil how the individual soul perceives the paramount soul. Indian aesthetics often finds its roots of justification through a divine, mystical and introspective experience, and informs that the ultimate goal of handicrafts, within this framework, is actually not to imitate the mundane world, but to transform the workshop-level pains involved in the meticulous craftsmanship process involved in the formation of a flexible brass fish form. Through a series of fine techniques, artisans transform raw materials into a meaningful and pleasurable object usable by the audience at the end of the creative process. At the end of this process, the outcome appears as an end-product, i.e., a flexible brass fish. This elevates the workshop-based experience to the state of spiritual bliss. According to laureates, the foundation of Indian aesthetic ideology is based on the tripod of *Satyam, Shivam, Sundaram* (Ankit, 2025).



**Image-9:** An illustration to display the implementation of classic Indian aesthetic ideology of- *Satyam, Shivam, Sundaram* in Flexible Brass Craft of Belaguntha. **Source:** Field visits. **Illustration:** Author.

Here, *Satyam* means- the Truth, *Shivam* means- the Auspiciousness or supreme-goodness, and *Sundaram* means- the Beauty. In this context, unlike other, the Flexible Brass Craft – seeks externalization of a cognitive-vision evokes from the deeply concentrated state during the craftsmanship performance or meditation or *Dhyana* (Vivekananda, 1981), with the ultimate aim of achieving the state of union or *Samadhi* – that offers wisdom (Rama, 2003), that an artisan feels after reaching the state of duality, when they align their existing skill-sets, tools, materials

in hand, with the challenge to perform their best, while creating a flexible brass product. This brings life within the none-life, by these artisans, following the divine idea of creation that impresses upon their cognitive lines of thought through receptive observations. As detailed earlier during product conceptualization, on the basis of real-fish movement studies in a transparent jar or bowl, flexible brass artisans are going through this state of mind, where an inseparable relationship exists between their end products, and their imbibed essence.

### **6. Aesthetic Analysis of a Flexible Brass Fish form of Belaguntha through the lens of Shadang Theory**

This aesthetic theory has been referred from the book, named as Kamasutra, authored by the 3rd-century CE laureate Vatsyayan (Bhatt, 2025). This analysis is a comprehensive aesthetic evaluation of a biophilic brass fish form, crafted by the artisans in Belaguntha, in alignment with the six classic limbs, included in *Shadang*. This part of the study is based on the physical examination of the product.

रूपभेदः प्रमाणानि, भाव लावण्य योजनम्!  
सादृश्यं वर्णिकाभंगः, इति चित्रम षडंगकम्!।

Rupbhedah prmanani, bhav laavany yojanam!  
Saadrishyam varnikabhang iti chitram  
shadangakam!!

*The Shadanga Shlok- (L) Sanskrit Shlok in Devanagari script, (R) Sanskrit Shlok in Roman script.*

On extraction, this *shlok* (Britannica, 2025) carries six different aesthetic terminological projections:

- (a.) *Rupbhedah* or secrets of a form;
- (b.) *Praman* or proportion and management;
- (c.) *Bhav* or emotional disposition;
- (d.) *Lavany yojanam* or graceful composition;
- (e.) *Saadrishyam* or similitude; and,
- (f.) *Varniakabhang* or colour diversity.

This *shlok* is considered one of the major Indian aesthetic principles, so this is relevant to evaluate a physically flexible brass fish form. However, originally this *shlok* is dedicated to the sixty-four paintings of Kamasutra; but, they are equally relevant in the context of this traditional handicraft too. Classically, Shadang is quite often used to weave the language of artistic expressions, like in the Vishnudharmottar Puran, in its Chitrasutr, i.e., *Part-III.Chapters 35 to 43*, as narrated by *Markandey Rishi* (Dwivedi, 2011). Based on the aforementioned terminology, the three-dimensional fish form was further studied. Upon the product study, the following findings has been received:

- (a.) Rupbhed or the Secrets of Beauty:

This principle emphasizes the physical topology of a flexible fish form. It suggests the precise articulation of a conceptual idea; visualization through functional and technical sketches and documentation by a craftsperson, before initiating craftsmanship; and pre-craftsmanship planning of phase-wise production-process sequencing. This not only encompasses the importance of form, but also stresses the knowledge of articulating finer differences between mudras, for example, a swimming fish, displays different axial abdominal orientations while they swim linear, and while they swim circular-linear, as displayed in image-4. Artisans of Belaguntha practice Rupbhed to understand form-based variations and the swimming

patterns of a fish by observing it in its natural condition. Please refer to image 9 above. Findings of the product study on the basis of *Rupbhed* is as follows:

*(i.) Flexible Abdomen and Scales:*

The abdominal part is covered with a uniform geometric pattern of overlapping scales. This is not a direct imitation of scales found in a natural fish. But, along the craftability factor, and limitations of the metal sheet, as primary material, it is being crafted in a rhythmic line of semicircular cuts in sequence. This provides an ornamental surface with close to nature scale appeal, with a strong sense of order in organic-geometric progression.

*(ii.) Head and Fins:*

The bottom section of Head in a metaphoric flexible brass fish features a distinct and bold spiral motif, representing spiral gill composition. The nature similar peripherin eye-ring brings biological features as a powerful surface element. The pectoral fins are rendered with a dynamic, three sixty degrees in vertical axis rotatable, with fan-like radial linear textures, which inform about the movement and swim-time fluidity, like a real natural fish.

*(iii.) Metaphoric Form:*

Abdominal serpentine curve and its imbibed biophilic ability to change its rhythmic reformation, similar to a living fish. This metaphoric form composition indicates that the craftsman's focus was to materialize the essence of a fish in motion. Its craftsmanship effort of articulation aligns with the core essence of *Rupbheda*, which stresses "Life within Life" (Dillow, 2018).

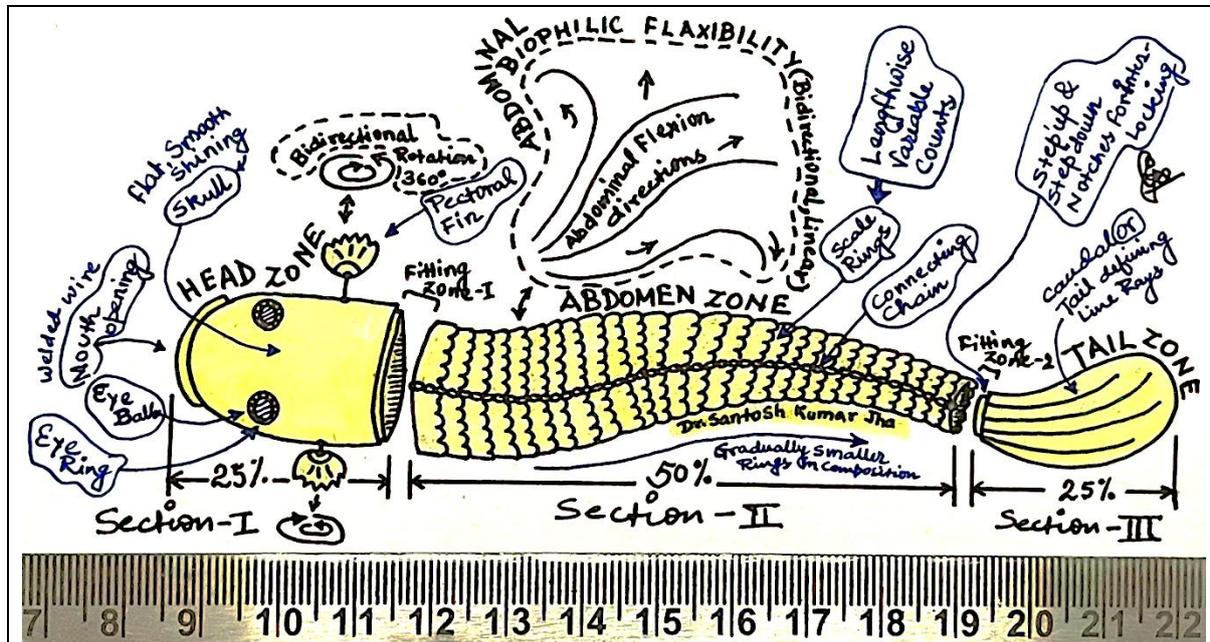
*(b.) Praman or Proportion:*

This term inscribes scalability in terms of measurements and proportions, so that the qualitative state of craftsmanship, incorporating accuracy and flawless functionality of a flexible brass fish, could be assured. The purpose of this theory is to identify the implementational accuracy of different elements of product design, such as harmony, rhythm, balance, emphasis, color, etc., in a purposeful, proportionate, justifiable placement of components. Upon studying a biophilic flexible brass fish form, having an overall (approx.)- Length of 315 mm, Width of 81 mm, and Height of 46 mm the following findings as been identified:

*(i.) Harmonious Balance:*

Different major components, such as the head, abdomen, and the tail fin, are composed in a gradual, harmonious progression, establishing physical and visual interconnection without any break in composition. The head or skull component is substantial enough to anchor the entire form, while the long, tapered abdominal zone provides a rhythmic elegance with the feel of elongation. Similarly, the size and horseshoe-arch-shaped tail fin, in its wider side view, metaphorically carry a chisel-engraved, near-naturalistic, scale-representing, bold and rhythmic line composition onto both sides of its convex layered surfaces (Dimensions, 2024). Even the narrow, surface-conjoining edge carries a highly fine series of the vast parallel line-sequence, with less than 0.4-0.45mm near accurate spacing – done completely manually, and without using any modern tool or equipment, with almost firm line-thickness quality. These ways I found- all together, that the physical composition of a flexible brass fish is almost completely proportionate- by placement of components; by fine-craftsmanship of

components; by carefully incorporation of fine two-dimensional and three-dimensional detailing; and, all six-view symmetries in a near-nature similar, consistent rhythmic harmony; etc. – while observed this product, from all six three-dimensional views, i.e., back, top, front, bottom, right-hand, and left-hand sides.



**Image-10:** An illustration, showcasing component-level elements in a flexible brass fish form of *Belaguntha*, to represent *Rupheda* and *Praman*. **Source:** Field Study. **Illustration:** Author.

(ii.) *Dynamic and Kinetic Proportions:*

The biophilic and dynamic serpentine curve re-formation ability in the abdominal zone is a deliberate result of the meticulously crafted high-precision, proportionate arrangement of each individual ring, which demonstrates the sense of potential energy, dynamism, and grace. This biophilic dynamism, in terms of the abdominal form’s ability to re-form, displays that *Belaguntha*’s fish is in the midst of a gentle swimming progression. Aesthetically, this is the direct demonstration of the classic principle of “Kinetic Aesthetics”. This concept imbues objects with movement, metaphor and its meaning; that fully justifies the appropriateness of a flexible brass fish form.

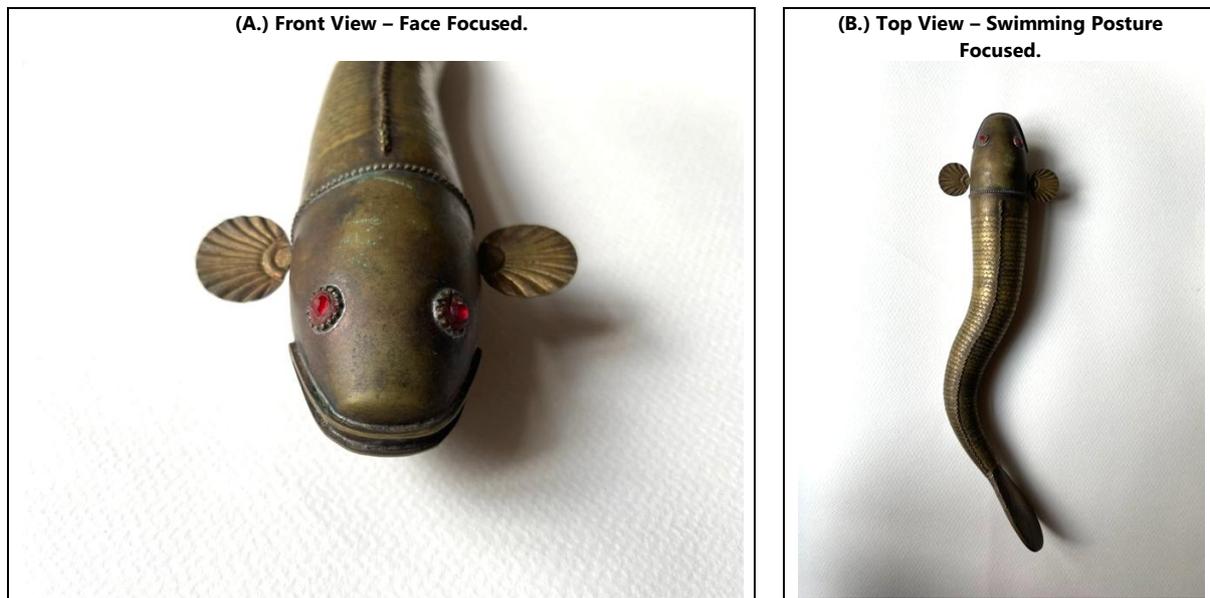
(c.) *Bhav or Emotional Disposition:*

This principle spectrums the emitting emotions from the inner life of a subject. While a cast fish form or sculpture can’t express dynamic living emotions, this skillfully crafted, flexible brass fish evokes powerful emotional responses from its audience. Findings of this section of the study is detailed below:

(i.) *Vibrant Eyes:*

The inlaid red colored glass bead with fine gem cuts is being used to define the metaphoric eyeball of a flexible brass fish. Due to natural light’s internal refraction and surface reflection, its red color, and the brass formed a golden colored visually-contrast base, with a surrounding fine-textured ring – altogether, it adds a highly reflective sense of *Bhav*, onto the brain of its observer. This establishes a strong, visually cognitive, life-like close similarity of these crafted forms with their form-wise comparable natural fish. Through craftsmanship excellence, the

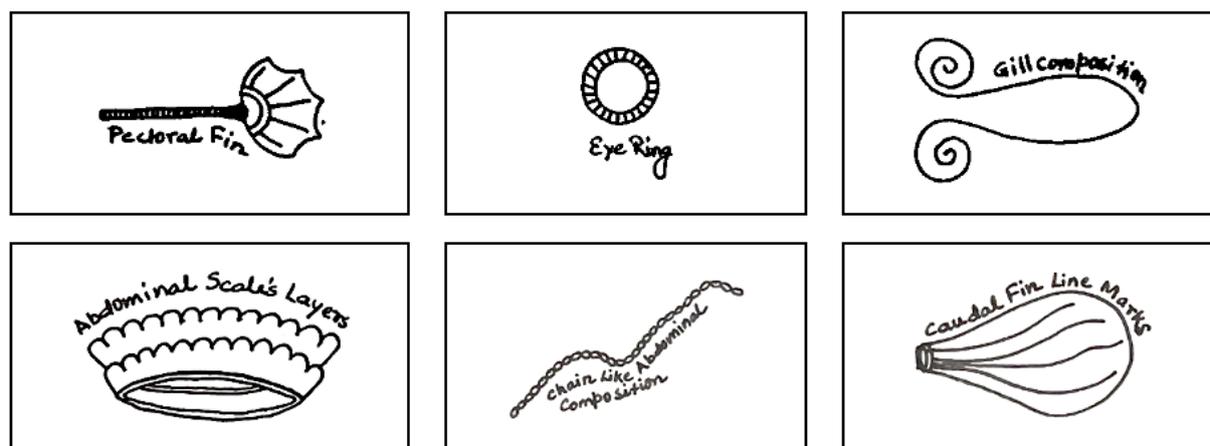
artisans of Belaguntha sensibly transform the sense of life, its consciousness, and life-like dynamism into the inert crass metal – using its different sheets and wires with various gauges and sizes. This component endows a flexible brass fish form with an almost sentient quality.



**Image-11:** Two different postures of a flexible brass fish of Belaguntha, displaying- (L.) A Pet-like Harmless Courteous Smile, and (R.) Calm and Smooth Swimming Posture. **Source:** Field Study. **Photography:** Author.

(ii.) *Emotional Resonance:*

Upon imposing mild manual force by an end user, the rhythmically flow with controlled kinetic dynamism in three-dimensional space of a flexible brass fish, provides a smooth and gradual feel of tranquility to its audience, that is substantially near-similar to the experience of watching a natural biological fish – swimming in water, naturally. This watch generated aesthetic experience bring an observer to the cognitive state of *Vismay* or astonishment; and, *Anand* or spiritual bliss.



**Image-12:** Different utilitarian-yet-decorative components in a Flexible brass fish, which makes it a graceful three-dimensional composition, due to its brilliant Texture. This is in alignment of Lavanya Yojna. **Source:** Field Study. **Illustration:** Author.

(iii.) Transformation of Suffering(s) into Pleasure and Peace:

This state aligns with the core purpose of India's classic creative expressionist ideology, which suggest converting the sufferings or the pains involved in the flexible brass craftsmanship process, into the pleasure of creating a biophilic fish form, that offers peace to the curious mind of its end-user(s) – after receiving the essence of playful fun, upon using this product. During their lifelong journey to practice this craft, artisans face different occupational health-related issues (Jha, 2016).



Mythological Narration



Materialized Flexible Brass Product

**Image-13:** Upper composition- An illustration about the mythological narration of Matsyapurān. Lower product- A flexible brass fish form carrying Bhagvan Sri Jagannath (a form of Bhagvan Vishnu). **Artisan-** Pradeep Maharana, Year-2002. **Source:** Field Visit, **Artisan:** Mr. Pradeep Maharana, **Photography:** Vishnu Maharana, **Illustration & Composition:** Author.

(d.) Lavany Yojana or Graceful Composition:

This refers to a craftsman’s ability to craft beauty with aesthetic appeal, through exploring the harmonious arrangement of components. This principle evaluates the quality of craftsmanship and the use of conceptual, as well as compositional intelligence, in the formation of a flexible brass product of Belaguntha.

(i.) Textural Contrast:

The craftsman has used a distinctive contrast between the smooth, polished surface of the head zone’s skull section and the fine, detailed, extensive scales covering the abdominal zone. This textural contrast provides a richly diversified visual experience to a flexible brass fish form, which is sophisticated as well as engaging.

*(ii.) Rhythmically Detailed:*

The visual chains, running along the extreme top and the extreme bottom, starting from the end of the neck zone, and extend continuously till the beginning of the tail zone. This visual sequence of chain not only creates a decorative and rhythmic impact on the observer, but also reinforces its serpentine reformation ability during the biophilic back-and-forth movement; so this is a justifiably substantial example for the principle of *Lavany Yojanam*.

(e.) Saadrishy or Similitude or Likeness:

Usually, this principle explains the similitude or likeness, but its hemisphere is extended quite beyond, in classic Indian aesthetics. Here, this extends its limits quite beyond the boundaries of realistic physical interpretation, and encompasses the conceptual spiritual area of cognitive thinking. So, this section is an attempt to evaluate a physical flexible brass fish form through the spectrums of *Saadrishyam*.

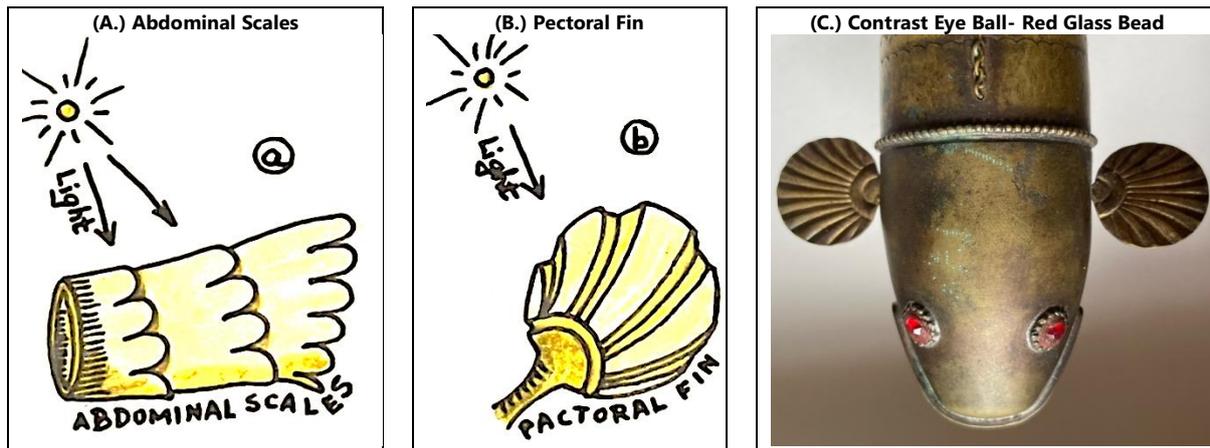
*(i.) Mythological Likeness:*

Fish forms and motifs carry a powerful and auspicious identity in Indian culture. The flexible fish under study is a revered symbol with deep cultural roots. Most notably as the first incarnation of Bhagvan Vishnu, as his *Matasy Avtar*. This avatar is associated with the survival of all forms of living beings, protection of the universe, knowledge, and *Rishis* or teachers. Based on the epic narrations of *Matasy Puran (VedVyas, 2022)*, a skill-handed artisan in Belaguntha has created a biophilic masterpiece, carrying the form of Bhagvan Jagannath in *Avtaran Mudra*.

Please note, Bhagvan Jagannath is one of the forms of Sri Vishnu. This product exhibits biophilic properties and can demonstrate pseudo-swimming capabilities in three-dimensional space upon a light touch by the end user. This form also exhibits the mythological dynamic nature of Bhagwan Vishnu, in his Jagannath Swarup, through which he is worshipped as the God of the Universe, i.e. *Jagat + Nath=Jagannath*; here, *Jagat* means Universe, and *Nath* means Master. Apart from these, through the arrangement of the displayed image, the geometric formation of the 'Fish-with-Jagannath' represents him as the supreme power that controls the golden spiral of the universe.

*(ii.) Folk and Cultural Symbolism:*

A fish, in itself, is regarded globally, across major religions and cultures, as a universal symbol of fertility, abundance, wealth, success, and prosperity, including in regional tribal traditions. So, through invoking this flexible fish form as a shared symbolic language, the artisans in Belaguntha create a likeness that resonates with profound cultural and spiritual prejudice by its end-users. And so, the audience treats this crafted form as the symbolic career of their traditionally continued religious-cultural belief system legacy.



**Image-14:** (A&B) Showing different shades of golden (representation by yellow) colour with the fine scale cuts on and below surface under a light-source; (C.) Red Coloured sparkling contrast by the eyeball, in comparison with the surrounding brass eye-ring. **Source:** Field Visit, **Illustration & Photography:** Author.

(f.) Varniakabhang or Uses of Colour:

This principle inscribes the use(s) of colours in a creative visual composition. Upon study of a flexible brass fish form, this idea is interpreted through the brass's actual natural colour, without externally adding any other colour(s). But interestingly, these fish forms are displaying an excellent use of monochromatic drama of light and shade, during biophilic movements, and also when remaining static, due to a multilayered arrangement of the abdominal section, bold and fine brass-line compositions at the head and tail zones.

In the entire 3-D form of a fish form, the only colour difference could be noticed in its eyes, as it is made up of glass beads and provides a powerful and sparkling contrast. Apart from these, this fish form under study is also showing an interesting naturally grown layer of patina, with greenish-blue tone spread onto the golden brass surface, over time. This naturally grown patina could not be treated as a flaw, but a statement towards this product's character of achieving self-antiquity, through the gradual reaction of brass with its surrounding invisible natural air and other air available particles.

## 7. Recommendations

A few points are shareable here, at the end of this ongoing aesthetic-focused study of a Flexible Brass Fish form, crafted in Belaguntha (Ganjam district of Odisha state, in India):

(a.) On the basis of six principles provided by *Shadang* theory, the studied flexible brass fish form has proven to qualify on all of its parameters; and so, this product could be treated as one of the perfect examples to re-explain *Shadang*.

(b.) This study could be useful for the flexible brass craft, as a professional sector, in the following ways:

- Enrich the existing craft vocabulary in terms of the classic Indian aesthetics; and,
- Support this traditional handicraft to justify its identity more strongly, in alignment with the classic Indian aesthetics ideologies, etc.

(c.) Using aesthetic vocabulary in alignment with the technical and biophilic demonstrations could help this craft to re-achieve a long, sustainable popularity as well as the enhanced market-spread in the contemporary era. This process path may help the flexible brass craft of Belaguntha regain its past glory.

## 8. Conclusion

This study is an attempt to evaluate the flexible brass craft of Belaguntha from the Indian classical aesthetic ideologies. Due to ease of understanding, this study is broadly divided into two subsections: existing product and craft studies, and craft-focused aesthetic studies. As discussed previously, the flexible brass craft is a pioneer craft in the horizon of 'Aquatic Biophilism', and evidence supports that it was invented by Bindhaniratn Bhikari Maharana. After Leonardo da Vinci's explorations in the area of 'Aerial Biophilic' explorations during 14<sup>th</sup> century CE, this was the first time when 'Aquatic Biophilism' was explored by Bhikari Maharana, and honoured with the title of *Bindhaniratn* – by the king of Ghumusar dynasty. Of course, both of the inventors had seen and materialized their own self-imposed independent ideas about Biophilism in their own individualistic explorative pathways. But the common element among their works was- Kinetic Aesthetics. Initially, the products of this craft were treated as the Royal Gifts, and forms were developed using gold, a precious material. But, after the end of the royal era in India, i.e., after the merger of all Princely States into the Republic of India, this craft had to find fresh marketplaces, as no real kings were left now. So, artisans shifted to the brass, as a primary raw material; as this was comparatively a cheaper material option, with a near-similar golden outlook, so that this craft could affordably reach a larger audience, i.e., customers and end-users with comparatively lower incomes than previous kings and royals. This craft is being practiced in the Balaguntha Block area at two different locations, i.e., Belaguntha NAC and K-Nuagada village area. Contemporarily, fish forms are considered the most selling product here; however, artisans are crafting other forms too, such as lobster, snake, crocodile, tortoise, etc.

When a flexible brass fish form was studied through the lenses of classic Indian aesthetic ideology of *Shadang*, the following observations have been traced- (a.) Flexible brass fish displays Taal-Maan or harmonious proportion in its anatomical identity; (b.) Life-similar texturally rhythmic arrangement of metaphoric scale composition, that could be experienced through touch and eyes; (c.) Life-similar biophilic flexibility, that transfers speculative-feel of Praan or Life to its end-users; (d.) With precisely cut red-glass and textured brass-ring composed eyes appear quite in-line with eyes of a real fish – due to cutting precision, it reflects and refracts– both, the light falling onto its surface, with visual brilliance; and again displays the pseudo-feel of Praan; (e.) The fish form, ably establishes its co-relevance with the *Matsyavtar*, along the Indian mythology; (f.) This form substantially justifies its appropriateness as a royal gift, in alignment with the Indian aesthetic belief system and culture. In these ways, a biophilic fish form, crafted using the techniques of flexible brass of Belaguntha, justifies its cultural identity as an Indian aesthetic ideology supported by Cultural Good. In these ways, the studied flexible brass fish form has proved that it is an exceptional example in the area of Crafts and Arts that completely fulfils all of the six principles included in *Shadang* theory. It is also found that fish forms are masterfully crafted, which demonstrates a deep understanding of the form, anatomical proportions, with strong, aesthetically balanced three-dimensional composition. Most importantly, this fish form is spiritually and intellectually profound; it achieves Bhav through imbuing a non-living raw material, i.e., Brass or previously Gold, with a strong sense of life-like motion. This product fulfils Sasdrishy through creating a metaphoric similarity not to a physical fish, but to a powerful symbolic and mythological idea it carries and reflects to the audience. This detailed study confirms this product's position as a work of strong biophilic expression through the Fine Craft, that is culturally significant too. This paper is not just an aesthetic analogical study, but a vital act of cultural preservation.

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