chapter

1

Bird O’rama

Tengku Rinalfi Putra Tengku Azizan & Jalila Abu

The most visible animals on earth are birds. Flying adaptations in birds garner much attention in the field of science and art. The mechanics of flying, the fluidity of its flight pattern, the accuracy of landings, the arrangement of its different types of feathers, the trans-boundary nature in which they travel across continents and oceans; have been subjects of intellectual discourse over the years by both scientists and artists.

All birds are built light. With the exception of the Struthioformes (ostriches, emus, cassowary, kiwi etc.), other Orders of birds have the ability to fly. The relevance of weight saving in birds is significantly profound, evident in its biology. Birds are the only vertebrate group, in which all of its species reproduce using external eggs, minimizing the time during which females must carry a developing offspring in their bodies. The added weight of a “foetus in a womb” would have rendered the females flightless. Birds fill a niche so special in terms of ecological importance in such a way that no other animal can replace, especially when discussing the power of flight.

The bird skeleton is predominantly adapted for flight. The hollow part of its bones is filled with “connecting braces” called struts. These struts provide structural integrity and rigidity. In some parts of the bird, where physical stress from flights occur; the thorax, pelvis and the outer wing, bones which are separated in other form of vertebrates are found fused in birds. Other aspects of weight saving in birds include efficient digestive system and toothless jaw.

Birds, which bear no forelimbs, depend on the movement of their neck to reach most parts of their body using their bills. Some of the most complex muscle movement in birds occur in the neck where there are between 13 to 25 vertebrae compared to seven neck vertebrae in mammals. To a certain extent, some birds such as the owl are able to turn their neck 180 degrees.

Digestion in birds is very efficient. In some birds, digestion period can be as quick as 30 minutes. The main reason for the quick digestion period is to reduce the amount of unprocessed food in the stomach to facilitate weight-saving. Birds, having no teeth, use the gizzard, a chamber in which self ingested grit and rough keratinous lining help to grind solid food.

Birds however, if left alone will not fly. Flying is a very costly activity in terms of energy usage in that it disrupts the general homeostasis of a general animal. In isolated populations where there are no terrestrial predators, such as New Zealand, native birds have evolved convergently into non-flying bipedal animals (kea and kakapo). Birds in isolated populations have no need for flight, suggesting that birds take up to the skies as part of a divergent evolution process. Large-sized birds such as the ostrich and the cassowary have evolved into terrestrial animals due to their relatively heavy weight. These birds, from the Order Struthioformes, have branched out very early from the ancient lineage into the Super Order Paleognathae in which all of its species are flightless, suggesting that during the ancient times, birds do not have the necessity to take up flight. Other examples more recent for this Order of birds are the tinamou, kiwi and emu. These birds however were exposed to hunting and poaching, which resulted in some species becoming extinct, like the Moa

of New Zealand. Another classical example on extinction of flightless birds is the story of the Dodo. The Dodo birds, historically endemic to Mauritius were hunted to extinction over a period of 100 years from its original identification. This exemplifies the dire issue on flightless birds not being able to survive hunting and egg poaching.

Birds have evolved into a very unique class of animal. Birds are distinguished from other modern vertebrates by having feathers, a trait not found in any other class of animals. Feathers or plumage is an object of infatuation by many civilizations before us. The Native American tribes have used pheasant or eagle feathers as headwear, so much that it has become ingrained in our mental image of a fierce looking warrior of the old Wild West movies. Closer to home, the Iban tribe of Sarawak has been using hornbill plumes as body wear for a special cultural identity. Various other examples can be found elsewhere but in essence the unique hue and colours of the plumes is regarded as precious aesthetics by traditional cultures of the world.
Birds can also be admired from its behavioral traits. Unique behaviors such as those exemplified by the bowerbirds, as showcased in this exhibition portrays the ability of the birds to adopt special strategies to ensure species survival. Designing unique-shaped courts and exhibiting unique courting behavior strengthen the belief that birds are actually animals of a certain level of intellect.

Another unique characteristic of birds is that they are able to produce unique vocalizations. The artistic appreciation of bird sound is a traditional form of art, evident in many ancient cultures of the world that hold high value for the beautiful sonnets. A songbird provides an unparalleled source of natural borne songs with melodies soothing to the mind of a listener. The scientific literature on bird sounds and vocalization began almost 400 years ago. The source of a bird's vocal ability is in fact a unique organ called the syrinx, which is able to produce complex sounds that overlap each other. The vibration of the air column causes sound as it passed the syringeal passageway where the two halves of the syrinx operate independently. This results in the ability of birds to produce two independent voices, which in turn allows them to be able to sing duets by themselves. Most often when we hear songbirds singing we think that the sounds come from two birds but in truth a single songbird can make two voices that can overlap each other to produce complex sonnets.

As a form of food, birds provide resources aplenty for human consumption. The egg has satisfied the palate of generations of human civilizations. Domesticated chicken was found in India since 3000 B.C. and geese were domesticated in the Far East region circa 1000 B.C. Fleshy birds such as the chicken and the duck is a result of thousands of years of selective breeding practices, with the objective of providing alternative source of protein other than mammal and fish.
In the recent years, various parties have taken bird healthcare seriously, with special emphasis on avian medicine and surgery. Medical care for birds is not a novel science but new techniques are developed continuously for the betterment of the discipline. Animal healthcare service providers such as veterinarians work to understand the bird's medical needs, regardless on whether it is a pet bird or a wild species.

The availability on the information on bird care have spread the global importance of avian medicine, in terms of not only treating individual sick birds but also of promoting the health of wild avian populations. Many books, articles

written by veterinarians, practice tips and journal are available on avian medicine or diseases which could provide some highlights of emerging ideas, techniques and procedures that are currently being assimilated into avian practice which is available for pet owners as well as veterinarian. These are the platforms to share information, advice and programmes that reveal the latest development or updates in avian medicine.

Birds have been and always will be part of our lives. Even as babies and toddlers, our level of admiration of its beauty and aesthetics have never wavered. Our fascination of birds sometimes lead to the extinction of some species. Illegal pet bird trade and profound hunting activities resulted from an insatiable demand of birds which originally belongs in the wild. The simplified care and the hassle free maintenance of caged birds made it easy for humans to keep exotic birds. Bird conservation societies have been condemning the cruel method for keeping and transporting tradeable pet birds. As artists and scientists, we at NYAWA promote conservation of wild birds and hope that all wild birds are left in the wild to be enjoyed in its native environment.

In summing up the introduction, as stewards of this beautiful Earth we live in, we hope that all of us can work hand in hand to ensure that the diversity of life, including the birds are respected and protected. Without protection, we would one day be robbed off one of nature's best wonder, the BIRD.

JURY REVIEW 1

Mohamed Zakaria Hussin

When preparing for this review I found myself searching for the opposite of "meta" — which is something that would mean more than just its content. In NYAWA '15 : BIRD exhibition, the authors have presented their products not only in writing but have illustrated beautifully bird artefacts that capture the motion and emotion of the authors. As an ornithologist, I was dazzled by the well-handled artefacts of birds that brings the magic, mystery, and power of these striking animals into home and established a strong sense of wonder in these captivating artefacts.

The finished sculptures always surprise me -- what evolves from the chunks of paper, straw, wire, plastic, bottle caps, glass, textile, and wood is never what I expected. The exhibited artefacts indicated that the products come through the artists/authors, but not from them. In any case, it is not the end result that matters - which, again, seems to take care of itself -- but the process that matters. I feel most alive and fascinated to see all the finished artefacts as what I have felt when doing bird watching or surveying birds in the forest or even when studying the feeding, breeding or migratory behavior of birds. I can sense the artists love for nature and their spirit struggling with and through them for adequate expression of its sublimely perfect form. In my impression, the artists' intriguing bird artefacts may it be a photo, model, essay, drawing or sculpture have captured the essence of their subjects well and reflects an interpretation of mood and spirit - the spirit of the wild.

I am most fascinated with the shapes, colors, and textures of the artefacts particularly the peacock sculpture which exhibited an unusual style of large birds standing in balance on the ground. The artist managed to create a unique interpretation of birds from the inside out over a number of months. NYAWA '15 artefacts provide viewers with an intriguing observation of the natural world. In fact, some viewers have confused the artists work for the 'real deal' at first glance -- which often triggers a gut-wrenching feeling in the viewer. In a sense, their artefacts examine the raw beauty of nature. They also remind us of what we are at risk of losing if we fail to take conservation efforts seriously. NYAWA '15 visually powerful artefacts serve to remind us of the pressing need for wildlife conservation.

I have always loved birds. They are beautiful, honest creatures, possess delicate features and represent grace and raw power of flying and freedom. They are my muse and inspiration. The bird is an essential subject in my research and scientific works, but concept and art transformation can be just as important. In many pieces the bird is a visual metaphor for feelings, ideas, and emotions. NYAWA '15 has successfully brought together artists and scientists for a single main objective. As what I called "Artists for Conservation" has an important and useful role in working with, and supporting conservation activities in the field. By bringing an unparalleled pool of talents together through its exciting and innovative programs, NYAWA '15 has achieved its objective in supporting and helping to communicate important conservation issues to the public. Our mission is to support wildlife and habitat conservation and environmental education through art that celebrates nature.

We are now living during an extraordinary period in history. Most who read this may well see over one-third of Earth's species vanish, along with dozens of human cultural lines and languages. The challenge of climate change, loss of biodiversity, desertification, overpopulation, and deforestation - each on its own - stands to adversely affect us all. Together, these challenges represent symptoms of a global pattern of impact by humans on the web of life that supports us. Many artists today are active participants in an important movement, channeling artistic talent toward addressing the challenge of achieving a sustainable future. Undoubtedly, at the forefront of this movement is NYAWA '15 : BIRD.

"NYAWA '15 : BIRD exhibition gives us all joy, in the creation of it as well as the pure enjoyment of seeing a great work of art. Bird and nature is our unending source of awe and wonder, and that which is the source of inspiration for most of us human being."

JURY REVIEW 2

Nur Syaqila Samsuldin

Woody Woodpecker
Donald and Daisy Duck
Road Runner
Tweety
Sesame Street's Big Bird
Hawkman, the fictional hero from DC comics
The Liver bird on Liverpool's emblem
The golden eagle on Manchester City's emblem
The black crow on Tonto's head in Lone Ranger Film
Hedwig, the famous owl of Harry Potter
The famous game apps of Angry Birds
Sarawak Bumi Kenyalang
To the mythical giant birds of Jentayu and Garuda
The traditional sports of sabung ayam
The old proverb of bagai pungguk rindukan bulan

These are the well-known animated and mythical birds that are familiar to many Malaysians. They were created to have special personas whilst the mythical birds are said to have special powers. In reality we know that birds are an important element to the environment. They keep the system in balance, helped in spreading seeds and pollinate the flowers, they help to control the agriculture pests, a source of white meat, their saliva and droppings proven to be a good source of income and their charm and elegance managed to capture breeders and collectors around the world. But little do we know of them being a good environmental recycler, a high-profile silent disease carrier and a charmer when it comes to courtship. Today, we saw this winged creatures have inspired us in innovation. The Wright brothers observed the flying birds before building their own airplane. Angry Birds game become a craze and turns into a franchise and how birds' foldable wings inspired the creation of nimble drones.

NYAWA'15:BIRDS exhibition celebrates the collaboration of ornithologists, artists and designers. They combined their science observation skills and scientific discoveries with artistic skills to produce inspiring and informative artifacts. It is encouraging to know that talents from these two interdisciplinary managed to work out of their comfort zone. Through NYWA'15: BIRDS, you will be able to see how an ordinary origami birds depict sense of freedom and at the same time informing us that these great migrators can be an infectious disease carrier. The exhibition will also take us to another level of experience as it is also showcasing an artistic birds' artifact tha was produced through an art therapy for terminally ill children. It is amazing how artifacts are used to further explain the concept of 'lovebirds' and how birds being great recycler and innovator. And it is much more intriguing to see the artists and designers use artworks that public can relate to such as doodling, masquerading and using everyday items such as tooth paste caps and plastic bottles. In advance to this exhibition, NYAWA'15: BIRDS launched their Birds Photo Challenge through Instagram. This is a great opportunity to encourage active interaction amongst public, bird watchers and enthusiasts through the social media platform.

Let us put our hands together for NYAWA'15:BIRDS for venturing into the aesthetic science learning where public can learn about birds by blending science inquiry and aesthetic appreciation. It is a path that many won't dare venture into. It is well known that some people learn more through sense of vision, while others may learn more through their sense of hearing and touch. The artistic elements from this exhibition will definitely sparks one's interest and magnify the scientific elements and information of the artifacts.

NYAWA'15:BIRDS is catching up fast. With the right momentum and support, NYAWA will be standing next to the big boys of aesthetic science learning around the world such Exploratorium of San Francisco, ArtScience Museum of Marina Bay Sand, Singapore, the Mind Museum of the Philippines and Art.Science. Gallery of Austin, Texas. Perhaps the collaboration initiative between ornithologists, scientists, artists and designers could potentially produce our very own Ned Kahn or Ed Tennanbaum. Congratulations to NYAWA for opening up the door to the public and experts to appreciate both Arts and Science!

chapter

2

Magnificent Life of Birds

Faridah Qamaruz Zaman

We, humans can learn a lot from studying nature past and present; hence, the importance of a Natural History Museum in each country. The records that are preserved and kept for aeons can give us a glimpse of what was, and prepare us for what will be. Our climate changes and we have to adapt to survive. The lessons from the bird group as pollinators ensure the continuation of the plant species. There are flowers solely pollinated by birds such as that by hummingbirds.

The health benefits conferred by the edible bird nests are well known, so much so that a National Centre of Excellence has been established in Malaysia and led by Universiti Putra Malaysia. It is envisioned that this Centre will propel the local swiftlet farming industry to a higher ground, and this can then be a major earner for the country.

The birds can also be the harbinger of disease, whereby their habit of migration can be a mode of transmission of harmful microbes for countries in their path. We are fortunate that the Department of Veterinary Services Malaysia monitors any hazardous movements. The presence of a seagull look-alike in a human's stomach is also an indicator for a bacteria that causes inflammation.

Indeed signs shown by birds can have a powerful impact. The male bowerbirds of Australia and Papua New Guinea can give lessons to our men as to the best way to attract a girl. The birds make a huge effort in building a gallery and selecting what to display to enchant the female.
The bird's nest is a humble weaving of materials that the bird can find in its midst. Normally it would be of natural materials such as twigs, grasses, and leaves. The artefact shows other materials that can be utilised in building this cup of security and comfort.

In this challenging times, humans should respect the behaviour of the species around us. We should take time to admire, study, learn, understand, digest, analyse, innovate – what I like to call Nature Inspired Innovation. The answers are all around us, but we must stop, look, listen, feel, smell, think, and understand. Materials can be recycled as decorative items for the bowerbirds in their courtship rituals, and the swftlets' saliva can be a beauty enhancing product for the women. The interwoven nests can teach us to make baskets, and other woven decor.
Birds are magnificent, and the life of birds are amazing to research. In some ways, we can be envious of them because they have the power to fly. We do owe our flight technology to them as we seek to emulate them as much as possible. I dream of a day that humans can freely fly side by side with birds (unencumbered by being in an aeroplane), and see our world through their eyes.

Malady In The Sky

Mariatulqabtiah Abdul-Razak, Abdul Rahman Omar,
Rabeah Adawiyah Abdul Razak

Birds migrating across national and intercontinental borders can play a role in the spread of infectious diseases. Their capability to travel over long distances and through a diversity of habitats exposes them to a wide range of microorganisms such as bacteria, virus, parasite or drug-resistant organisms. Similar to wild birds, these migratory birds are hosts or natural reservoirs for many zoonotic diseases. Without showing any clinical signs, they act as a silent disease carrier by possessing pathogens that can threaten the well-being of other animals and humans, hence, raising concern on public confidence in health care, food safety, and security. Examples of high-profile diseases that are associated with transmission by migratory birds include avian influenza and West Nile fever. Migration of birds is a natural phenomenon for the instinct of survival. However, over the years, human activites like deforestation for intensive industrial development and rehabilitation, and global warming have disturbed the rate and pattern of bird migration in search for food supply and breeding habitats. In addition, the increase in world population has resulted in human encroachment by contaminating the environment, e.g. water, and jeopardizing the safety of ecological systems. Therefore, active surveillance of terrestrial and wild birds should be conducted in order to understand migratory connectivity between wildlife, domestic animals, and humans. It is hoped that future spread of diseases by migratory birds and other species can be predicted and contained.


Melody in The Sky

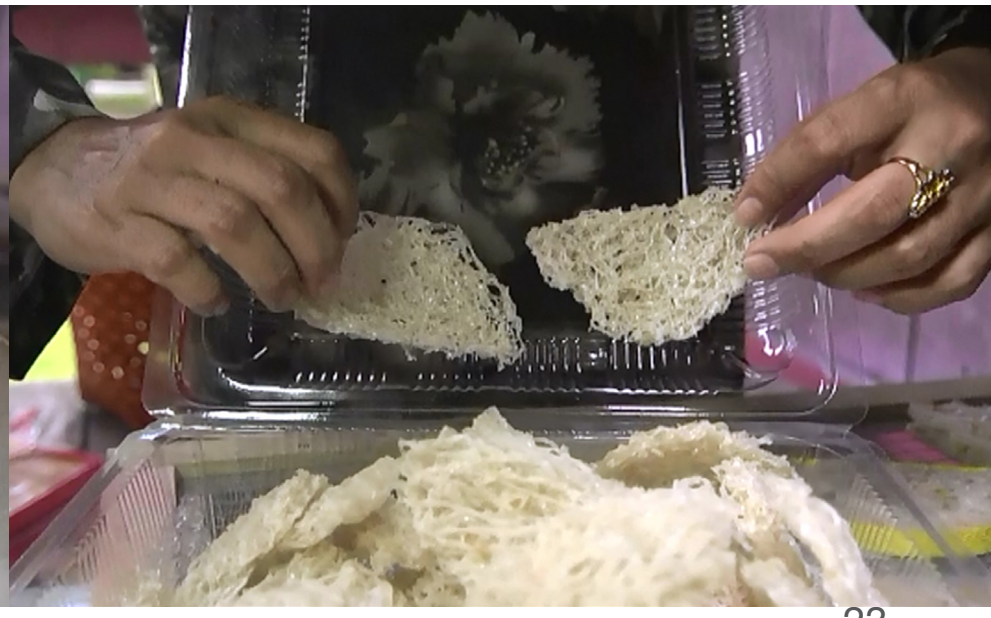
Excellent Swiftlet

Aini Ideris, Saleha Abdul Aziz, Jalila Abu

Universiti Putra Malaysia is given recognition as the National Center of Excellence (CoE) for Swiftlet Industry in 2011 under NKEA Agriculture (EPP#2). One of its important roles is to coordinate research studies on Malaysian edible-nest swiftlets and edible birdnests (EBNs) among higher learning institutions and research institutes in the country and to collaborate with industry players as partners in R&D. There are seven main research clusters, namely nutrition, production, and structural functions; economics and products; health; genetics; ecology; standards and quality and marketing and promotion. To date there are more than 25 research projects involving UPM, UKM, UTM, UTAR, UMP, UNIMAP, UMK, MARDI, SIRIM, IMR, and DVS and the industries with funding provided by NKEA Research Grant Scheme (NRGS) worth about RM6 million. The research projects include, among others, studying the geographical distributions and ecology niche, genetic make-up, health and disease status, sustainable and economic aspects of ranching edible-nest swiftlets as well the nutritional composition, anticancer, anti-ageing, antimicrobial and medicinal properties, effects on brain and cognitive functions and development of downstream products of EBNs. From these research works, it is hope that it can further enhance the edible-nest swiftlet industry in the country and increase the production of EBNs because as it is now Malaysia is one of the largest producers of EBNs in Southeast Asia.





The Curator And The Recycler

Faridah Qamaruz Zaman

The bowerbirds of the family Ptilonorhynchida are famous for their elaborate structure which are an important tool in their courtship rituals. The structure is constructed to be a bower (gazebo-like) from twigs. Outside the spacious cavern the bowerbird decorates its lawn with individual clusters of brightly coloured fruits and flowers, iridescent beetles' wings, shells, and other items that it deems attractive. The whole purpose of this huge effort is to have a space to show off his song and dance in wooing the females. Thus the female bowerbird becomes the judge of his curatorial and courtship skills. The female bowerbird later builds a nest for laying eggs on the trees.

The bowerbirds are considered to be the most humanistic of birds as they engage in such a complex courtship behaviour. For example, they would kill the beetles just to get the iridescent wings for their display. This point to a higher sense of aesthetics compared to other animals. This attention to detail is demonstrated by the bowerbird ensuring the perfection of its arrangement i.e. by rearranging the display of the beetles' wings to reflect the sunlight so that the display is seen in its best light.

The bowerbird has also moved with the times in that it now gathers colourful drinking straws, and mineral bottle caps to include in its choice of clusters. This is where the habitat is very much linked to the lives of animals. Without realising it, the bowerbird has become a natural recycler. The campaign for the 3R (REDUCE, REUSE, RECYCLE) is gathering momentum and the bowerbird can be a powerful icon in this initiative.

mes the judge of his curatorial and courtship skills.

Home Tweet Home

Norhidayah Mad Halid

In the natural environment, birds need a nest for their settlement. Nests are made to protect the eggs and young from the threat of predators and weather. In fact, the parent birds feed and raise their children in the nest. The task of collecting the materials and build a nest is usually done in pairs. However, there are also birds that build their nests in groups. There are various types of nest such as cavity, pendulum, cup, platform, and sphere. The shapes that are built depends on their behavior.

The main material for making nests generally are dry grass and twigs. But, usually birds can make nests of any material scattered in the surrounding nature. Hence, some nests are made with rope, paper, and plastic. Nests can be built in the ground, on the trees and in buildings.

The easiest way to identify a bird's nest is to identify the birds that build and use it. Since those birds are typically adult birds in their breeding plumage, their field marks are useful for proper and confident identification. In many species, however, more camouflaged females do much of the nesting work and can be harder to identify. When birds are actively incubating eggs or feeding their chilfren, it can be easy to get good views of the parents, but it is best to use a spotting scope and keep a significant distance from the nest so as not to stress the birds – if the adults feel continually threatened, they may abandon their eggs or chicks.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Ornithophily

Faridah-Hanum Ibrahim, Siti Aminah Ibrahim

Pollination is a process where pollen grains are transferred from the stamens (male part) to the stigma (female part) of the flower; if it happens on the same plant it is called self pollination or if on another plant of the same species it is termed cross pollination. Pollination, however, is an accidental process that happens when animals such as bees, flies, wasps, moths, butterflies, bats, ants, beetles, and birds forage for food such as pollen and nectar from the flower. It also happens when the wind blows the pollen to the stigma of flowers. Wind pollinated flower are usually dull, small, without petals, and unscented. On the other hand, those flowers pollinated by animals are usually brightly-coloured and attractive, has a good amount of nectar or has a strong scent which can be sweet or foul smelling.

Ornithophily is the term used for pollination carried out by birds. Among the common pollinators are sunbirds, honeyeaters and humming birds which pollinate deep throated flowers while reaching for nectar at the base of petals with their long beaks; they are also either capable of hovering flights or lightweight enough to perch on the flower structures while feeding and carrying the pollen grains which adhere to their feathers. Many ornithophilous flowers are often red and copious in nectar; birds have good eyesight and sensitive to red colour winning over the bees that cannot see red. Examples include the common Etlingera elatior (Kantan) and Erythrina spp. (Coral Tree) which are pollinated by hummingbirds while the ornamental Callistemon spp. (Red Bottlebrush) and Delonix regia (Flame of the Forest) are pollinated by sunbirds.

Fatal Attraction

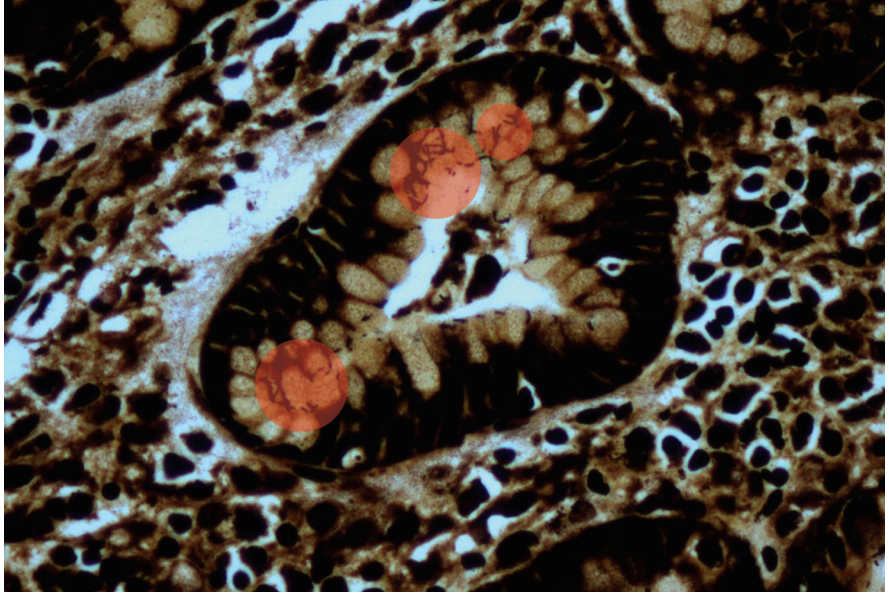
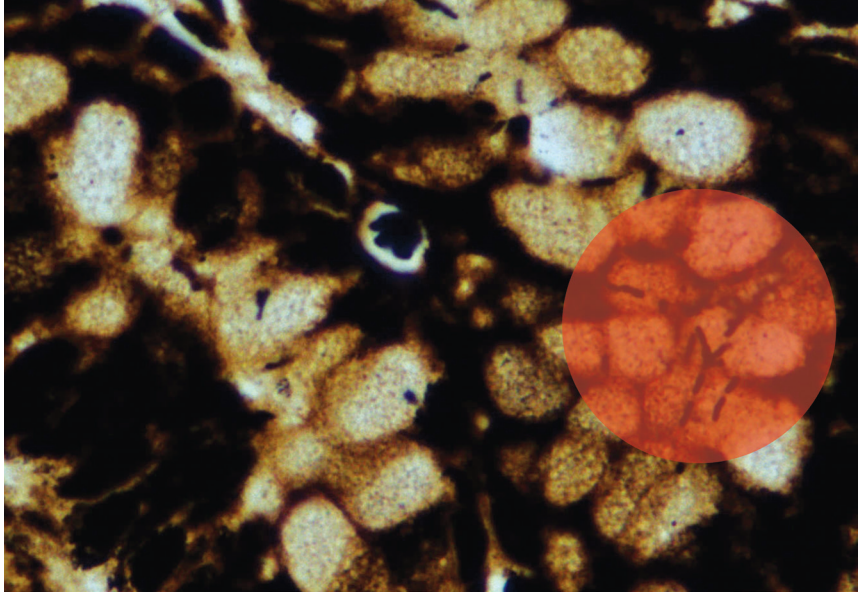
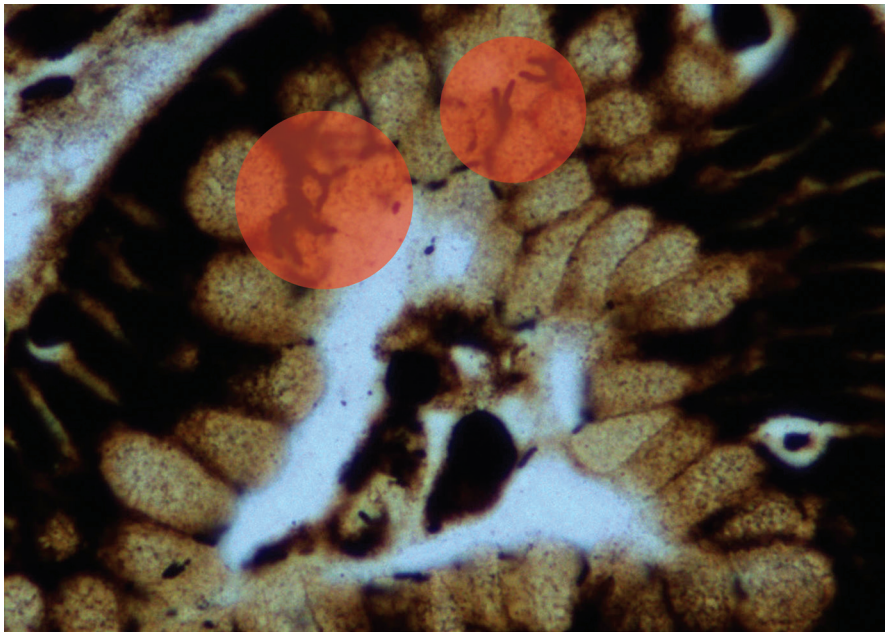
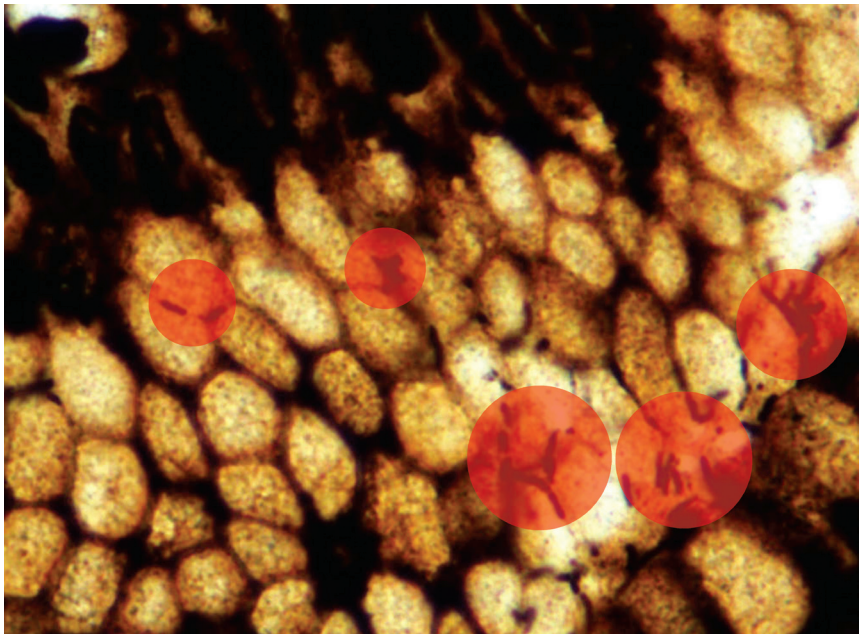
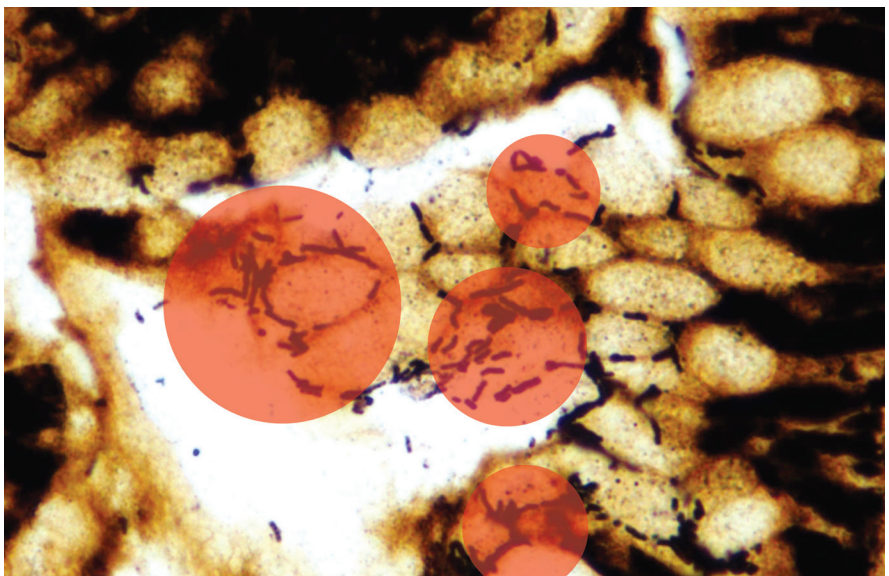
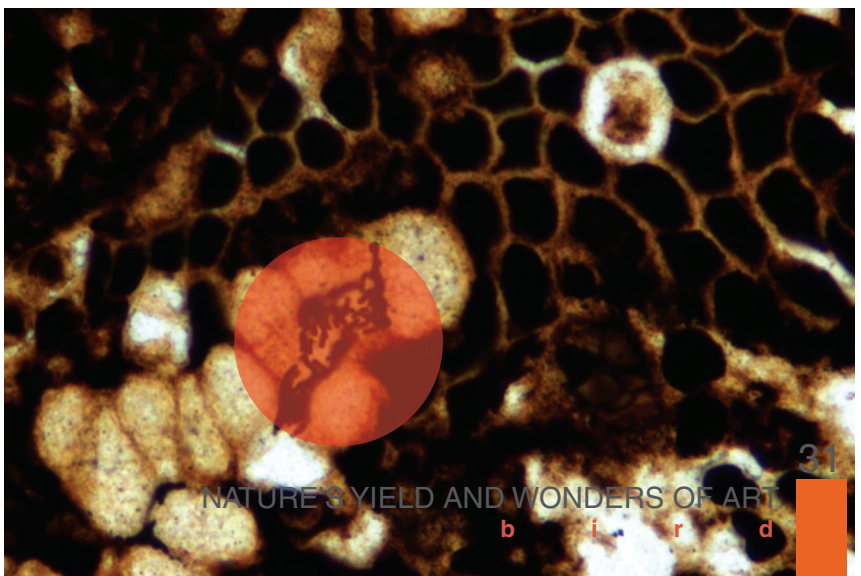
Norhafizah Mohtarrudin

Seagulls are medium to large birds that survive on live food or scavenge opportunistically. Their morphology allows for equal adeptness in swimming, flying, and walking. Gulls are highly intelligent and highly adaptable to diverse environments. Many species of gull have learned to coexist successfully with humans and have thrived in human habitats.

Have you ever seen flocks of “seagulls” swimming in the sea of mucus inside the human stomach? In the medical world “seagulls” refer to a bacteria called Helicobacter pylori. Under the microscope H. pylori resembles a flying “seagull” displaying its long outstretched wings colonizing the stomach. Helicobacter pylori is highly adapted to stay in the stomach for a long time through their ability to avoid, subvert, and exploit the host defence mechanism. Their ability to increase the pH of stomach and motility warrant their prolonged survival.

Upon entry into the stomach, H. pylori has to take hold quickly to avoid being killed by the harsh acidic environment of the stomach or swept into the intestine. The bacteria swim and propel through the sticky mucus. They drill, hide, and bury themselves into the mucus layer in the stomach lining. This mucosal layer offers an ideal ambience for H. pylori to multiply freely and form colonies.

Initially, H. pylori and the host form mutual benefits to establish a stable symbiosis. However this colonization does not have a happy ending but a fatal attraction. The colonies irritate and incite inflammation of the stomach over the course of life-long infection. This injures the stomach leading to ulcer or even severe complications like perforation and cancer formation.

Bird Library

Farizawati Sabri, Mohd Ali Mohaideen

The Natural History Museum at Precinct 15 Putrajaya was officially opened to the public in February 2010. It is an effort by the Government of Malaysia to collect, document, and exhibit natural treasures encompassing the fauna, flora, rocks, minerals, and fossils of this country to benefit all levels of society, including foreign visitors. This museum houses thousands of specimens of threatened and endangered fauna, as a reference to the natural heritage of our country. Among the specimen collections is of many endangered and nearly-extinct birds. Until now, almost 656 bird specimens have been collected and documented, which represents about 88% of the whole bird species in Malaysia. The white-bellied sea eagle (Haliaeetus leucogaster) is a large diurnal bird of prey. A distinctive bird, the adult white-bellied sea eagle has a white head, breast, under-wing coverts and tail. The upper parts are grey and the black under-wing flight feathers contrast with the white coverts. Like many raptors, the female is slightly larger than the male, and can measure up to 90 cm long with a wingspan of up to 2.2 m. Other than this white-bellied sea eagle, there are few other bird species in the museum's collection, which are the barn owl (Tyto alba), the grey and buff woodpecker (Hemicircus concretus) and the white-throated kingfisher (Halycon smyrensis). In line with the museum's vision to become the nation's leading Biodiversity and Geodiversity Research and Reference Centre for future generations, all specimens were kept systematically in dried and wet forms of preservation.


life sc

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Home Tweet Home
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Malady In The Sky

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Mariatulqabtiah Abdul-Razak, Abdul Rahman Omar, Rabeah Adawiyah Abdul Razak


Excellence in the Swiftlet Industry
GALERI 2
SERDANG
EXIT


Ornithophily

chapter

3 Culture Stimuly

Mariatulqabtiah Abdul Razak

People manifest beliefs, beliefs represent culture. Culture of certain comunities, or even from one generation to the next, defines the originality or character of people of the world. Accumulation of knowledge, experience, language, attitudes, religion, values, hierarchies and material objects distinguishes one group of people from another. Influencing stimulus can be many, including observation of natural ecological and environmental factors, particularly from species of animal and plant, or even the advancement of technology by time.

Nowadays, photo sharing has been the most common and in-trend activity among Generations Y and Z. Overloaded with imagination and creativity, interpretation of artistic images is now limitless. One subject may be captured from different angles and styles, making visual marketing as one of the cheapest and fastest ways of income generation. This new modern culture has also allowed transparency and independency of events around the world, be it beautiful or ugly, to be shared promptly without any filtering or screening.

Colourful events and celebrations like a masquerade bring joy and fun to certain societies of the world. They will disguise pretentiously; heavily in the mood of seeking self-freedom and surprise. Originated from European countries, an aura of glamour, mysticism and mystery surround the participated crowd while masquerading with different styles of bird feathered head gears and masks. Unique elements that are arranged and positioned exquisitely, signify different symbols and purposes, making head gears and masks still relevant to modern culture.

Love is a universal language that the blind can see and the deaf can hear. Love and romance among birds can truly spellbind the observers. Their body signs and gestures allow us to learn how to be compassionate but perseverant at the same time, towards one another. Nature is, indeed, a good storyteller. Take a moment to stop and stare. Fascination can come even by seeing the affection between two birds.
While bird entanglement is fun to watch, so does the entrapment of wild jungle fowl. This nondestructive technique, which is famous among the Malays and Orang Asli, demands the trapper to be sturdy and endure with the behaviour and sensitivity of the decoy, and the “cocky” wild fowl subject. It can be a great outdoor activity and even has a potential to be commercialised for ecotourism.

Children’s self-expression can be seen through drawings using birds as an example subject matter. A study done on forty urban and rural schoolchildren reveals a distinct rendition of birds, between female and male children, thus expands our understandings on the complexity of children’s imagination. We might ask ourselves whether our kids have been given the most conducive environment, for knowledge seeking and social development, to allow them spreading their wings wide enough for their future endeavours.

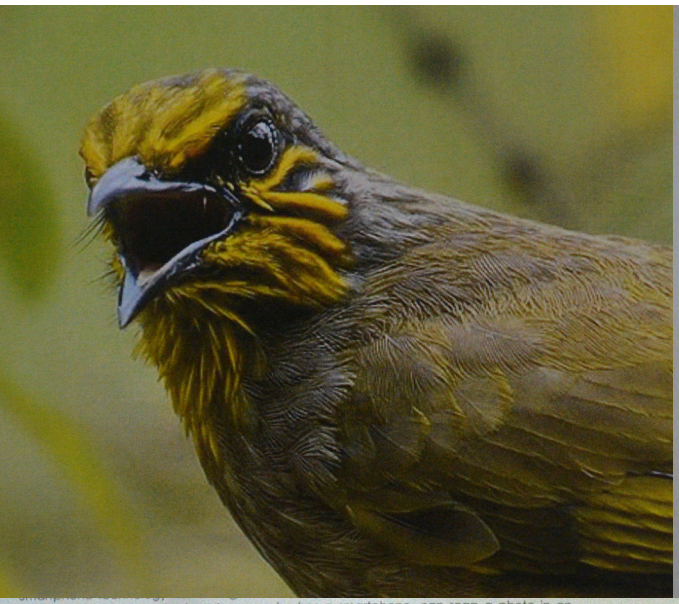
Whether we realize or miss, whether we are an observant or an ignorant, our daily activities which arouse wonder or curiousity, are shaping ourselves, into one community, one society, one nation or one people of the world. Culture might evolve through time, but birds will always stay as inspiration.
(16.11.2015)new

Art Captured In Square

Musliyana Mansor, John Leong

Smartphone technology has changed how people are using the phone to communicate and now, in photography too. Anyone who has a smartphone, can snap a photo in an instant and share it to the world through all social media networks. With the advancement in technology, people can snap photo effortlessly. Combined with multiple editing apps, this results in a whole new perspective and appreciation of mobile photography. Being the founder of the most popular photo sharing app, Instagram, Kevin Systrom once said, “Our mission is to capture all the world’s moments, but our core value is to inspire creativity”. What a successful mission! Every user of Instagram is basically an artist now. They have to think like an artist in every photo; creating something new and unique, while considering the angle, colour, creativity and storylines of their artistic images. Some people have even surpassed the initial purpose by generating money out of photo sharing apps, demonstrating true zeitgeist of Generations Y and Z, where freedom of shoot and share are encouraged worldwide.

Apart from mobile photography, this year everyone was invited to take part in the Bird Photo Challenge, a joint effort by Universiti Putra Malaysia and Igersmalaysia. The best photos from the competition were selected and displayed as an artifact in the gallery. Submissions were through posting photos and videos in the participant’s Instagram account with the hashtag #UPM_NYAWA2015 and #igersmalaysia. This competition hopes to bring awareness to the annual NYAWA (Nature’s Yield And Wonders of Art) exhibition by UPM.



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Lovebirds

Mohd Firdaus Ismail, Nor Akmar Abdul Aziz, Mohamed Daniel Mohamed Mokhtar

The romance of birds are expressed and manifested in how they impress and attract their love counterparts. The colourful males such as the peacock (Pavo cristatus) and the golden pheasant (Chrysolophus pictus) would undergo detailed grooming to ensure flawless appearance to impress the beloved in the competitive world of the wild. The males of certain species would pour their dedication and effort to build the mating court as splendid as a castle to invite the queen of their heart such as shown by the bowerbird (Ptilonorhynchus violaceus) and the baya weaver (Ploceus philippinus). Some species such as the magpie-robin (Copsychus saularis) and the red-whiskered bulbul (Pycnonotus jocosus) would compose the most beautiful love song to entertain the female that ring pleasantly to your ears. Once the long awaited females are in sight, the males would exhibit their beautiful displays and dances to impress and incite the flames of romance such as displayed by the superb bird-of-paradise (Lophorina superba) and the red-capped manakin (Ceratopipra mentalis). Community species such as the oriental white-eye (Zosterops palpebrosus) and budgerigars (Melopsittacus undulates) groom the feathers of their companion after a bath. Sometimes the show of strength is required to win the heart of the potential mate such as frequently observed in the rivalry of love among heroic male rooster (Gallus gallus). Once the love has been united, the romantic play of love such as by the lovebird (Agapornis fischeri) and the majestic swan (Cygnus sp.) would surely make us envious. Lastly the loyalty of the barn owl (Tyto alba) and bald eagles (Haliaeetus leucocephalus) that paired for life would teach you the virtue of true love.

Masquerade

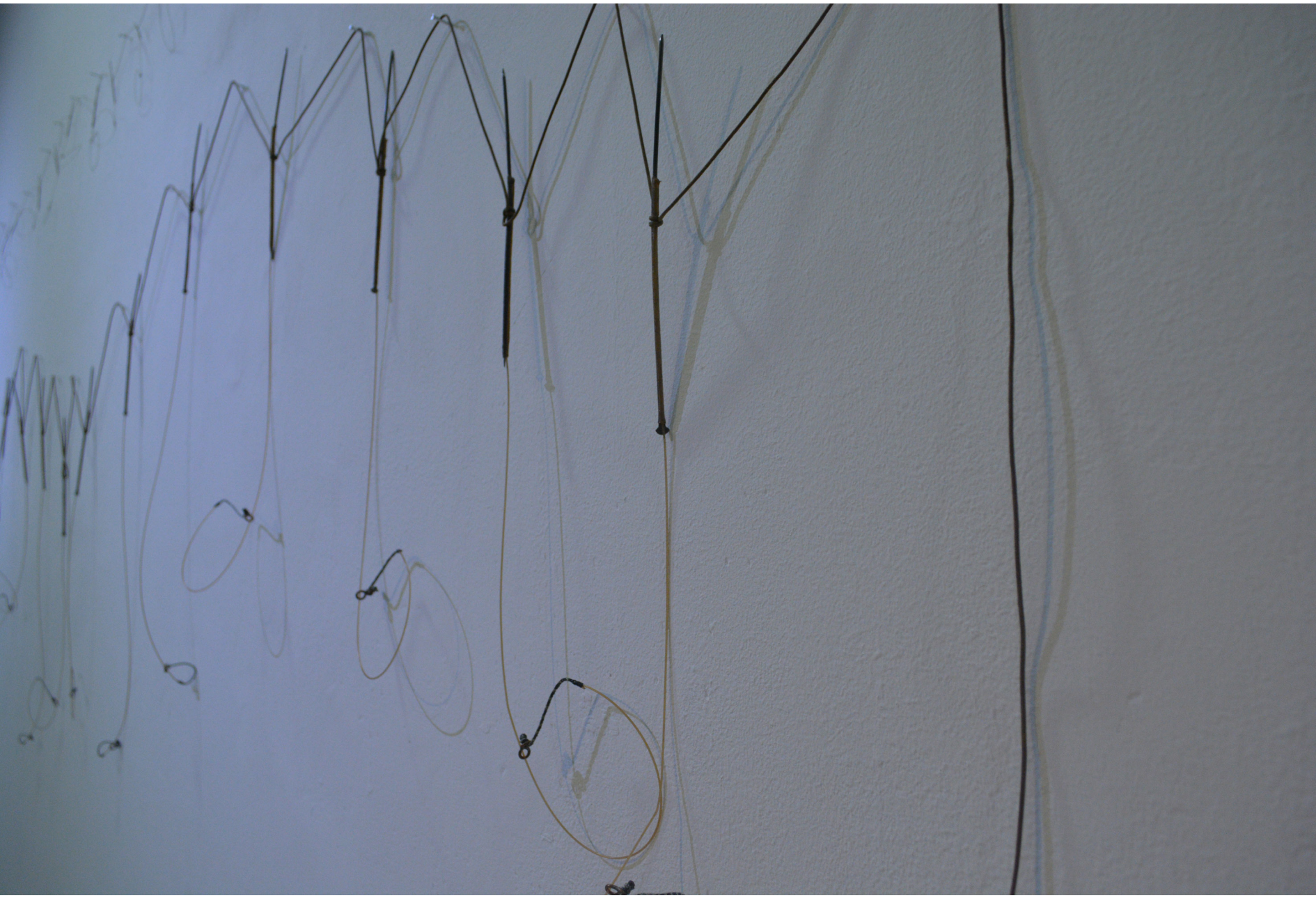
Norhayatti Nadzri, Nadrah Nadzri, Mohainee Khalid

The crow, like the raven, the eagles, and the hawks, have strong black feathers, which signify strength, wisdom and mystery. A headgear is a covering device for the head. This tradition is used in many communities of the world, for military, religious or social functions. Though each has its own concept and belief, the headgear carries the symbol of dignity, modesty, and sophistication to its wearer. Today's headgear comes in various forms, shapes and colours and it is worn by people of all society, regardless of race or religion. The tribes of Sarawak used hornbill feathers with other objects to identify their ethnic origins. For centuries, the North American Indians used to adorn their heads with feathers of the eagles, ravens and hawks to signify themselves as war heroes. The Mask Headgear is made out of feathers, stones, papers and clay to give the mask a strong and bold outlook. The black feathers are adorned with glittered stones to suggest sophistication and mystery. The loosely-styled feathers arranged in red and black, symbolising strength and courage. It also adds an air of mysticism, glamour, and joyfulness to the wearer.

Entrapment

Shaikh Mohamed Amin Babjee

Various trapping methods have been used by the Malay villagers and Orang Asli to trap animals in Peninsular Malaysia. For entrapment of wild and extremely sensitive red jungle fowl, the talents of an informed trapper who will use his aqcuired knowledge on the behaviour and sensitivity of wild birds, and the quality of decoys are important. A decoy (denak) is a living, trained cross-bred jungle fowl that is used to attract and challenge the wild dominant male jungle fowl in its own natural territory. The quality of a decoy is mainly based on the quality and type of crow, the appearance and behavioural expression of the challenging behaviors, du ring the response and approach of the wild male subject. If the crow of the decoy is attractive, the wild fowl will respond rapidly to the site of the decoy, but will stop at a safe distance if the appearance and behaviour of the decoy, somehow, is not irritating enough. However, if all characteristics of the decoy suit the wild male, he will not hesitate to rapidly fight the decoy thus gets his legs trapped during the kicks. The leg traps, known as racik, is basically a nylon loop, with the end part finely attached to a strong woven cotton thread, while another end is fixed to metal rings. A decoy's string is used to limit the decoy's distance within designated area, while a tumang (steel or iron rod) which is attached to the string is used to fix the decoy to the ground.



Kids Array

Mariatulqabtiah Abdul Razak, Nurulfiza Mat Isa, Noor Baity Saidi

Children have limitless imagination, and drawing can be one the ways in which they can be creative. In order to compare the effect of psychology and environment, between urban and rural children, forty 10-year-old schoolchildren were assigned to draw their interpretation of “bird” on a long paper scroll. A drawing could reveal how children feel about their environment. Interestingly, the patterns of drawing of each group were relatively consistent. A majority of female schoolchildren from urban school drew imaginative forms of bird, flying freely. They were aggressive but organized, which can be observed through the overflowing and saturated patterns on the canvas. Female schoolchildren from rural school presented a neater work of art. Some of their birds were in captivity, or small and reserved without their wings spreading. While both groups showed different psychological creativity, their similarity in the diversity of colours might reflect the complex mind of female kids. On the contrary, majority of urban, male schoolchildren drew a rather monotonous pattern of small, black birds as compared to the vibrant, flapping birds from their rural mates. A simple deduction would suggest that rural kids are more adventurous and carefree, giving them opportunity to interact more with their environment, which can help to enhance their creative thinking ability. Consideration should be made on the different setting of both sample groups since change in performance and creativity of children can occur in different environments.

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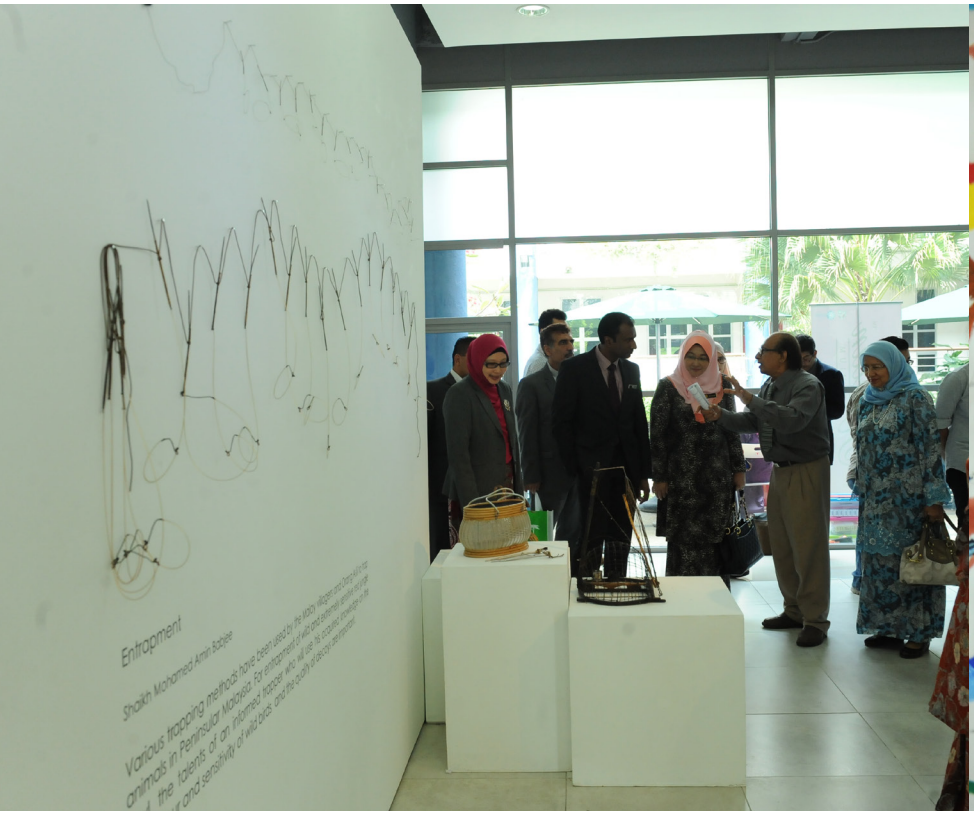
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PHOTO CHALLENGE
SHARE YOUR
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chapter

4 Soul Treatment

Muhammad Shahrim Abdul Karim

In this chapter various applications of birds will be explored. This chapter discusses birds in three main areas; food, therapy, and treatment. Birds of the same feathers flock together, is the most famous saying about birds.

Malaysians have enjoyed eating various kinds of birds, such as chicken, duck, and goose. Quail (Burung puyuh) meat is also widely demanded that it is commercially reared in farms throughout the country. The most precious bird meat would be those from the wild, White-breasted waterhen (Burung Wak Wak) which is abundant during the padi harvesting season and also the Jungle Fowl (Ayam Hutan). In the past, these birds could be found easily in the paddy fields. But today with so much development, these birds have become an endangered species. Silkie chicken also is another species that can be eaten, mainly for medicinal purposes. In the Chinese culture, this bird is served as a medicinal purpose during the confinement period. It is cooked with traditional Chinese herbs and it will warm and provide energy to the woman's body.

Birds' eggs have been commercially produced, especially chicken, duck, goose, and quail are the common eggs being consumed on a daily basis. Most countries in the world have their special eggs dishes and served during a special celebration. Eggs provide a good source of protein that are required by our bodily functions as well. It can be cooked into many ways, from a simple fried egg to soups and curries to fabulous desserts. It can be said that every part of a bird can be used. Even its nest as typified by the swiftlet (burung walit) and burung layang-layang (sparrow, swallow) nest, or the bird's nest which has been known for several hundred years. There are many nutritional benefits of the bird's nest among others are; excellent for respiratory system and regenerative or building-up of certain tissues in the body. Additionally it is a good source for anti-aging thus if one practises taking bird nest, they will maintain good health and youthful looks. The bird's nest is normally simmered for several hours using double boiler to ensure all nutrients are retain and rock sugar is added to enhance the taste of the soup. Malaysia is known to produce the highest quality bird's nest in the world.

Other functions of birds also include art therapy that is using vibrant birds' painting to create joyful moments for the patients at the hospital. Additionally, UPM Veterinary Hospital provides treatment and medication for birds. There are several bird experts who are available in the clinic who will attend to your needs. So, next time if your birds are sick, bring them to our clinic. Finally, birds also are used as a symbol in our life, such as some birds symbolize courage, strength, and fertility. In summary, birds are close to every aspect of our life from food, culture and therapy as well.

Ebony And Ivory

Ainul Zakiah Abu Bakar, Muhammad Shahrim Abdul Karim, Hasanah Mohd Ghazali

At a glance the title may remind you of the famous song. Interestingly, it is in fact describing a popular delicacy in the Asian region. You may not know the name of the chicken, but a description of this chicken may jog your memory. The unusual black-skinned and black-boned Silkie Chicken or scientifically known as Gallus gallus domesticus is named for its fluffy silk-like plumage that may range in colour from white, black, grey or gold. Uniquely the Silkie also has five toes compared to the normal chickens that have 4. Its friendly and docile temperament makes them charming as pets. The brooding characteristic of the “Silkie girls” also makes them excellent mothers even to adopted eggs of other chickens or birds. The Silkie is considered a delicacy in the Orient. Believed to have medicinal properties the Silkie is often an important ingredient in the Herbal Silkie Soup, which is often augmented with ginger and red dates. It is said that the soup can increase female fertility and nourishing for the developing human foetus, also restores the vitality of new moms. The Silkie are revered for their beauty, friendliness, adaptability and health benefits. The flesh and skin are eaten, the bones made into stocks. Nothing is wasted, even after the bones are spent; it is dried, crushed and made into pills used as medicine. It is said that the Silkie may protect against aging by preventing atherosclerosis, joint inflammation, and Alzheimer’s disease. The eggs are said to lower cholesterol as it contains high levels of unsaturated fatty acid. So next time, you see a black-skinned, black-boned chicken with five toes, be sure to try it!

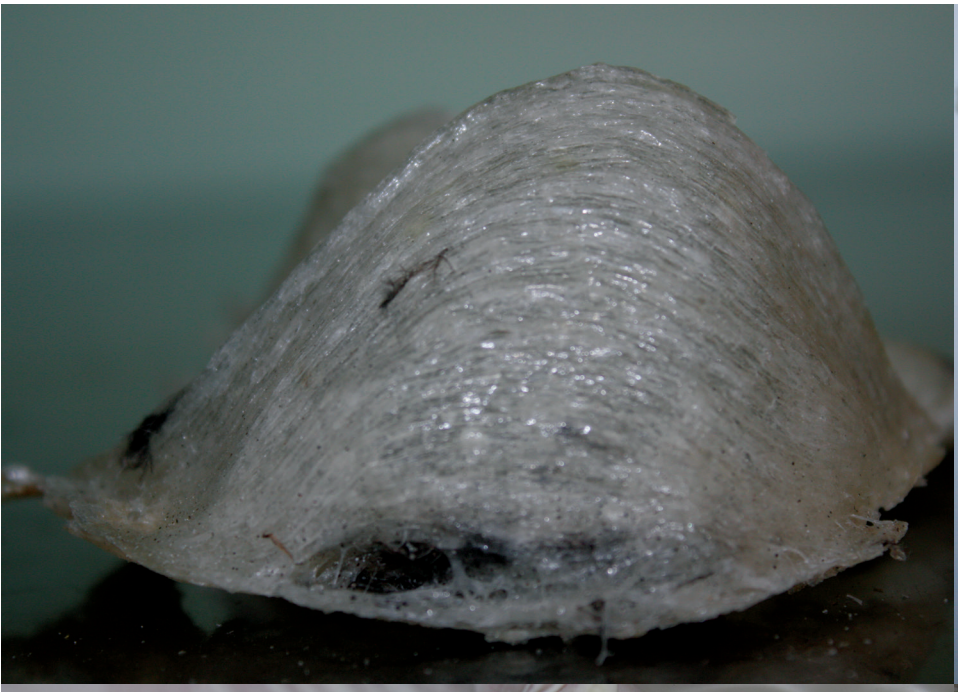

COOKING PROCESS

Caviar Of The East

Hasanah Mohd Ghazali, Muhammad Shahrim Abdul Karim,
Ainul Zakiah Abu Bakar

Edible bird's nest '*yan wo*' has been referred to as the 'Caviar of the East'. Like caviar, the salt-cured eggs of sturgeons, the edible bird's nest is expensive and prized as a delicacy, but more than caviar, it is also highly regarded as a health food. Premium nests come from Malaysia, Thailand, and Vietnam. The edible bird's nests are essentially constructed from the salivary secretion of swiftlets, small birds that usually dwell in caves.

Nests are collected after they have been abandoned and are cleaned to remove feathers, twigs and other impurities. They are then dried before sales or processing. A kilogram of edible bird's nest can cost up to USD2,500. The health values of the bird's nest have been espoused in Traditional Chinese Medicine for a long time and concoctions are classified as tonics that improve appetite and digestion, promote recovery of chronic illnesses, provide relief to dry coughs, respiratory ailments, and fatigue, maintain youthfulness, and enhance the complexion. As such one can easily find many products containing an extract of edible bird's nest that double up as health products and a culinary ingredient. The nest is rich in glycoproteins, epidermal growth factors which are responsible for skin and tissue repair, sialic acid, amino acids such as glutamic acid, and minerals (high contents of sodium and calcium). The Chinese prepare edible bird's nests in many ways: savoury soups with chicken, desserts with rock sugar either with or without fruits such as mango, congee with bird's nest, soups infused with herbs and now, even coffee.




Egg Essentials

Muhammad Shahrim Abd Karim, Hasanah Ghazali, Ainul Zakiah Abu Bakar

Eggs are symbol of fertility. For generations eggs have been used as protein that is required by our bodily functions. Not only fresh eggs are used, many preserved eggs are also popular in many countries. For the Malays, hard boiled eggs are used as gifts in many events, especially in wedding reception and thanksgiving ceremonies. Telur pindang, which is popular in the state of Johor, is a hard boiled herbal egg that is served at weddings. It has been adopted from the Chinese culture. However, in the Chinese culture, century eggs and salted duck eggs have been passed down for many generations. The Chinese produced salted duck eggs that are savored by the Malays. This is a cross-cultural element that has been practised in this country. The century eggs are prepared by the Chinese and is served as an appetizer or cold dish and served as condiments for rice porridge. Easter Sunday is celebrated by the Christians every year in April. The Easter eggs are colored eggs made in various forms from chocolate, porcelain, and real eggs as well. These eggs will be given as gifts to children during the celebration. Egg is a protein that will fulfill your needs, can be made into varieties of dishes from simple fried eggs, preserved eggs to complicated dessert such as macaroons. In sum, eggs are part of our life, covering every aspect of lifestyles – from everyday use to special festivals.

Bird Clinic

Jalila Abu, Siti Sarismahanim Ismail, Aishah Abdullah, Abraham Gabriel Abdullah

The University Veterinary Teaching Hospital (UVH) located in Universiti Putra Malaysia Serdang has a bird clinic. This is the clinic of choice for the public, pet owners and veterinarians for sick birds and injured wild birds. A bird's anatomy is quite different from a cat or dog, so it requires specialized care administered by a qualified bird doctor (avian veterinarian). The care provided by the team include something as simple as grooming (wing clipping, toe nail trimming, beak trimming) and further treatment for simple cases to complicated orthopedic or soft tissue surgeries. Fracture cases are commonly seen. Bird bone heals in four to six week after treatment. Special handling and restraining techniques are needed for specific bird species. Restraining techniques that are important are the psittacine technique, one hand hold, leg grabbing and body grab techniques. Different bird species require different diet needs when hospitalized. Nutrition is important to help them survive during treatment or rehabilitation process. For wild birds, the rehabilitation process needs to continue such as training for hunting of preys as well as flight test to make sure they have perfect ability prior to their release into the wild. Treatment and care of the birds are an important specialization area to make them survive in the wild or return home to the owner. New bird owners are likely to enquire about basic steps needed to ensure the feathered friends receive top notch care. The bird doctor will always standby to advise and assist!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Colourful Moments

Sharon Yong Abdullah

The AngsanaCare, an organization where art therapy is used for terminally ill children to better understand the problems these children face during anger, resentment, pain, and trauma. Art therapy demonstrates how the child responds to their illnesses through expressing their thoughts, emotions, and feelings in their paintings so that they will become comfortable with facing their fears, their new feelings and emotions, and most importantly develop a positive attitude. These works here represent perception of birds in the form of a canvas with child patients from Hospital Kuala Lumpur creating happy colourful moments during AngsanaCare visits to the hospital.

Birds come in many forms, and many colours. In art, the birds are a representation of a contemporary artistic interpretation of birds and its colourful nature. For some artists, they like to see especially in animals, as if they were in an imaginative form with rich colours, more than its ordinary significance. Besides the paintings, these are paper mache birds expressed in the form of art. The style in these arts is not a measure of skill, but a passion from within. The audience is invited to enjoy this visual expression through emotions, spontaneity, and imperfectionism.

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chapter

5 Avian-Centric Design

Shureen Faris A. Shukor

Modern society has placed great faith in scientific research. Around the world thousands of scientists, inventors, and also designers are working to try to achieve a clear understanding of the conditions we live in and the universe that surrounds us. Nature has been a source of inspiration to many people. One of the best inspirations is the bird. Try browsing the internet under 'bird inspired design' and thousands of images will be scrolled out which display fashions, aircraft, furniture, shoes, jewelry, movies, fabrics, ballet dances, electronic games and many more.

When we talk about birds in relation to design, the word 'biomimicry' comes to mind. The term 'biomimicry' was coined in 1982 which has been explained as "new science that studies nature's models and then imitates or takes inspiration from these designs and processes to solve human problems". Nevertheless, birds have been studied for so many decades and had given us one of the greatest invention on earth in which has made travelling across the globe possible in such a short time. One of the early examples of biomimicry was the study of birds to enable human flight. Aircraft wing design and flight techniques were inspired by birds. Leonardo da Vinci (1452-1519) wrote in his manuscript expressing his thoughts on the creation of the flying machine in which he lovingly called 'The Great Bird': "I always felt it was my destiny to build a machine that would allow man to escape the bonds of Earth. I decided my machine would reproduce all the movements of a bird". In 1903, it was the Wright Brothers, who succeeded in flying the first heavier-than-air aircraft, derived inspiration from observations of pigeons in flight.

In the built environment, bird-inspired buildings termed as Aerodynamic Avian Architecture are being introduced all over the world such as the Milwaukee Art Museum designed by Santiago Calatrava where its louvers opening and closing like the wings of an oversized bird. Another well-known architecture inspired by the birds is the design of the Beijing National Stadium, also known as the 'Bird's Nest' for the 2008 Summer Olympics by Herzog and de Meuron.
Birds have inspired many composers and songwriters as well. From the pop music such as the hit 'I'm Like a Bird' by Nelly Furtado in 2001, Kenny G's beautiful music of 'Songbird' in 1987, Prince's 'When Doves Cry' (1984) to Bob Marley's 'Three Little Birds' in 1977, and the list are endless. As for the classical music, one of the best musical works depicting birdsong includes Vaughan Williams' 'The Lark Ascending' (1914), Respighi's 'The Birds' and Rautavaara's 'Cantus Arcticus' (1972).
Currently, one of the famous birds in the world would be the logo of 'twitter', an online social networking service that enables users to send and read short messages called "tweets". With nearly 500 million users worldwide, the logo which resembles a Mountain Bluebird is becoming one of the icons of the 21st century.

Most people enjoy birds for their beauty, their liveliness or their songs but birds are also very useful indicators of species richness and endemism patterns. Changes in bird populations can also provide a valuable indication of broad environmental change and several species can act as indicators of environmental health. Changes in living birds, both individuals and populations, are being reported as evidence of climate change. In relation to these occurrences, the first artefact "Nature Index" is seen as a significant step in using characteristics of the outdoor which could attract birds to indicate the existence of a natural setting. The eight characters can be seen as an indicator for an area rich with natural elements and thus this research has tremendous potential to be further developed especially in promoting property development to potential buyers.

The second artefact "Formation Feathers" highlights the design of artificial baits with material sourced from duck or chicken feathers. The forming of the bait is an art by itself and this can be considered as knowledge worth sharing especially among the young urban populations.
The artefact "Light of Images" is using the image of birds to portray the technology of holography in a three dimensional medium. The approach of using technology through the use of lights and sounds to display the work suggests an interactive tool for the public to respond and interact directly with the artefact.

There are endless possibilities of how birds influence our lives. With the alarming declining quality of the environment, we hope that the presence of birds will continue to give inspiration to many more innovative designs and enrich our lives in years to come.

Nature Index

Shureen Faris Abd. Shukor, Shamsul Khamis, Shamsul Abu Bakar, Nasir Baharuddin, Adam Salehuddin

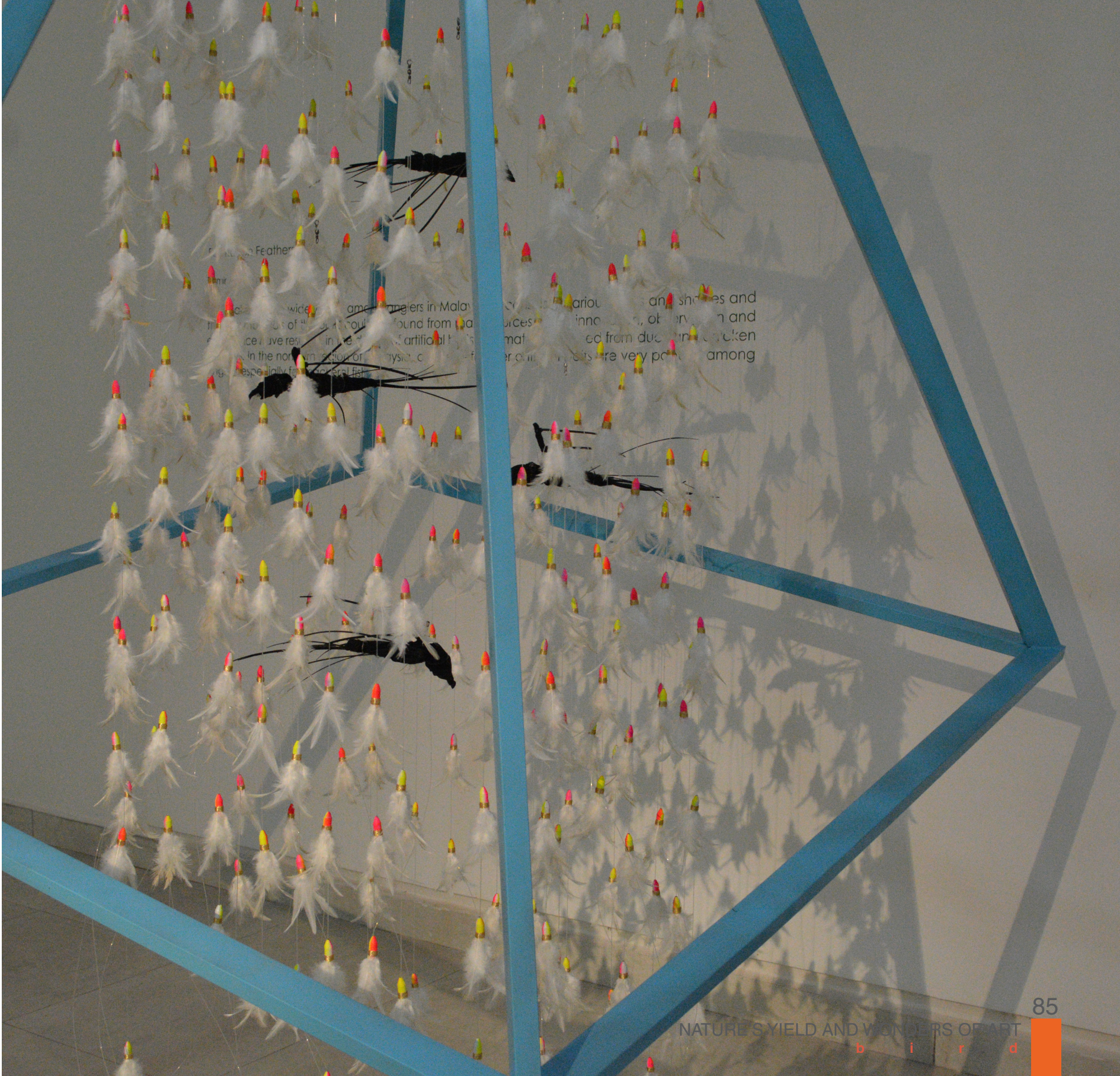
Among the benefits of having birds as part of the environment include increased wildlife populations, soil conservation, natural beauty enhancement, bird-watching activity promotion, natural insect control, contributing in the food production and most importantly, property value increase. The basic considerations when designing the outdoor environment to attract birds includes sufficient food, water, shelter, diversity in the plants, the arrangement of the spaces and, provide protection from predators. The basic design principles may be applied when creating good bird habitat: 1- having structural vegetation 2- species diversity to encourage habitat for birds 3-the use of long grasses in certain areas to attract the birds to come to open spaces like parks 4-creating natural succession such as in the plantings' height will attract different species of birds to live in the different sections of the succession 5- placing trees in a close spacing and thus create tree clumps in order to minimize the traveling time of the birds from a tree to another for resources 6-the space should be vast in nature 7- the open area should be planned with physical continuity such as walkways to provide spaces for birds to move 8- the inclusion of water such as ponds, streams or canals in the design will create habitat and food resources for the birds. These design principles serve as a 'Nature Index' which may give an indication of an area rich with natural characteristics and thus, increasing the property value to potential buyers.


Fakulti Kejuruteraan
Masjid UPM
Fakulti Reka Bentuk dan Senibina

Formation Feathers

Azmir Zamzuri

Artificial baits are widely used among anglers in Malaysia. It consists in various forms and shapes and the raw materials of the baits could be found from many sources. Nowadays, we can see various forms and shapes of baits available in the market. Basically, the forms and shapes of the baits depend on the fishing methods that been practised such as trawlers, immersion technique and many others. The bait used is also depending on the fishing areas such as the swamps, ponds, and sea. Local innovation, observations, and experiences have resulted in the design of artificial baits with materials sourced from duck and chicken feathers. In the northern region of Malaysia, chicken-feather artificial baits are very popular among anglers especially for mackerel fishing. The baits made of chicken or duck feathers are attached to a plastic or a tin, which is made to look like a small fish. When the bait is thrown into the water and later pulled out by the fishing reel, the baits produce a movement mimicking a small fish swimming in the water. This movement will attract the big fish to grab the baits. Besides being effective, the reasonably priced bait makes it a favorite bait among the anglers. This artificial bait has also indirectly provide some income to the poultry farmers residing in the surrounding areas through the sale of feathers.



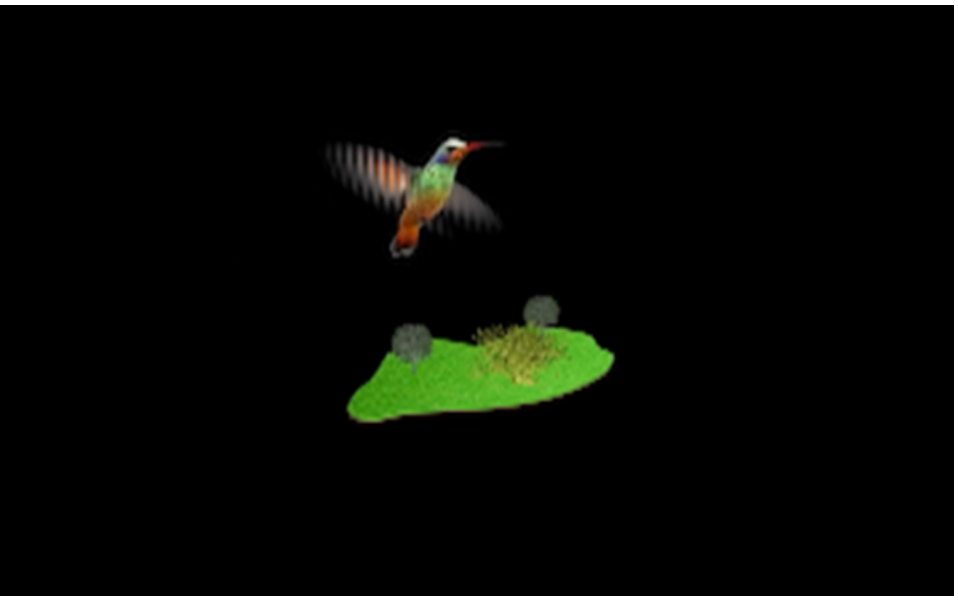
Light of Images

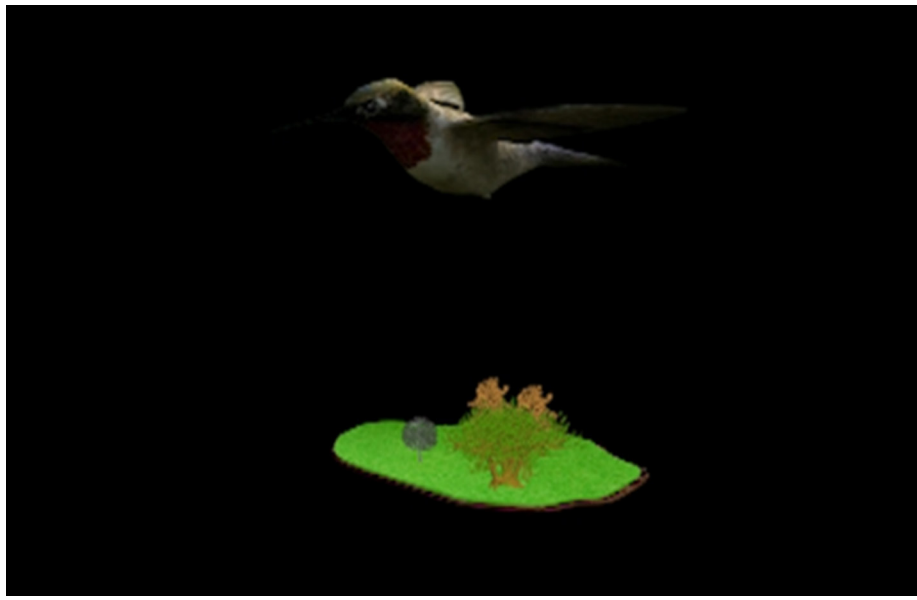
Nasir Baharuddin, Adam Salehuddin, Shureen Faris Abd Shukor, Shamsul Abu Bakar

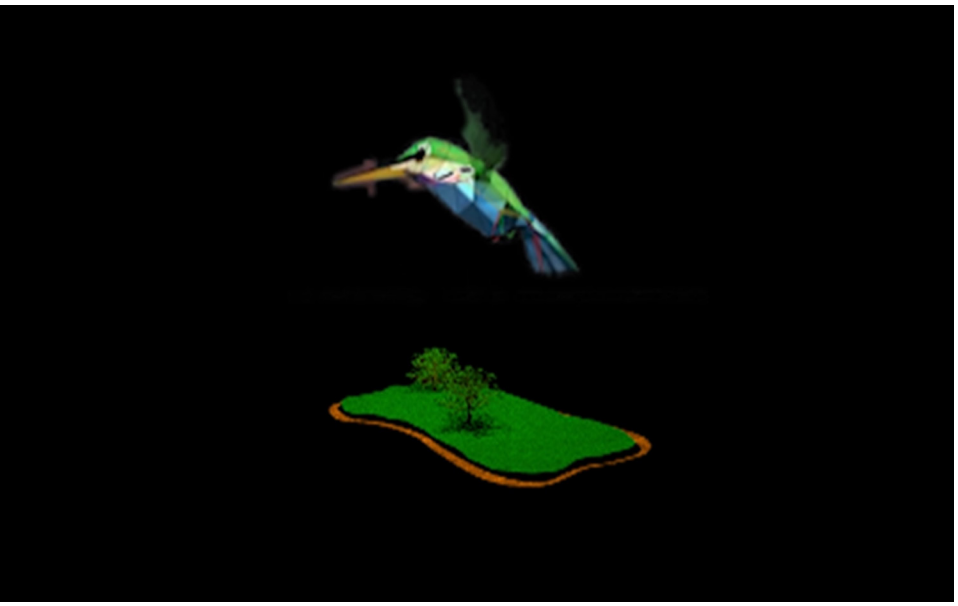
Currently, the technology of holography serves as a perfect three-dimensional medium where designers could apply innovatively to convey meanings during image-making process. The public are getting familiar and fascinated with the medium's particular properties and characteristics of an object; they directed their attention more insistently to the pictorial independence of light, whose precise control gave them completely new opportunities to image creation and engagement.

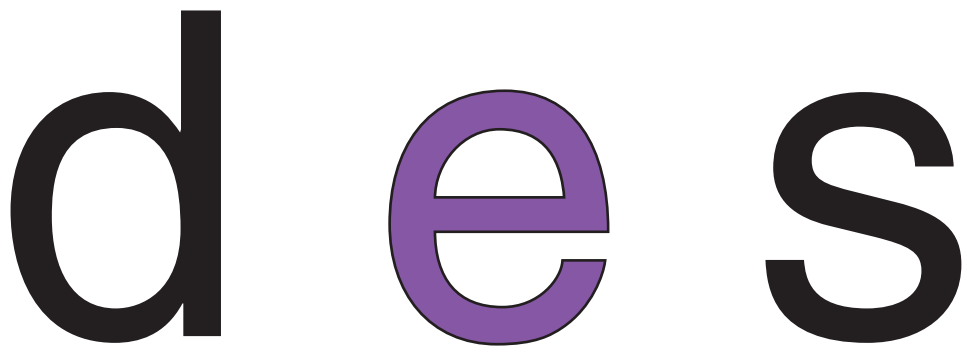
Inspired by the special structure of laser light from topographic landscape plan, the work developed a novel variation of holographic 'bird picture taking', enabling a dynamic expression of colour and object formations in presenting 'code of images'. It signified the indexes and the coding of potential value properties that can spark interesting creative opportunities in a particular environment and place. This approach defines another type of interpretative activity between spectacle and the performance in order to generate a new form of visuality. This hologram will react to enhance the major area and to highlight an ideal place which can be visually manifested and in mapping the potential properties by using synthetic pictorial realities in '3 dimensional (3D) light form'.

The images are constructed in a cubicle where it will repeatedly change and illuminate from one object to another. This project tries to explore and bring natural manifestation in the sphere of particular space, translating objects into a state of excitement, especially from another angle of perception. This process throw up the singular challenge of stimulating the pictorial process through the medium of light and sign.





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Fakulti Kejuruteraan


Fakulti Reka Bentuk dan Senibina

chapter

6 Innovative Visualization Practice

Mohd Nasir Baharuddin

For any innovative visualization to be persistently practised, normally it is based from three levels of understanding and representation. These levels can be represented from macro, sub-micro and symbolic interpretations. The kinds of model that can be expressed in 'external representations' – that physically can be shown and available to others and 'internal representations', where the focus is mainly on our own cognitive process or to an individual person mind. In this case, the practice came from the process of the visualization and innovative process of judgement. Visualization, perceives the world around us symbolically, being continuous and without structure, ontologically the presentation with purpose and intended to serve, however, because of our survival and the capacity of thinking extends, it develops a new meaning about visualization and mental actions that are able to explain the natural world and its systems through a new language of sign.

The first model of innovative visualization, being developed based from the macroscopic level. Giving an attention to a formal aspect of visualization in which some natural phenomena have been abstracted or detached from the whole systems for the purposes of the study or evaluation. The macroscopic level is therefore a representation of a portion of the worlds as experience that science is able to explore conveniently and factually. It gives a clear picture regarding a scientific process of complex mixtures of a natural whole that can be liberated from constraints of friction and revealed as reality.

The second model, the sub-microscopic level. These consist of representations of those who underlie the macro level, giving the tangibility and the properties of the presentation regarding pure solution, for example in science, cells are used to explain the structure of a leaf. In art, the medium describes the language of an object and the interpretation of a subject within the existing historical contexts and codes.

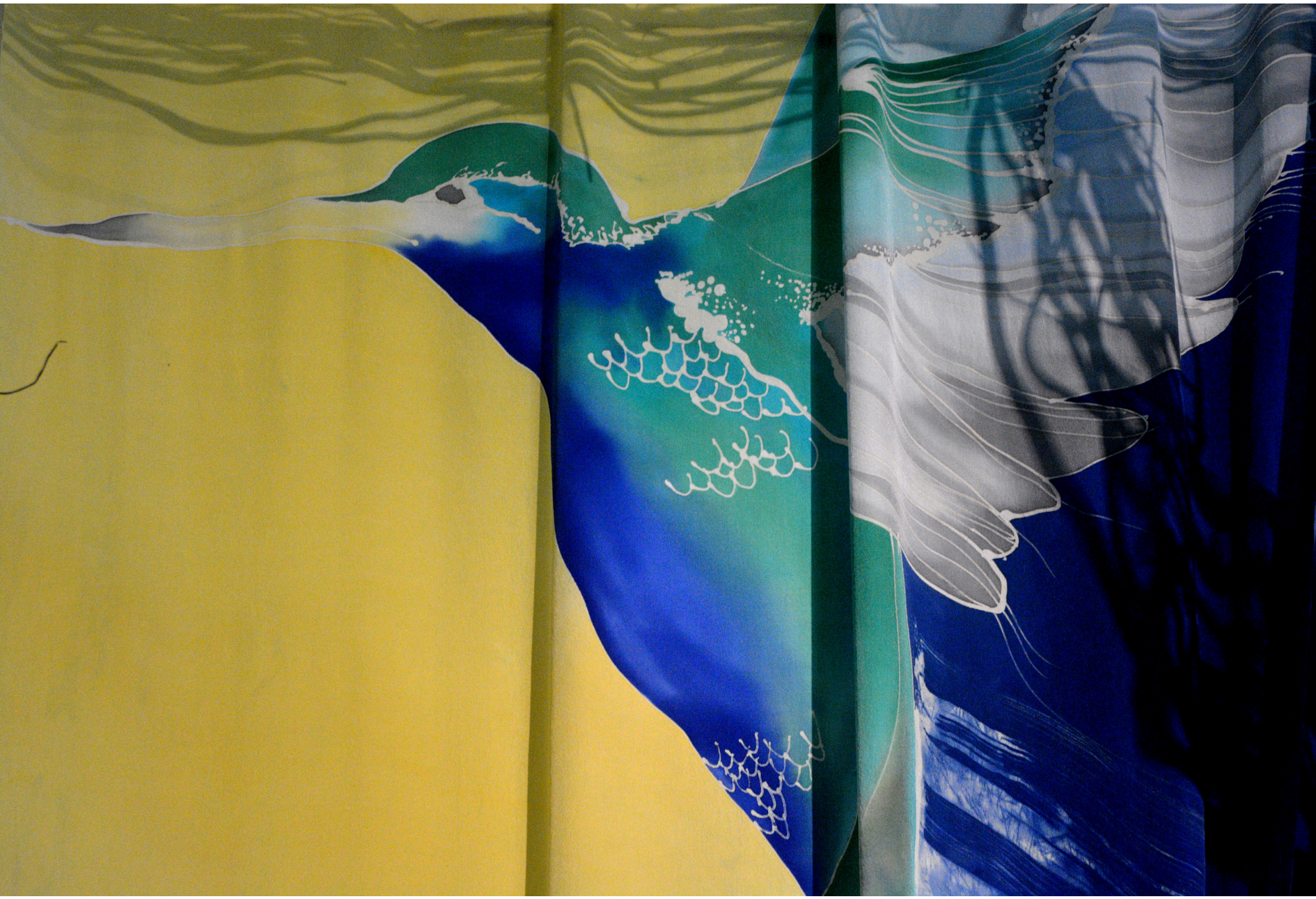
The third level, the symbolic level, it consists of any qualitative abstractions used to represent the sub-microscopic level which becomes mostly conceptual and can be presented to indicate through signs, codes, and types of natural phenomena at their positions and numbers. It is highly desirable and may be called 'meta-visual capability' or 'meta-visualization', for which a multi-disciplinary team is needed in order to improve the innovative visualization to take place.

From these three levels of execution, all types of activities involved an evaluative visualization and normally concerned and derived from the external representation and the systematic approach of public display of information in the form of images, simulation, installation, diagrams and texts. In addition, it is also concerned with the 'internal representation' – the mental image and the emotion, memories and experiences that are linked with reality of the process as facts of phenomena. The attainment of this visualization in a particular case can be shown by the production, expression, and the exploration of scientific research that can be retained and capable of mental use in the making of prediction about the behaviour of a phenomena under specific situation and condition. So, this method will enhance in producing an innovative product and involving the ability to acquire, monitor, integrate and extend the visualization based either on the purpose for which representation is created or on the dimensionality of the product for both art and science.

Genesis Colours of Kelicap

Nazlina Shaari

The texture, colours and the drape of textiles, provoke a highly personal engagement. Genesis being the epitome of color creation provides the harmonious colour combination in the art. It shows how it was formed and the color changes, evolved, and flowed through the fabric surfaces. The Genesis Colours of Kelicap represents an analysis of colour exploration and transformation of the Kelicap bird species. This small songbird aesthetically represents in dull, pastel, and vibrant colours in its feathers which is very unique. The art piece explores and is influenced by the contemporary art that expresses the feminine feelings of unity and freedom in lives. The feather expression in scribbling and brush stroke techniques focuses on the representational image of the colors and the shape of the Kelicap feathers rather than replicating its exact image. Taking a colour process, the art piece explores the concept of perception and interaction. Initial inspiration was formed by the metamorphosis of the natural lines of Kelicap textures that constantly changes colours in translucent harmony. Colour is key in the foundation of this artwork and the construction of imagery enables the interaction with the designs during the development process. Each element of resist techniques and the layering colour combination creates indepth perspective of the feathers. The result produced an integrated rhythmic form of line images and well blended colours which entwined with the knowledge and story of the birds.



Wood Reinvented

Rosfarizan Mohamad, Mohamad Ridzuan Yahya, Wan Zuhainis Saad

Lignocellulosic material which comprises lignin, hemicelluloses, and cellulose is a sustainable and renewable resource and it can come from forest and agricultural wastes and urban waste. 75 % of the lignocelluloses are made up of carbohydrates. Polysaccharides are the major cell wall constituents in the plant cell with the total amount up to 80 % of the total weight of the woody material. The simple sugar monomers in the polysaccharides can be converted into lactic acid through enzymatic hydrolysis and fermentation process. By utilizing the polysaccharides from the lignocellulosic biomass to produce biochemicals such as lactic acid, the solid waste from industry and agriculture sectors can be efficiently used and the dependency on the fossil fuel for the production of bio-chemicals can be reduced. By-products from the lignocellulosic materials such as Hibiscus cannabinus (kenaf), Elaeis guineensis (oil palm), and Bambuseae (Bamboos) could be used for various applications and to design bird-related materials. The kenaf bast fibre is long and can be used in pulp and paper or bio-composite industries and the core is usually produced for low range products such as animal bedding, animal feeding, and absorbent materials for oil cleaning. The bast and core of kenaf stem are separated by bio-retting process of biotechnological approach using microbes. The kenaf core, a wooden part with lower grade fibre by-product after the bast fibres are being separated from the stem for long fibre production is used to design the bird cage. Thus the materials used to design bird cage and other bird-related stuffs, are showing unique and exciting characteristics of applications.

Sarang Table

Khairul Aidil Azlin Abd Rahman

Sarang is a nest. It is a structure or place made or chosen by a bird for laying eggs and sheltering its young. It is a place where birds regularly settle or congregate to rest at night. Most nests are made of pliable material, including grasses and considerable amount of saliva in a woven construction of their nest. It is for insulation to reduce the heat loss during incubation. Some birds have been shown to choose aromatic green plant material for constructing nests that may have insecticidal properties. In most species the female bird is the designer. It does most or all of the nest construction, though the male often helps. Nest function is also to protect them from predators. The cup form nest suited the shape of the bird's body and to accommodate the young birds safely during nestling. Influenced by the spring of nature, this table is inspired by a bird's nest. The design highlights the incorporation of natural colour dissemination, natural resources composition, and design fusion organization, whereby the whole phase mixes in a group to build a beautiful functional furniture. The organic lines of the table construction are created by the beauty of non-structure interwoven leaves. This inspiring table uses mengkuang (screwpine or Pandanus) leaves and wood structure as the main material to represent a substance alternative visualization, steadiness, and inclusive simplicity to accommodate the modern lifestyle users. Ergo-aesthetics concept emphasis on design perfection through the selection and the application of the aesthetic value and the human factor requirement to meet the needs and the characteristics of users.

Balancing Act

Tengku Rinalfi Putra Tengku Azizan, Mohd Hezmee Mohd Noor, Hafandi Ahmad, Hasliza Abu Hassim, Ahmad Afifi Abd Ghani, Mohd Qayyum Ab. Latip, Amirul Faiz Mohd Azmi, Muhammad Syafiq Shahudin, Mohd Azri Azmi, Alif Aiman Zakaria

Birds are always associated with symbols of freedom. This sentiment originates from the fact that birds are anatomically designed to fly and are able to manipulate space in 3 dimensions; sidewards, front to back, and up and down. Artistic impression of birds usually depicts flying movements and aerodynamic forms. Bird-themed arts often assert elements of flight patterns and graceful postures of birds perching.

While most birds are anatomically adapted for flying, all birds are also adapted for perching. Its skeleton is lightweight and large keeled sternum anchors large breast muscles that empower the wings. Adjustments of knees that bend forwards and ankles that bend backwards provide balance to maintain the centre of gravity, which is important in a perching bird. A perching bird describes a stationary bird balanced in what is quite an extraordinary feat of anatomical adaptation.

For a stable balance on land, a bird's centre of gravity is positioned directly over and between its feet. The equal length of the two main leg bones, the tibiotarsus and tarsometatarsus, evident in long-legged birds ensures this balance. In water propelling birds such as ducks, this adaptation is foregone for a better suited "feet at the hind of the body" to assist in forceful propelling, hence the awkward gait when such birds walk on land. In arboreal birds, feet are adapted to grab tree branches. When a perching bird squats, the leg tendons, which are located on the rear side of the ankle flexes, results in the automatic grip lock of the branch where it perches.

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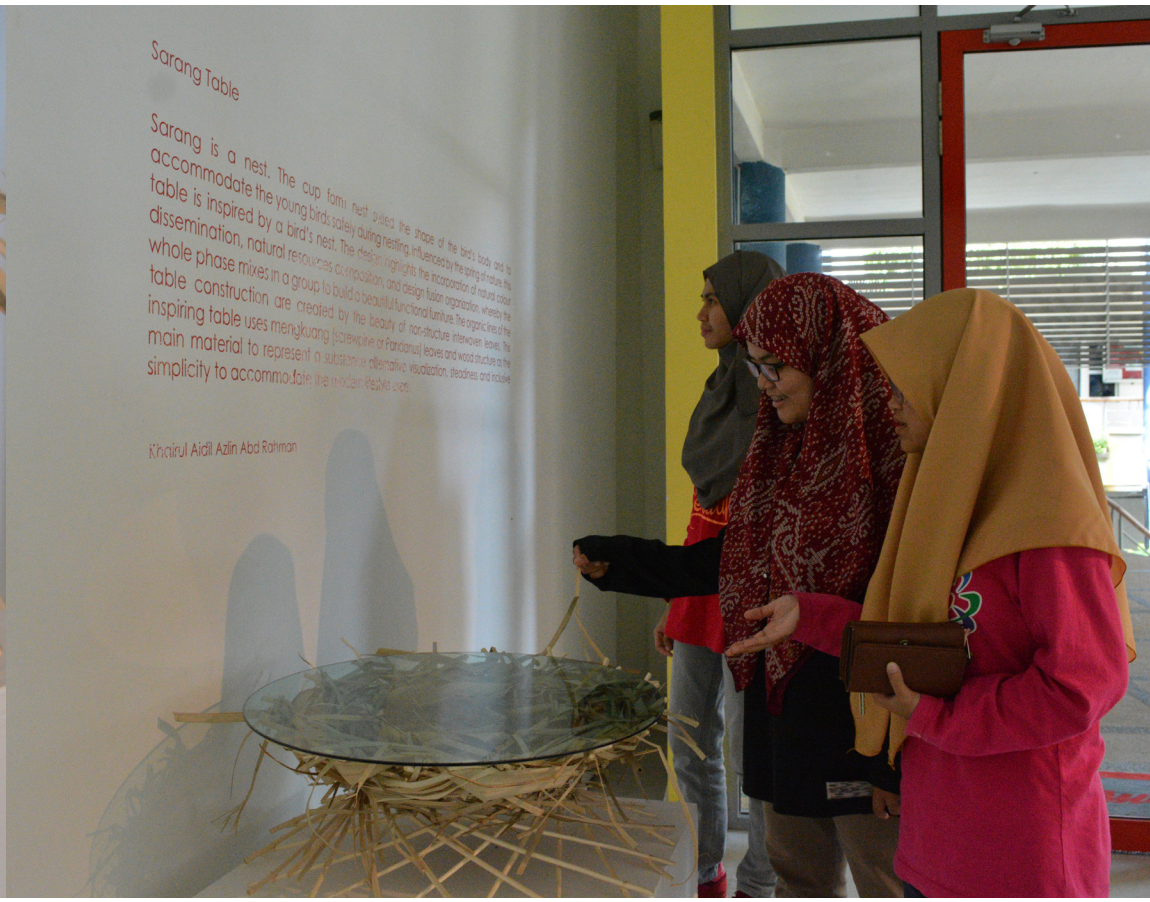
Lovebirds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inspiring table uses mengkuang [screwpine or Pandanus] leaves and wood structure as the
main material to represent a substitute or alternative visualization, steadiness and inclusive
simplicity to accommodate the modern lifestyle users.
Khairul Aidil Azlin Abd Rahman


Lovebirds
Mohd Firdaus Isme
The romance
counterparts
pheasant (
appearance


RENU

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2. Excellence In The Swiftlet Industry
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   Bidang Pengkhususan : Avian Medicine

3. The Curator And The Recycler
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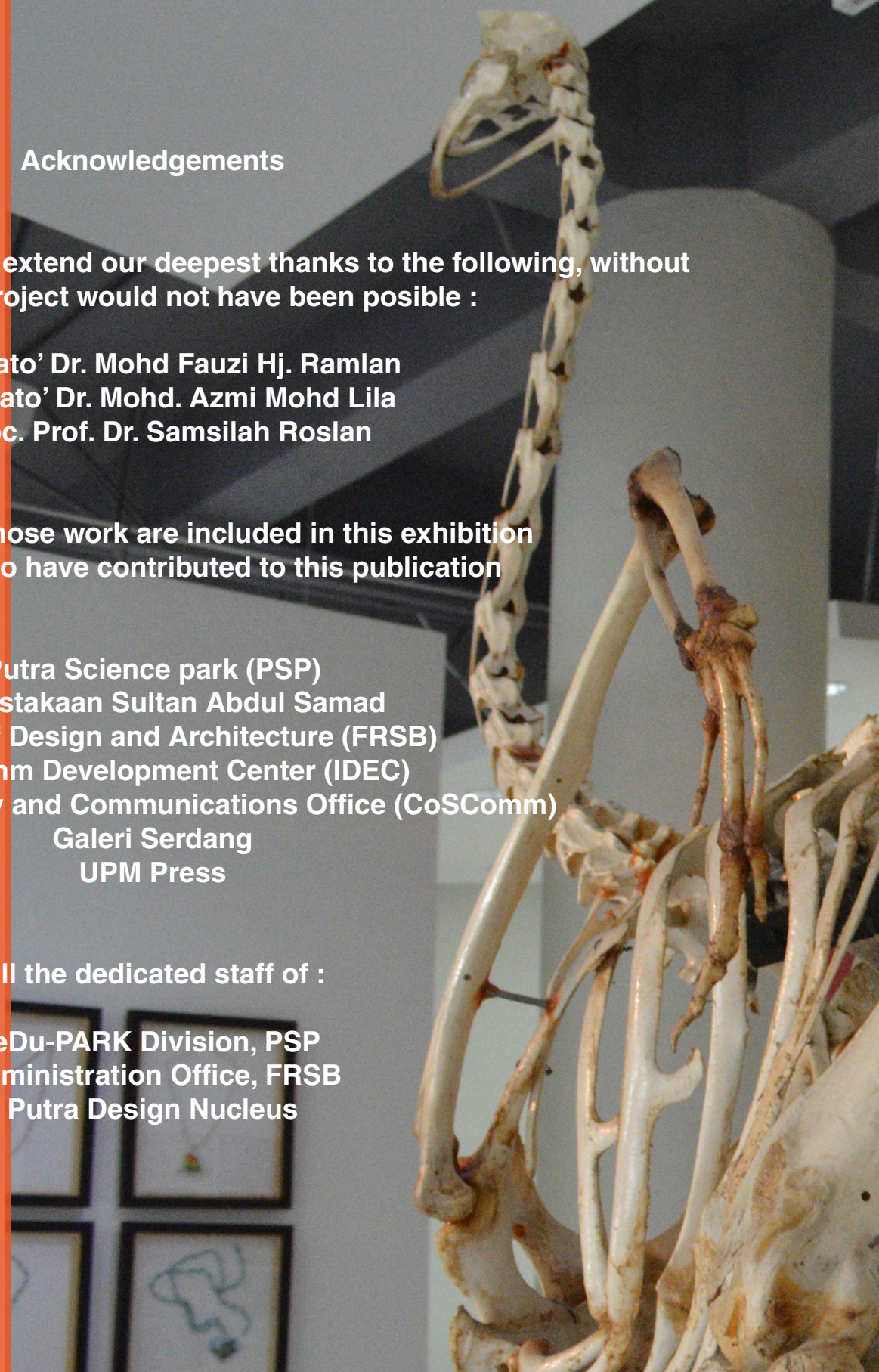

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