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# ENVIRONMENTALISM OF THE POOR IN AMITAV GHOSH'S *THE HUNGRY TIDE*

DR. VIJAY TIWARI\*

## *Declaration*

The Declaration of the author for publication of Research Paper in The Indian Journal of Research Anvikshiki ISSN 0973-9777 Bi-monthly International Journal of all Research: I, *Vijay Tiwari* the author of the research paper entitled ENVIRONMENTALISM OF THE POOR IN AMITAV GHOSH'S *THE HUNGRY TIDE* declare that , I take the responsibility of the content and material of my paper as I myself have written it and also have read the manuscript of my paper carefully. Also, I hereby give my consent to publish my paper in Anvikshiki journal , This research paper is my original work and no part of it or it's similar version is published or has been sent for publication anywhere else. I authorise the Editorial Board of the Journal to modify and edit the manuscript. I also give my consent to the Editor of Anvikshiki Journal to own the copyright of my research paper.

## *Abstract*

*In the West, the desire to protect endangered animal species and natural species sparked the environmental movement, but in India, the environmental movement arose out of the necessity of human survival and was dubbed "environmentalism of the poor," to achieve social justice while remaining sustainable. The rise of climate fiction as a literary genre emphasizes the effects of climate change and clearly describes the pain of the global South. Amitav Ghosh's novel The Hungry Tide (2004) portrays the terrible story of how the government's elitist environmental initiative to save the Bengal tiger places a tremendous burden on East Bengal refugees living on Morichjhapiisland in the Sunderbans. This paper aims to look at Amitav Ghosh's novel The Hungry Tide and see how the concept of environmentalism has been dealt with in this novel.*

**Keywords:** Globalisation, environmentalism, deterritorialization, development.

## *Introduction*

*The Hungry Tide* by Amitav Ghosh is set in the world's biggest mangrove environment, the Sunderbans, which is constantly altered by enormous hungry tides. The novel's subject matter ranges from the island's historical context to its current predicament. The tale depicts the dangers of the Sunderbans, including a tiger lurking in the bush and harmless-looking but deadly crocodiles in the water, a struggling fisherman, Piya, a cetologist, and Kanai, a translator. The novel's central theme is the violent oppression and slaughter of East Pakistani refugees who fled the Dandkaranya

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refugee camps for Morichjhapi, believing that the latter territory would give them more familiar surroundings and hence a better life. This is a truth that is all too often overlooked.

Two guests to the Sunderban village are the focus of the story. It's a tale of adventure and improbable love, as well as identity and history, set in one of the world's most fascinating areas. Amitav depicts globalization through Americanized Piya and her high-tech GPS device and local identity with Fokir and Kanai, a Delhi inhabitant. When Kanai reads selections from his uncle's writings, the reader is urged to picture Kanai reading them in Bengali, he is demonstrating a transcultural shift. Lusibari, Garjontola, Canning, Gosaba, Satjelia, Morichjhapi, and Emilybari are some of the localities featured in the story. Lusibari and Gorjontola are fictitious. Gosaba, Satjelia, Morichjhapi, and Emilybari are real localities where East Bengalese refugees and other dispossessed people live. (p.401) Lusibari becomes the main focus - a location in the development process. Lusibari is a small island with a population of a few thousand people. Some of the residents were descendants of the pioneers who arrived in the 1920s. Others followed, some following the subcontinent's partition in 1947 and others after the Bangladesh war of 1971. Many had arrived even more recently, after the forced depopulation of other adjacent islands. The main goal of their visit was to clear space for wildlife conservation projects.

Environmental historian Ramchandra Guha in his significant essay titled 'Radical American Environmentalism and Wilderness: A Third World Critique' (1989) distinguishes Northern and Southern environmentalists. According to Guha, Northern environmentalists' advocacy of wilderness preservation will be devastating if applied to third-world cultural contexts, because wilderness projects can jeopardize local people's livelihoods and survival. The land becomes uninhabitable and the local people are not allowed to use natural resources for their sustenance. Northern environmentalism is promoted by universalizing master narratives of nation and resource development.

### *Discussion and Analysis*

The earliest response to the start of industrialization, which profoundly transformed the natural world through new means of resource extraction, manufacturing, and transportation, was the birth of environmentalism as a popular movement in the 1960s. It is widely assumed that environmentalism is a concept exclusive to the wealthy nations of the North. While Northern greens have been particularly concerned about the rights of persecuted or endangered animal and plant species, Southern greens have been more concerned about the rights of their own species' less fortunate individuals. These movements in the South have contributed to a significant reassessment of the concept of development. This 'poor environmentalism' appears to be more deeply entrenched in material struggles, with claims of economic justice, i.e., poorer communities' rights to natural resources, being an intrinsic aspect of these movements.

*The Hungry Tide*, by Amitav Ghosh, is a work of climate-fiction literature that investigates the fragile ecological and societal balance of India's Sundarbans region, a mangrove-dominated tidal region shared by India and Bangladesh that has remained mostly unknown to the rest of the world for centuries. Dr. Ranjan Chakrabarti describes, "[the region] is half water and half land... a terrain where land making has not yet come to an end" ("Local People and the Global Tiger" 73). The Indian government named the resource-rich Sundarbans a Protected Forest in the late 1800s, not for the alleged conservation of native tigers and their habitat, but for "the purpose of increasing revenue and upgrading a growing stock of various kinds of timber" (82).

Thousands of residents were displaced as a result of the government's seizure of timber resources, and they were cut off from the resources that had maintained their villages for centuries. The international conservation movement pushed the Indian government to create "Project Tiger" in the 1970s, a programme that boosted the amount of land assigned to protected ecosystems while diminishing acreage available to villagers by adopting international conservation criteria. The massive population of Bangladeshi refugees residing in the Indian Sundarbans, for which neither government claims responsibility, adds to the ongoing land battle.

Rob Nixon's expertise in environmental justice and the humanities may have led him to investigate slow violence by rethinking its political, imaginative, and theoretical components. Nixon defines slow violence as "a violence that occurs gradually and out of sight; a delayed destruction often dispersed across time and space." (Nixon 2) Nixon shows why increasing the effects of delayed violence is difficult and is among the most "critical challenges of our time." (Nixon 3) "Slow Violence and the Environmentalism of the Poor" takes on the task of emphasizing the deteriorating consequences of slow violence by featuring the voices of writers/activists from all over the world who engage in a variety of discursive modes. Lived experiences within or close to corrosive transnational forces, antihuman conservation practices, and neocolonial tourism, to name a few topics, are a common thread among the writers Nixon engages. Writers such as Wangari Maathai, Arundhati Roy, June Jordan, and Jamaica Kincaid give "imaginative definition to the issues at stake." (Nixon 6) One of the "occluded, expansive webs of interconnectivity" that Nixon says must be revealed to be understood, is a site where resource exploitation, environmental uncertainty, and social instability are all continually whirling together.

A diary maintained by Nirmal, the uncle of one of the main characters, a New Delhi entrepreneur named Kanai, serves as the novel's principal framing device. Nirmal's journal gives firsthand accounts of the Sundarbans' environment and its ever-changing, ever-threatened state:

The islands are the trailing threads of India's fabric, the ragged fringe of her sari.... They number in the thousands, these islands. Some are immense and some no larger than sandbars; some have lasted through recorded history while others were washed into being just over a year or two ago.... The rivers' channels are spread across the land like a fine-mesh net, creating a terrain where the boundaries between land and water are always mutating, always unpredictable" (Ghosh 6).

The environment is presented in such a way that the reader not only gets a sense of the Sundarbans' picture but also its inherent instability. Nirmal's notebook depicts the Sundarbans' physical characteristics and gives them personality. The mangrove forests that blanket the Sundarbans islands are referred to by Nirmal, where the vegetation is "tough and leathery, the branches gnarled and the foliage often impassably dense.... At no moment can human beings have any doubt of the terrain's hostility...of its cunning and resourcefulness, of its determination to destroy or expel them" (Ghosh 7). Like the "tigers, snakes and crocodiles," that roam its topography, the land is a wild, predatory being (Ghosh 8).

Nirmal's journal not only captures the Sundarbans' ecological permeability, but it also depicts the people's vulnerability and fragile position between government and environment.

The journal relates the narrative of Kusum, a Bangladeshi Sundarbans refugee who was relocated to Dhanbad, a government settlement camp where refugees are utilized as cheap mining labour during the Indo-Pakistani war.

In an attempt to keep Kusum and her fellow refugees from leaving the camp for the tidal island of Morichjhapi, Indian police "swarmed on the trains...put blocks on the roads" in an attempt to retain them (Ghosh 137). Even though the refugees manage to flee to Morichjhapi, they are constantly

hounded and eventually besieged by the police, as Morichjhapi is a protected forest. Kusum raises the issue at the heart of sustainability, the necessity for humans to live in harmony with their environs, at one point, doubting the grasp of the worldwide audience. “our fault, our crime, was that we were just human beings, trying to live as human beings always have, from the water and the soil” (Ghosh 262).

The protagonist, a cetologist named Piya, alludes to scientific findings in a secondary frame that Ghosh uses several times throughout the novel. There’s a kind of smuggling going on here, as well, with the reader being fed actual information disguised as fiction. In one such occurrence, Piya is tracking the activities of the endangered Orcaella dolphin. “Piya remembered a study that had shown there were more species of fish in the Sundarbans than...the whole continent of Europe” due to the intermingling currents of fresh and salt-water currents (Ghosh 125).

Like Nirmal’s journal, Piya’s recollection of the study paints a picture of the Sundarbans as a place of immense ecological wealth and constant volatility and precarious equilibrium. Kanai’s conversation with Moyna, a local fisherman’s wife, swiftly contradicts Piya’s remark about the Sundarbans’ rich biodiversity. “It’s people like us,” says Moyna, “who’re going to suffer and it’s up to us to think ahead” (Ghosh 134).

By localizing the global disaster of a fishless ocean and attaching concrete human implications to characters with whom the reader feels some empathy, Ghosh creates a prism through which the reader may more sensitively comprehend the need to think and live sustainably.

Globalization and the impact of industrialization in developing countries have led to a process known as ‘deterritorialization,’ in which cultural ties and a feeling of place have weakened. The poor are disproportionately affected by deterritorialization because they are forced to follow the flow of capital and are deeply intertwined in globalization as a result of exploitation processes. Deterritorialization is a concern for ecocritics who appreciate strong ties to place and a return to the locals. Ecocritics such as Ursula Heise, on the other hand, believe that deterritorializing local knowledge can open up new avenues for ecological consciousness because increased global connections and the implication of political, economic, technological, and socio-cultural networks call for a sense of planet rather than a sense of place. (*Sense of Place and Sense of Planet* 55). This sense of the planet, or ‘ecocosmopolitanism,’ according to Heise, must be built on a knowledge of the socio-economic realities that distinguish first world post-material ideals from the poor’s survival economics, which is dependent on natural resources.

### *Conclusion*

*The Hungry Tide*, set in West Bengal’s Sundarbans mangrove islands, delves into refugee resettlement in the Morichjhapi and Sundarbans’ Forest reserves, as well as the archipelago’s ecosystem’s complicated man-animal dynamic. This novel by Amitav Ghosh examines the problems that exist between the Sundarban’s unique aquatic life and tiger population, as well as those groups dedicated to maintaining this ecosystem at the expense of its inhabitants.

*The Hungry Tide*’s greatest achievement, however, is its investigation of a far deeper and more unknown territory: the human life and its struggle for survival. *The Hungry Tide* considers not only environmental conservation and how it might be accomplished, but also how we might begin to understand the value of our fellow beings, not only as a readjustment between different kinds of human societies and values, rich, poor, developed, undeveloped, articulate, and silent. But also as a re-definition of what it is to be human, and how that definition has to represent broader categories of life across species, and even across the concept of the entire interwoven pattern of living forces that make up the cosmos.

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## NEEDS OF ICT IN HIGHER EDUCATION

DR. RAJESH PANDEY\*

### *Declaration*

The Declaration of the author for publication of Research Paper in The Indian Journal of Research Anvikshiki ISSN 0973-9777 Bi-monthly International Journal of all Research: I, *Rajesh Pandey* the author of the research paper entitled NEEDS OF ICT IN HIGHER EDUCATION declare that, I take the responsibility of the content and material of my paper as I myself have written it and also have read the manuscript of my paper carefully. Also, I hereby give my consent to publish my paper in Anvikshiki journal, This research paper is my original work and no part of it or its similar version is published or has been sent for publication anywhere else. I authorise the Editorial Board of the Journal to modify and edit the manuscript. I also give my consent to the Editor of Anvikshiki Journal to own the copyright of my research paper.

*Education is on one of the important instruments of improving the quality of people, society and nation and it also helps in meeting the challenges of the fast development of the world. The higher education institutions are facing with the new challenges of preparing a new generation by effectively using the new learning tools and their classrooms. Education is actively seeking for strategies to successfully implement information and technology (ICT) in the curriculum.*

### *Introduction*

The teaching learning activities are monotonous and boring in many educational institutions. Breaking monotony, infusing joy and introducing ICT in teaching learning in our college and universities is very much needed. The colleges and universities are very much needed. The developments in the field of ICT have a strong impact on the instructional setting for the students.

Information and Communication technology (ICT), if used properly, has the potential to radically alter the manner in which students learn and teachers teach. The use of ICT can make substantial change for education training mainly in two ways. Firstly, the rich representation of information changes learner's perception and understanding context. Secondly, the vast distribution and easy access to information can change relationship between educators and students.

In the 21st century, both the students and the teachers must have sufficient access to digital technologies and the internet in their classrooms at the higher level. Because the modern digital technologies have made knowledge more accessible, qualitative, meaningful. The UNESCO, World

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Education Report (1998) Teachers and Teaching in a Changing World, stated the following essential conditions to be met to effectively harness the power of new ICT to improve learning.

- i. Students and teachers must have sufficient access to digital technology and internet in their classrooms, schools, and colleges and teacher education institutions.
- ii. High quality, meaningful and culturally responsive digital content must be available for teachers.
- iii. Teachers must have the knowledge of the skills to use the new digital tools and resources to help all students achieve high academic standard.

*Approaches of ICT needed to be integrated in higher education*

The ICT has impact on global society and the implications for education. It needs to be effectively integrated in the formal classroom teaching and learning conditions. It needs to be effectively integrated in the formal classroom teaching and learning conditions. It is necessary to create in the teachers an awareness of the possibilities of information and communication technology which will lead to their willingness to learn it and resulting in the commitment and confidence to use it. There are various approaches of ICT which need to be integrated in higher education; the more appropriate approach is being mentioned as follows :

- i. The extensive knowledge that has been generated about how people learn and what this means for creating more effective and engaging student-centered learning environments.
- ii. The stage of teacher development and the levels of adoption of ICTs by teachers in their teaching at higher level.
- iii. The critical importance of context, culture, leadership and vision, life-long learning, and the change process of planning for the integration of technology into higher education.
- iv. The ICT competencies required of teachers related to content, teaching, pedagogy, technical issues, social issues, collaboration and networking.
- v. The importance of developing standards to guide implementation of ICTs in higher education.

ICT can also provide powerful support educational innovations. The use of technology intends to bring about a change in focus from teaching to learning and ultimately motivate the students towards self- learning. Both teachers and students will be able to use powerful software, multimedia tools and Internet to promote inquiry-based learning. Teachers are equipped to enter the classroom with the ability to integrate technology resources effectively into any unit they teach.

*ICT can help educators in the following way*

ICTs enable to enhance the initial preparation by giving good teaching or training materials, use stimulators, and feedback practices teaching and microteaching.

- With the help of ICT, educators can access colleagues, institutions, universities, centres of expertise, rich resources at cyber space.
- ICTs enable to interact with students over a physical distance.
- ICTs enable to access online libraries, journals and research to enable individual learning.
- Didactic Software/course and intelligent Tutoring Systems can dramatically reduce the cost of teacher training.
- ICTs enable to give feedback and testing objectively without biases.
- ICTs provide lifelong professional development by providing sources at a virtual situation, training on demand, orientation and refresher courses through video conferencing or online.
- ICTs enable to facilitate sharing of ideas, experiences as well as collaborating on projects, exchanged materials, thorough virtual communities.

Thus we see that with the emergence of ICTs, the world of teaching and learning has adopted it as one of its main innovations. The ways of knowing things and accruing information have changed tremendously with the use of ICTs. ICT makes it possible for the students to access knowledge and information through internet, TV, satellite, cable network and digital media.

### *Conclusion*

The need for focused and planned approaches towards integration of ICT in higher educational institutes is the need of hour. A better understanding of ICT and its potential is required for decision makers of higher educational institutions. For optimum usage of ICT in higher education of India, we suggest the following :

- Information managements system must be integrated vertically at all levels.
- Technology must be taken not just to classrooms but in the hands of students.
- There must be transformation to cater to global needs.
- Educationists, not the technologist, must lead this technology revolution regarding ICT.
- Teacher training is an imperative for smart classrooms.

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## ALTERNATIVE APPROACHES IN THE ART PRACTICES OF S.G. VASUDEV

M.S.AMARNATH\* AND PROF. CHOODAMANI NANDAGOPAL\*\*

### *Declaration*

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### *Abstract*

*Creating art works is the creative experience for an artist to express his emotions and feelings. While creating the artists undergo dilemmas and challenges to bring out better expression. Many artists in modern and contemporary times created good and interesting art works. Through the amalgamation of media, the artists today use a wide range of possibilities involving exploration and experimentation in the field of visual arts.*

*Artist S.G.Vasudev belongs to this genre and has gone through many stages in his life with diverse experimentation in using alternative mediums and methods in his work and he belongs to a generation which engaged in search of Indian identity within contemporary frame.*

*Vasudev explored alternative mediums along with conventional format. By collaborating with traditional craftsmen he explored the mediums like tapestry, wood inlay and copper reliefs. He evolved his own techniques and produced many interesting art works. In painting format, he used mixed media and impasto techniques in interesting way based on tradition and literature. Apart, he tried other alternative areas like designing sets for theatre, films and art direction, worked in terracotta, collage, book cover and murals in different mediums.*

*This paper explores the artistic process with alternative approaches in works of Vasudev based on medium, material, concepts and structure.*

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Figure: 5.4.5. *Artist working in Choramandal (Marishamachar 2013:104)*



#### *About the artist*

S. G. Vasudev is very well-known and prominent artist in Karnataka, 1941 he born in Mysore and Education done graduation in National College, Bangalore and the art education done in Diploma in fine arts, Govt. College of Arts & Crafts, Chennai in 1968 under K.C.S. Paniker. He has worked in many alternative ways to produce paintings, murals, sculptures, drawings, posters, objects, metal reliefs and tapestries in variety mediums and materials. He has exhibited his art in many National and International Galleries, and received many awards in his credit like National Award, Karnataka State Lalitkala Akademi Award, Tamilnadu State Lalitkala Akademi Award, Karnataka Rajyotsava Award and many more. He organized and participated in many artists' camps and art workshops.

He uses Kannada alphabets as elements in his canvases and drawings and while working on his canvases he listen different music, speech series done in drawings with sociopolitical consciousness. He uses more linseed oil in his works sometimes he uses towel or clothe to modify the images by erasing or to reconstruct. For him the creation of art is a journey and in search of reality and fantasy. In Madras School of art he experimented with terracotta, metal relief and batik. When he was depressed he introduced different imagery like animals and birds in his work with positive approach. He inspired by Dara Bendre poems and made many drawings on life and death. After meeting Bendre he painted Kalpavriksha brindavana series. He has painted and donated his works to many charity events and organizations.

In Choramandal when some artists moved towards tantric abstraction Vasudev chosen to work on folk and tribal styles. He works in Bangalore and Choramandal. In 1962 he taken reference as Mahabharatha scenes and painted his pictures latter he shifted to theatric and folklore visuals. As he says he works with spontaneity not with pre planning, while working for long time on the work in between he may experience some other activities like film, drama or reading a book can influence on the remaining part of the work. He uses socks and towel clothes and other side of the brush to develop the textures in his works. All my work is fantasy; even Indian art is standing on the fantasy (valued 2013: 133). In Choda Sandra in Bangalore, where his studio located, there he uses to roam around the village to observe the people's life and their activities for the inspiration. He also worked with Mysore inlay craftsmen and created some works. He involved in protest against Babri



Masjid demolition and formed a group” Coalition for Secularism”, in this group there was writers, theater personalities, actors, artists and others. 1970’s he made many murals in public places to reach art to the people. He also involved in materializing the art on buses, collaboration with govt. transport commissioner and bring and performing activities of NGMA in Bangalore. Continuously he is involving in art activities in the city by encouraging the young artists to create better art.

### *Tapestry*

In tapestry Vasudev translated his art works and recreated with an alternative material by the help of traditional raftsmen. These artworks takes new life and enhances its qualities.

Artist S.G. Vasudev discussing with the tapestry designer



S. G. Vasudev, Humanscape, Tapestry in Silk, 105 x135 cms (Courtesy: Artist)



Theatre of Life, 83x88 cms

### *Copper relief works*

Copper reliefs are one of the formats artist Vasudev has created in the 70’s as an alternative medium in his Journey of art practice by beating, hammering with textures on the hard metal sheet, sometimes rough surfaces, tactile textures with meticulous details. It spurts into life, morphing into hills,

vales, planets, stars, into outsized temples, elephants, and the ever-expansive ‘tree of life’(Pillai 2003:3). The themes overlap and dissolve into one another with consistency. In his works the idea of impermanence and change is common thread with folk motives.

This medium is completely different form the conventional medium and the artist completely transforms his method of working. Here the colours become lines and textures on single surface and tone almost monochromatic with poetic expression. It demands the process completely different with many stages of burning and heating with chemical applications.

Even the handling of space is different from the painting where he has to use alternatively different tools to create his images and compositions. Simplification is of forms and motives with relation to the theme demands mastery. The application of paint on surface and beating on the metal has lots of difference while crating. This inspiration he might have developed from the traditional local crafts.

S.G Vasudev started doing the metal reliefs in 1975. It happened to meet Kuppuswamy a traditional metal craftsmen. He invited him and started collaborating with him because he found great possibilities to explore his drawings. Latter Chadran was introduced by Kuppuswamy who has mastered the technique of this medium. The copper works corresponding to the phases reflected the dominant themes from paintings and drawings, but grew out of a framework of their own, based on the inherent expressive qualities of the medium.<sup>1</sup>

### *The Technique of Copper Reliefs*

Tools used for the Copper relief (Marishamachar 2013: 91)



The works emanate energy, often because of the designs and symbols, but perhaps also transmitted by the accumulation of energy within the textures, generated by the bold and gentle movements of hand and tool across the metal.<sup>2</sup> Copper relief consumes more time and energy and he uses heavy gauge metal to allow for more detailing. Each piece will take minimum ten days to complete. “I enjoy the collaborative experience of working with a team” (Pillai 2003:5).



S. G. Vasudev, Vriksha, 1990, 41X61 cm, relief in silver plated copper (Marishamachar 2013:297)



S. G. Vasudev, Naga, 1983, 31X31 cm, relief in copper (Marishamachar 2013: 296)



S. G. Vasudev, Mythuna, 1993, 58x121 cm, Relief in copper

Vriksha is a metaphor and has great significance in Indian culture, people worship as holy tree, and it has been interpreted in many ways in many scriptures. He is very much associated with this in relation with environmental concern. He keeps transforming the tree shapes in many types in the metal sheet. It is easy to believe that Vasudev's world of copper, with men and women, animals and trees, planets and myths traipsing across lacquered and polished copper landscapes, is for real. Perhaps this is what they called sorcery in ancient times (Pillai 2003:5).

Vasudev has tried many mediums in his career; he painted on ceramic utensils, designed posters for theatre, cinema and done many collage works to explore the visual language with an abstract style.





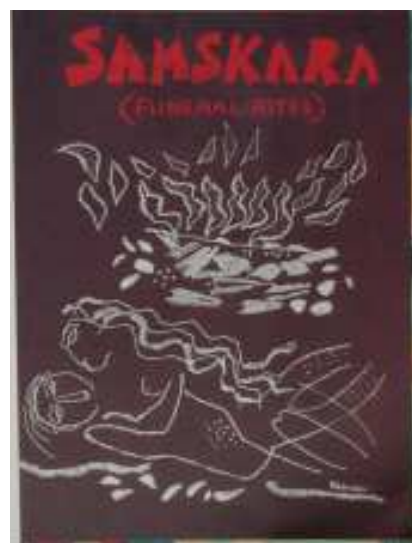
S.G. Vasudev's designs on accessories, 2008  
(Marishamachar 2013:101)



S. G. Vasudev, Vriksha, 1979, 29X29 cm,  
Collage, 1979, (Marishamachar 2013: 100)



mythuna, 1971, 33x50 cm, colour inks and wash



S. G. Vasudev, Samskara, poster (Marishamachar 2013: 19)

He has done many drawings in various mediums and created many murals for the public and private organizations with various mediums. In murals he has used metal, terracotta, cement and mixed mediums. The mural works and its imagery he has executed in diverse alternative ways.



GIN, 22X28 CM, INK ON PAPER



S. G. Vasudev, Tree of Life, mural in copper, H.M. World corporate office, Bangalore (Marishamachar 2013:97)

S. G. Vasudev, She and Tree, 2006, 100x100cm, oil on canvas (Marishamachar 2013:249)



She and people, 2007, 61x91 cm, oil on canvas



His canvases are minimalist and almost Spartan when it comes to imagery. He uses colours and textures to create a disturbing crest of energy and compels the viewer to follow his intense gaze (Pillai 2003:5).

Art is content and art work is a container. We can see how art flowed into container from the past with different intensions and agendas. As intensions change the work of get constructed. Similarly in S G Vasudev's works it has gone many stages, subjects, method and symbolism with thematic alternatives color is the property of light, pigment is the material when it handled on surface in different way the effect on the surface reflects vividly. When content is transformed through pigment and handling the image is born. This is where the artist has the possibility to project his identity through his creations. The interpretation and representation differs artist to artist in image making. The interface of ideas builds the strategy of execution. (James 2004:43)

Artist S.G.Vasudev' body of works reflects that he has explored in many mediums and materials with creative mind. He is always trying for something different and interesting which contains an alternative identity. With the literature, theater influences shaped his thoughts and visual language as he says in his interview. The adaptation of traditional skill and presenting his expressions in contemporary approach he could able look for alternative with different mediums. With the amalgamation art and craft along with literature he could able to find the Indian essence in his creations.

#### FOOTNOTES

<sup>1</sup><http://www.vasudevart.com/banglore.html> 7/6/2014

<sup>2</sup><http://www.vasudevart.com/banglore.html> 7/6/2014



## IMPORTANCE OF FUNDAMENTAL PRINCIPLES OF BHAIJAJYA KALPANA : A BRIEF CONSIDERATION

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### *Declaration*

The Declaration of the authors for publication of Research Paper in The Indian Journal of Research Anvikshiki ISSN 0973-9777 Bi-monthly International Journal of all Research: We, *Ajit Kumar and Arshita Priyadarshni* the authors of the research paper entitled IMPORTANCE OF FUNDAMENTAL PRINCIPLES OF BHAIJAJYA KALPANA : A BRIEF CONSIDERATION declare that , We take the responsibility of the content and material of our paper as We ourself have written it and also have read the manuscript of our paper carefully. Also, We hereby give our consent to publish our paper in Anvikshiki journal , This research paper is our original work and no part of it or it's similar version is published or has been sent for publication anywhere else. We authorise the Editorial Board of the Journal to modify and edit the manuscript. We also give our consent to the Editor of Anvikshiki Journal to own the copyright of our research paper.

### *Abstract*

*Fundamental principles are the base of every science. They guide us to proceed and advance in the procedures in a standard way. In Ayurveda, Bhaisajya i.e. medicines play a vital role in the treatment of diseases as it is one of the four pillars of treatment(Chikitsa)- Bhisak(Physician), Dravya i.e. Bhaisajya(Medicine), Upasthata (Nursing Staff) and Rogi(Patient). Without Bhaisajya one cannot imagine the success in treatment of disease. The science which provide us the knowledge to prepare the different formulations of medicines is called Bhaisajya Kalpana in Ayurveda. The knowledge of fundamental principles of Bhaisajya Kalpana like Paribhasa, Dravya sangraha and samrakshan, Ras-Panchak, Mana, Panchavidha Kashaya Kalpana etc. are important to transform raw drugs into medicinal forms(Kalpana) by different pharmaceutical processes, to improve the quality and shelf-life of an Ayurvedic formulation which in present era can help in increasing prosperity of Ayurvedic Physicians and Global acceptance of Ayurveda.*

*Key words;* Paribhasa, Anukta, Rasa Panchak, Guna, Bhavana etc.

### *Introduction*

Fundamental principles are the base of every science. They guide us to proceed and advance in the procedures in a standard way. In Ayurveda, Bhaisajya i.e. medicine plays a vital role in the treatment of diseases as it is one of the four pillars of chikitsa(treatment)-I) *Bhisak(Physician)* II) *Dravya i.e. Bhaisajya(Medicine)* III) *Upasthata(Nursing staff)* IV) *Rogi(Patient)*<sup>1</sup>. Without Bhaisajya one cannot

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imagine the success in treatment of diseases. The science which provide us the knowledge to prepare the different formulations of medicine is called Bhaisajya Kalpana in Ayurveda. Fundamental principles of Bhaisajya Kalpana helps in the standardization of different formulations. To cure a disease radically and efficiently medicine should be of standard quality. A number of fundamental principles are involved in Bhaisajya Kalpana like Paribhasa, collection of raw drugs, storage of raw drugs, Rasa-Panchaka, Maan, Panchvidh Kashaya kalpana, storage of formed drug, shelf life, anupana, route and time of drug administration, Bhavana, Namakarana(Naming of a drug)<sup>2</sup>.

### *Aims and Objectives*

I) To understand the fundamental principles of Bhaisajya kalpana., II) To know the importance of fundamental principles of Bhaisajya Kalpana.

### *Materials and Methods*

Various Ayurvedic samhitas, online journals, articles and textbooks are studied and searched to complete this article.

### *Observation*

Classical textbooks of Ayurveda gives following ideas as fundamental principles of Bhaisajya Kalpana(Ayurvedic pharmaceuticals)

1. *Paribhasa*; The Paribhasa is a statement that gives a clear and distinct meaning of a word or an expression. It clarifies the cancelled, omitted, unclear and mystifying meaning of a word or a verse in the classics<sup>3</sup>.

A) *Avyakta(Hidden)*: Some terms in texts need to be decoded like triphala which indicates three fruits without telling the names. It is combination of three fruits like Haritaki, Vibhitaki and Amalaki<sup>4</sup>. Similarly some of many terms are to be understood.

B) *Anukta(Unspoken)* :If no specific time is mentioned for a drug to be taken or collected, it should be considered as morning as illustrated in Sharangadhara samhita<sup>5</sup>.

C) *Leshokta(Less explained)* : Swarnadi in Rasa Shastra is in concise form which indicates the metals of the varga i.e. Swarna, Rajata, Tamra, Lauh, Naag, Vanga etc.

D) *Sandigdha(Vague)* :Double repetition of an ingredient without giving its quantity in a formulation indicates the double quantity of the ingredient according to Sharangadhara samhita<sup>6</sup>.

Thus Paribhasa helps in implication of clearcut meaning of term in Ayurvedic pharmaceuticals.

2. *Collection and storage of Raw materials*; Methods of collection and storage of raw materials strongly decides the efficacy of a drug. Points to be mentioned in this topic are<sup>7</sup>:

A) *Time for the collection of raw drugs(Dravya samgraha kaala)* :This can be further classified into General Rule for the time to collect raw drugs and Specific time for the collection of specific part of a plant.

i) *General Rule*- Herbs used in the formulations of all type should be collected in Sharat Ritu(October and November) but the drugs of Vamana and Virechana should be collected for best in Basant ritu<sup>8</sup>(February and March). Collection in a particular season will possess the optimum potency level and Prabhava. Acharya Sharangadhara also says that the Usna virya drug should be collected from Vindhya hills which is known for its hot climate almost whole year and Sheeta virya dravya should be collected from Himalaya mountain range<sup>9</sup>.

ii) *Specific time for the collection of specific part of a plant*- Most of our classic texts have said about the collection of specific part of a plant according to specific season<sup>9</sup>. This shows the precise knowledge of our Acharyas about the high potency of a plant part in a particular season<sup>10</sup> which is shown in table below

TABLE No. 1

Part of plant	Example	Season of collection
Mula(Roots)	Laghu and Brihat Panchamula	Shishir and Grishma
Patra(Leaves)	Talisa, Kumari, Tejpatra, Nagvalli etc.	Varsha and Basant
Kunda(Rhizome), Twak(Bark), Kshira(Milk exudates)	Varahikunda, Manakunda, Snuhi kshira, Dalehini Twak etc.	Sharada
Pushpa( Flowers) and Phala(Fruits)	Dhataki pushpa, Madhuka pushpa, Triphala, Madanaphala etc.	In their respective season
Sara(Essence)	Madhuka sara	Hemanta

iii) *Time of the day for drug collection*<sup>11</sup>: Many classical texts describe the collection of Aushadha dravya in early morning(Pratah kaala) before sunrise as it may be considered that the potency of drugs remain high in morning.

iv) *Collection of Pranija Dravya*<sup>12</sup>(Animal Products)-Acharya Susruta said that Pranija dravya(Drugs of Animal origin) like Rakta(blood), roma(body hair), nakha(nails), kshira(milk), mutra(urine), purish(faeces) are to be collected from young animals. That also after the food taken by animal is digested i.e. at jirnahara kaala. The reason for taking pranija dravya after jirnahara kaala is due to samya awastha of dhatu at that time.

B) *Place of raw drug collection*<sup>13</sup>(Dravya sangraha sthan)

i) *General Rule* : According to Acharya Sharangadhara Usna virya drug should be collected from Vindhya hills and Sheeta virya dravya should be collected from Himalaya mountain range.

ii) *Panchamahabhuta predominant Bhumi and drug collection*<sup>14</sup>: Acharya Susruta has mentioned about collection of drugs of specific pharmacologic actions according to dominance of mahabhuta in the soil represented in table below

TABLE No. 2

Sl.No.	Drugs of specific pharmacologic action	Soil of Panchamahabhuta dominance
1.	Virechana(purgation) dravya	Pritvi+Jala
2.	Vamana(Emesis) dravya	Agni+Akash+Vayu
3.	Ubhayaaja(Virechana & Vamana both)	All mahabhoota
4.	Shamana(Alleviating) dravya	Akash

iii) *Places from where collection of drugs are prohibited*<sup>15</sup>: Herbs near valmika(Ant hill soil), kutsita(Loathful place), aanupa(Marshy land), asman(Burial grounds), usara pradesha(Saline soil), marga(Walking lanes), jantupidita, agnidagdha and himvyapata(Soil spoilt by insects, fire and snow) are unfit for therapeutic use.

C) *The stage of raw drug collection*

i) *General rule*<sup>16</sup> : Acharya Sharangadhara<sup>17</sup> has mentioned that all drugs should be collected in fresh form except vidanga(Embelia ribes), pippali(Piper longum), guda(Jaggery), dhanyavishes(Cereals, pulses and legumes) and madhu(Honey). Acharya Susruta<sup>18</sup> has mentioned about the intrinsic properties of drug(Rasa Panchaka) to be intact whether the drug collected is nava(new) or purana(older).

ii) *Wet drugs duplication rules(Dwiguna Maana ganana)*<sup>19</sup> : In any polyherbal drug formulation if wet and dry drugs are used together then dry drugs should be dried soon after collecting them and wet drugs should be freshly collected and taken in double quantity of dried ones. There are exceptions to this rule and few drugs like guduchi, kutaja, vasa, kusmanda, satavari, ashwagandha, sahachari, satpushpa and prasarini<sup>20</sup> are taken in equal quantity even in wet form.

iii) *Dravaardra-Suska dravya maana* : Consideration of liquid, wet and dry drugs in a compound formulation is done by a special rule according to Acharya Sharangadhara<sup>21</sup> is given in following table

TABLE No. 3

Maana	Liquid(Drava)	Wet(Ardra)	Dry(Shuska)
1 Gunja to 1 Kudava	Same quantity	Same quantity	Same quantity
1 Kudava to 1 Tula	Double quantity	Double quantity	Double quantity
From 1 Tula & above	Same quantity	Same quantity	Same quantity

iv) *Storage and Preservation of raw drugs* : The drugs collected should be stored with prime care and intelligence to protect the active principles and inherent properties of raw drugs until the drug goes for preparation. Ayurveda

has specially focused on proper storage of drug materials and the store house. Acharya Susruta<sup>22</sup> and Acharya Charaka<sup>23</sup> both have emphasized on storage of raw drugs. Separate container should be kept above floor by hanging or fixing on walls with nails. The opening of store house should be on east or north direction for proper ventilation and light. The raw drugs should be kept such a way that it should remain unaffected by bad atmospheric conditions, water, fire, temperature, dust, smoke etc. The raw drug should also be saved from insects, rodents and other animals. Fumigations are also said to be done regularly in the raw drugs storage house.

3. *Rasa-Panchaka* (*Dravyaasrit Rasa, Guna, Virya, Vipaka, Prabhava*); This is specific for each and every drug and is responsible for pharmacological actions of drug in Ayurveda.

i) *Rasa*: Rasa is located in dravya and it is sensed by taste buds of our gustatory sense organ. It is permutation and combination of bhuta in dravya<sup>25</sup> which manifests Rasa. The relation between six Rasa i.e. Madhura(sweet), Amla(sour), Lavana(salty), Katu(pungent), Tikta(bitter) and Kashaya(astringent) and mahabhutas and their effect on Tridoshas is shown in following table:

T A B L E No. 4

Sl.No.	Rasa	Predominant Mahabhuta	Action on Tridosha
1.	Madhura	Jala+Prithvi	Alleviates Vata & Pitta, Aggravates Kapha
2.	Amla	Prithvi+Agni	Alleviates Vata, Aggravates Pitta & Kapha
3.	Lavana	Jala+Agni	Alleviates Vata, Aggravates Pitta & Kapha
4.	Katu	Vayu+Agni	Aggravates Vata & Pitta, Alleviates Kapha
5.	Tikta	Vayu+Akash	Aggravates Vata, Alleviates Pitta & Kapha
6.	Kashaya	Vayu+Prithvi	Aggravates Vata, Alleviates Pitta & Kapha

ii) *Guna* (*Attributes or qualities*) : Guna is causative agent and is present in dravya inherently and it lacks property and action. It means that Guna itself has no action but it is responsible for action of dravya. There are 41 Gunas in all which can be divided into four categories:

Gurvadi Gunas(Physico-pharmacological)	– 20
Paradi Gunas(Pharmacological)	- 10
Vishista Guna(Specific)	- 05
Adhyatmik(Psychological)	- 06
Total Gunas	- 41

There are 20 Gurvadi Gunas and is present in 10 pairs. In each pair the two Gunas having opposite characters balance each other. The 20 Gurvadi Gunas are presented in table below:

T A B L E No. 5

1. Guru(Heavy)	2. Laghu(Light)
3. Manda(Dull)	4. Tikshna(Sharp)
5. Sita(Cold)	6. Usna(Hot)
7. Snigdha(Unctuous)	8. Ruksha(Rough)
9. Slakshna(Smooth)	10. Khara(Course)
11. Sandra(Solid)	12. Drava(Liquid)
13. Mridu(Soft)	14. Kathina(Hard)
15. Sthira(Stable)	16. Sasra(Unstable)
17. Sukshma(Minute)	18. Sthula(Gross)
19. Vishada(Non slimy)	20. Pischila(Slimy)

iii) *Virya* : Shakti( Power or potency) of a drug is called Virya. Acharya Charaka mentioned Virya is that by which drugs act as instrument. Acharya Susruta mentioned Virya as chief as the action of drug depends upon it. The drug is the active agent, Virya is instrument and pacification of doshas etc. are actions. Acharya Charaka<sup>28</sup> mentioned two virya mainly

*Sita*- Pacifies Pitta, aggravates Kapha and Vatta

*Usna*- Pacifies Kapha and Vatta, Aggravates Pitta.

iv) *Vipaka* : Vipaka is the final transformed state of ingested substance after digestion. Its another name is Nisthapaka.

It is the state at the time of vibhakti (division) of Rasa and Mala at the end of digestion. Effects of Vipaka according to Acharya Charaka<sup>29</sup> is given in table below:

T A B L E No. 6

Sl. No.	Vipaka	Guna	Action on Doshas
1.	Madhura	Snigdha, Guru	Aggravates Kapha
2.	Amla	Snigdha, Laghu	Aggravates Pitta
3.	Katu	Ruksha, Laghu	Aggravates Vatta

Effects of Vipaka according to Acharya Susruta<sup>30</sup> is given in table below:

T A B L E No. 7

Sl. No.	Vipaka	Action on Doshas
1.	Guru	Alleviates Vata & Pitta, Aggravates Kapha
2.	Laghu	Aggravates Vata & Pitta, Alleviates Kapha

v) *Prabhava* : This is the specific action of a drug which act differently owing to the specific chemical (Bhautik) composition of drug. This action cannot be explained by general rule on the basis of Rasa, Virya and Vipaka<sup>31</sup>. For example Danti and Chitraka are similar in Rasa (Katu), Vipaka (Katu), Virya (Usna) but Danti is Virechaka (Purgative) and Chitraka is not.

4. *Theory of Drug Action*<sup>32</sup>; According to Ayurveda the mode of action of the drugs is based on the theory of Pancha Mahabhuta. The body and drugs are composed of Pancha Mahabhuta. Drugs when taken, through Pancha Mahabhuta by changing its quantity and quality produce actions by further influencing the respective Doshas, Dhātu and Mala accordingly. In living organisms Pancha Mahabhuta are represented by Tridoshas, so the action of drug is described in Doshas instead of Mahabhuta. For example Madhura rasa which is dominated by Prithvi and Jala Mahabhuta when administered cause increase in Kapha dosha, Rasa, Mamsa, Meda, Majja and Shukra Dhatus and Purish and Mutra Mala which has predominance of Prithvi and Jala Mahabhuta.

5. *Maana (Measurement)*; *Maana* is defined as the system of measurement based on the measures of weight, length and capacity. Types of Maana according to Acharya Sharangadhara<sup>33</sup> are:

i) Magadh Maana

ii) Kalinga Maana

Maana can be subdivided into:

i) Pautava Maana (Measurement of weight or mass)

ii) Drauvaya Maana (Measurement of capacity)

iii) Paayya Maana (Measurement of length)

Regarding importance of Maana Acharya Sharangadhara has said that the accurate outcome of any treatment cannot be expected if the dosage (Maana) of drug from its preparation to its drug dosage is not standard.

6. *Panchavidha Kashaya Kalpana (Basic five dosage form)*; This is the most important fundamental principle of drug formulation. The word Kashaya here can be taken as drug in its raw form. Kalpana is transformed medicine forms. Any drug to be used as medicine cannot be taken in raw form, it has to be converted into that form which would be therapeutically fit, harmonized and palatable. The Panchavidha Kashaya Kalpana are<sup>34</sup>

i) *Swarasa (Juice)* : Swarasa is prepared from fresh herbs. After cleaning the fresh herb, crush it into a paste and then squeeze through a cloth and the expressed juice is collected in a clear container, this is Swarasa. Swarasa is further used for the preparation of advanced dosage form such as Asava (Fermented formulation).

ii) *Kalka (Paste)* : The soft mass (Paste) of the drug is prepared by pounding it in Khalva yantra is called as Kalka. It can be prepared from both wet and dry drugs. In case of dry drugs desired quantity of water is added to the fine



powder of the drugs and is triturated to homogenous Kalka form. The drug is washed, wiped and taken into a clean Khalva yantra. It is grounded well into soft paste with no fibrous part felt in it. Vati, modak etc. are advanced forms of Kalka.

iii) *Kwatha(Decoction)* : The term Kwatha is basically derived from the root word 'Kwathan' which literally means the process of boiling. Here Kwatha is the liquid preparation obtained by boiling 1 part of dravya in coarse powder form alongwith 16 parts of water which is reduced to 1/8<sup>th</sup> part and filtered. The filtrate is taken as Kwatha. Sneha kalpana, Sandhana kalpana, Rasakriya etc. are advanced medicine dosage forms of Kwatha.

iv) *Hima(Cold infusion)* : Hima kalpana is a simple preparation where the drugs in coarse powder form are kept soaked in water for a stipulated time period to facilitate the transfer of water soluble active principles from drugs to the liquid media. 1 part of drug in coarse powder form is kept soaked overnight in 6 parts of clean water. Next day the mixture is macerated well and filtered through a clean white cloth. The filtrate is called as Hima.

v) *Phanta(Hot infusion)* : It is the hot infusion of the herbs. Water has to be boiled first and then particular measure of drug in coarse powder form is immersed in it and the vessel is removed from fire. When it cools down to room temperature, then it should be rubbed with hands and filtered by a clean cloth and administered. Mantha, Panaka and Peya are advanced formulations of Phanta kalpana. Relation between Panchavidha kashaya kalpana, Panch Mahabhuta and action on doshas are given in table below:

T A B L E No. 8

Sl. No.	Kashaya kalpana	PanchaMahabhuta Predominance	Action on Doshas
1.	Swarasa	Jala	Alleviates Vatta
2.	Kalka	Prithvi	Alleviates Vatta, Aggravates Kapha
3.	Kwatha	Agni	Aggravates Pitta, Alleviates Kapha & Vatta
4.	Hima	Vayu+Akasha	Alleviates Kapha & Pitta
5.	Phanta	Vayu+Akasha	Alleviates Kapha & Pitta

7. *Storage of Prepared(finished) drugs(medicines)*; Storage of finished products is very essential to avoid spoiling of qualities. The room where finished products are stored should have entrance towards East or North, should have free aeration, ventilation, should have gandha, dhupa, and balikarma<sup>35</sup> conducted frequently. According to Schedule 'T' in Good Manufacturing Products(GMP) of Drugs and Cosmetics Rules 1945, separate spaces for finished products is mentioned. Finished Goods transferred from production area after proper packaging should be stored in finished goods stores within an area marked 'Quarantine'. After checking the correctness of finished goods with reference to its packing and labelling as well as finished product quality as prescribed then it will be moved to 'Approved Finished Good Stock Area'<sup>36</sup>.

8. *Saviryata Awadhi(Shelf life)*; Ayurvedic medicines are mainly made up of herbal formulations and have tendency to lose its medicinal qualities over a period of time. It is necessary to have knowledge of shelf life of Raw drugs to improve the quality of finished products. One should also know the shelf life of finished products so as to abolish the expired drugs. Shelf life plays a vital role in dosing, storing and dispensing of the medicines. The Saviryata Awadhi(Shelf life) of different Ayurvedic dosage forms according to Acharya Sharangadhara<sup>37</sup> is shown in table below

T A B L E No. 9

Sl. No.	Dosage Form	Saviryata Awadhi(Shelf Life)
1.	Vanuspatti(Raw herbs)	One year
2.	Churna(Powders)	Two months
3.	Gutika(Tablets)	One year
4.	Avuleha	One year
5.	Ghee, Taila(Fatty and oily preparations)	One year four months
6.	Laghu paki drugs	One year

A comparative study of Saviryata Awadhi of Ayurvedic dosage forms according to Acharya Sharangadhara<sup>37</sup> and Yognatnakara<sup>38</sup> is given in table below

TABLE No. 10

Sl. No.	Dosage Forms	Savirya Awadhi according to Acharya Sharangadhara	Savirya according to Yogratnakara
1.	Swarasa(Compressed Juice)	-	03 hours
2.	Kalka(Paste)	-	03 hours
3.	Kwatha(Decoction)	-	03 hours
4.	Anjana(Collium)	-	03 months
5.	Churna(Powders)	02 months	03 months
6.	Vati(Pills)	12 months	-
7.	Guda/Avaleha	12 months	06 months
8.	Ghrita and Taila	16 months	12 months
9.	Asava	Long term stability	-
10.	Dhatu	Long term stability	-
11.	Rasa	Long term stability	-

Shelf life of drugs are effected by derivation of drugs, temperature, humidity, microbial contamination, dosage forms, storage and packing conditions<sup>39</sup>. Nowadays due to advancements in technologies of storage, making, preservation and packaging of drug formulations results in the increase of shelf life of medicines.

9. *Aushadha Matra(Dosage)*<sup>40</sup>; According to Ayurveda the exact dosage of a drug for a patient has to be decided only after looking into the factors like Agni(digestive fire), Vaya(age), Bala(strength of both person and disease), Prakriti(dosha prakriti) and Dosha(vatta, pitta, kapha) of the person alongwith Kaala(season) and Desha(Jangala, Aanupa, Sadharana).

10. *Anupana(Adjuvant)*; *Anupana* is a substance which is taken alongwith or after the intake of aahara(food) and aushadha(drug). Acharya Sharangadhara<sup>41</sup> has given the simile that the anupana alongwith base spreads in the body as oil drop added to water spreads in fraction of time. Due to the properties like Yogvahi and Vyavayi drugs taken with specific anupana spreads quickly in the body. It not only inhances digestion and absorption capacities of drugs but it also inhances the potency of drug(medicine) to bring about the desired effect.

11. *Aushadha Sewan Kaala(Administration of drug dosage forms)*; It plays an important role in absorption of drug. It also tells about different drug and food interactions. Knowledge of Aushadha sewana kaala helps in understanding better absorption of drugs. In Ayurveda administration of drugs is based on the predominance of doshas in different seasons and different time periods in 24 hours of a day. According to Acharya Vagbhatta<sup>42</sup> eleven Aushadha Sewan Kaala is mentioned which is shown in table below

TABLE No. 11

Sl. No.	Aushadha Sewan Kaala	Present day co-relation
1.	Abhakta	Without food
2.	Prughakta	Before food
3.	Madhyabhakta	In between a meal
4.	Adhobhakta	After food
5.	Sabhakta	Mixed alongwith food
6.	Antarabhakta	In between two meals
7.	Samudga	Before and after food
8.	Muhurmuhuh	Again and again
9.	Sagrasa	Alongwith each bolus of the food
10.	Grasantara	In between two boluses
11.	Nishi	Night at bedtime

12. *Aushadha Marga(Route of administration of drug)*; The drug should be administered through skin, mouth, eyes, ear, nose, anus, urethra and vagina according to dosha and diseases. Site nearest to the dosha and disease are selected for direct absorption and faster action of ideal prepared medicine. For example basti for vatta vyadhi.

13. *Aushadha Yog Namkarana(Naming of drug formulations)*; According to Ayurveda after completing preparation of a drug formulation naming of the formulation is based<sup>43</sup> :

- On the basis of first drug's name – Punarnawadi kwatha, Chitrakadi vati etc.
- On the basis of name of person who formulated the medicine – Agastya Haritaki etc.

- iii) On the basis of the guna(attributes) and prabhava(specific action) of the medicines – Arogyavardhani vati etc.
- iv) On the basis of the kaala(time) and ritu(season) – Pushyanug churna etc.
- v) On the basis of maatra(dosage) of drugs – Ksheershatpal ghrita etc.
- vi) On the basis of specific action of formulation – Kravyad rasa(Potency to digest raw meat).

14. *Bhavana*<sup>44</sup> (*Trituration*); *Bhavana* is mixing of Churnas(Powder drugs) with drava(Swarasa, Kwatha etc.). The drug and the Bhavana Drava should have same guna(qualities). Triturating with drava(liquid) import its qualities to the drug and also increases the qualities of the drug. Bhavana increases the potency of drug in minimum dosage. For example preparation of Amalaka Rasayana in Charaka Samhita has advised Bhavana of Amalaki churna with Amalaki swarasa. Bhavana is used for the Shodhana(Purification) of various dravyas. Bhavana is also used as binding material in preparation of a number of Gutikas(Tablets).

### *Discussion*

Bhaisajya Kalpana is an inseparable part of Ayurveda. Fundamental principles of Bhaisajya kalpana explains the methods of collection, formation, preservation and application of drugs. Following fundamental principles leads to standardization and improved efficacy of drugs. Paribhasa is the clear and distinct meaning of a word or expression. Principles of collection and storage of raw materials is necessary to increase shelf life of a drug formulation. Rasa-Panchaka(Rasa, Guna, Virya, Veepaka, Prabhava) which is unique for every drug plays major pharmaceutical role in Bhaisajya Kalpana according to Ayurveda. Balancing the equilibrium state of Dosha, Dhatu and Mala is under the action of Rasa-Panchaka of a drug. Maana which is measurement of weight, length and capacity plays important role in drug preparation from collection of drugs to preparation of final product of drug and dosage of a drug formulation. An accurate outcome of treatment cannot be expected without Maana. Panchavidha Kashaya kalpana are basic formulation from which the other advanced formulations are derived. Storage of prepared(finished) drug is important in preserving the pharmaceutical properties by preventing the drug from getting spoiled. Knowledge of Saviryata Awadhi(Shelf life) of drugs is essential for improving potency of finished products and knowledge of Shelf life of finished products is essential to use the drug before expiry to gain maximum benefit. Aushadha Matra is a unique concept in Ayurveda which is different for every patient according to patient's agni, vata, bala and prakriti. Anupana which is taken with or after the drug helps the drug to spread quickly in the body i.e. increases the digestion and absorption of drugs. Bhaisajya kalpana has given importance to Aushadha sewana kaala Aushadha marga for better drug action and reach of drugs to the disease site. Aushadha yog namakarana shows how a drug should be named. Bhavana is an important fundamental principle which improves the potency of a drug such that even a low dose of drug is able to produce the desired action. In this present article the fundamental principles of Bhaisajya Kalpana are decorated, gathered and reviewed precisely for understanding and standardizing Ayurvedic Pharmaceutics.

### *Conclusion*

From the present article it can be concluded that fundamental principles of Bhaisajya kalpana plays a very important role in formulation of a drug which is one of the four pillars of treatment in Ayurveda. Following the fundamental principles of Bhaisajya kalpana one can prepare a drug, increase the potency of drug, increase the shelf life of drug, have the knowledge of appropriate time of taking, administration and naming of a drug. This all helps a Physician to be very precise and successful in treating a disease. Fundamental principles of Bhaisajya kalpana helps in standardization of Ayurvedic Pharmaceutical processes, which is essential in present time for Globalization of Ayurveda.

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## HYDROGEN SPECTRAL SERIES AND HOW SPECTRAL SERIES ARE FORMED : AN OVERVIEW

POORNEDU MISHRA\*

### *Declaration*

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The emission spectrum of atomic hydrogen has been divided into a number of spectral series, with wavelengths given by the Rydberg formula. These observed spectral lines are due to the electron making transitions between two energy levels in an atom. The classification of the series by the Rydberg formula was important in the development of quantum mechanics. The spectral series are important in astronomical spectroscopy for detecting the presence of hydrogen and calculating red shifts.<sup>1</sup>

A hydrogen atom consists of an electron orbiting its nucleus. The electromagnetic force between the electron and the nuclear proton leads to a set of quantum states for the electron, each with its own energy. These states were visualized by the Bohr model of the hydrogen atom as being distinct orbits around the nucleus. Each energy level, or electron shell , or orbit, is designated by an integer,  $n$  as shown in the figure. The Bohr model was later replaced by quantum mechanics in which the electron occupies an atomic orbital rather than an orbit, but the allowed energy levels of the hydrogen atom remained the same as in the earlier theory.

Spectral emission occurs when an electron transitions, or jumps, from a higher energy state to a lower energy state. To distinguish the two states, the lower energy state is commonly designated as  $n'$ , and the higher energy state is designated as  $n$ . The energy of an emitted photon corresponds to the energy difference between the two states. Because the energy of each state is fixed, the energy difference between them is fixed, and the transition will always produce a photon with the same energy.

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The spectral lines are grouped into series according to  $n'$ . Lines are named sequentially starting from the longest wavelength/lowest frequency of the series, using Greek letters within each series. For example, the  $2 \rightarrow 1$  line is called “Lyman-alpha” (Ly- $\alpha$ ), while the  $7 \rightarrow 3$  line is called “Paschen-delta” (Pa- $\delta$ ).

There are emission lines from hydrogen that fall outside of these series, such as the 21 cm line. These emission lines correspond to much rarer atomic events such as hyperfine transitions. The fine structure also results in single spectral lines appearing as two or more closely grouped thinner lines, due to relativistic corrections.

In quantum mechanical theory, the discrete spectrum of atomic emission was based on the Schrödinger equation, which is mainly devoted to the study of energy spectra of hydrogenlike atoms, whereas the time-dependent equivalent Heisenberg equation is convenient when studying an atom driven by an external electromagnetic wave.

In the processes of absorption or emission of photons by an atom, the conservation laws hold for the whole isolated system, such as an atom plus a photon. Therefore the motion of the electron in the process of photon absorption or emission is always accompanied by motion of the nucleus, and, because the mass of the nucleus is always finite, the energy spectra of hydrogen-like atoms must depend on the nuclear mass.

Hydrogen atom is the simplest atomic system found in nature, thus it produces the simplest of these series. When the beam of light or any radiation is made to enter the device through a slit, each individual component of the light or radiation form images of the source. These images can be visualised when resolved under the spectroscope. The images got will be in the form of parallel lines arranged next to each other with regular spacing. The lines will be apart in higher wavelength side and they come closer gradually when moved from higher to lower wavelength side. The shortest wavelength will possess least spaced spectral lines and it is named as series limit.

Atomic hydrogen displays emission spectrum. This spectrum enfolds several spectral series. Once the electrons in the gas are excited, they make transitions between the energy levels. These spectral lines are the consequence of such electron transitions between energy levels modelled by Neils Bohr. The wavelengths of the spectral series are calculated by Rydberg formula.<sup>2</sup>

Rydberg formula relates to the *energy difference between the various levels of Bohr's model and the wavelengths of absorbed or emitted photons*. It is mathematically expressed as;

$$\left( \frac{1}{\lambda} = RZ^2 \left( \frac{1}{n_1^2} - \frac{1}{n_h^2} \right) \right)$$

Where,

- $\lambda$  is the wavelength
- R is the Rydberg constant has the value  $1.09737 \times 10^7 \text{ m}^{-1}$
- Z is the atomic number
- $n_1$  is the lower energy level
- $n_h$  is the higher energy level

Note that this equation is valid for Hydrogen and Hydrogen like elements. The equation returns meaningful value only when  $n_h > n_1$ . In the development of quantum mechanics, the classification of series by Rydberg formula plays a major role. They are also prime concepts in astronomical spectroscopy. Especially in the detection of Hydrogen and in calculating Red shift.

*How Spectral Series are formed*

Every atom enfolds set of energy levels/states which is modelled and well explained through Bohr's atomic model. He names energy states using quantum numbers ( $n=1,2,3,4,5,6,\dots$ ). When electrons jump from higher energy states ( $n_h$ ) to lower energy state ( $n_l$ ), a photon of energy  $n_h - n_l$  is emitted. As the energy corresponding to each state are fixed, the difference between the energy states are also fixed thus the transition between similar energy states will produce the photon of the same energy.

The spectral series is broken into corresponding series based on the electron transition to lower energy state. The Greek alphabets are used within the series to segregate the spectral lines of corresponding energy. The spectral series of Hydrogen are:

The series was discovered during the years 1906-1914, by Theodore Lyman. Thus it is named after him. According to Bohr's model, *Lyman series is displayed when electron transition takes place from higher energy states ( $n_h=2,3,4,5,6,\dots$ ) to  $n_l=1$  energy state.* All the wavelength of Lyman series falls in Ultraviolet band.<sup>3</sup>

Refer to the table below for various wavelengths associated with spectral lines:

Energy level (n)	Wavelength ( $\lambda$ in nm) in vacuum
$\infty$	91.175
6	93.78
5	94.974
4	97.256
3	102.57
2	121.57

The series was discovered during the years 1885, by Johann Balmer. Thus the series is named after him.

*Balmer series is displayed when electron transition takes place from higher energy states ( $n_h=3,4,5,6,7,\dots$ ) to  $n_l=2$  energy state.* All the wavelength of Balmer series falls in visible part of electromagnetic spectrum (400nm to 740nm). In astronomy, the presence of Hydrogen is detected using H-Alpha line of the Balmer series, it is also a part of the solar spectrum.<sup>4</sup>

Refer to the table below for various wavelengths associated with spectral lines.

Energy level (n)	Wavelength ( $\lambda$ in nm) in air
$\infty$	364.6
7	397.0
6	410.2
5	434.0
4	486.1
3	656.3

The series was first observed during the years 1908, by a German physicist Friedrich Paschen. Thus the series is named after him.

*Paschen series is displayed when electron transition takes place from higher energy states ( $n_h=4,5,6,7,8,\dots$ ) to  $n_l=3$  energy state.* All the wavelength of Paschen series falls in the Infrared region of the electromagnetic spectrum. The shortest wavelength of next series, i.e., Brackett series overlap with Paschen series. From this series, all subsequent series overlap.<sup>5</sup>

Refer to the table below for various wavelengths associated with spectral lines.<sup>6</sup>

Energy level (n)	Wavelength ( $\lambda$ in nm) in air
$\infty$	820.4
8	954.6
7	1005
6	1094
5	1282
4	1875

The series was first observed during the years 1922, by an American physicist Friedrich Sumner Brackett. Thus the series is named after him.

*Brackett series is displayed when electron transition takes place from higher energy states ( $n_h=5,6,7,8,9\dots$ ) to  $n_l=4$  energy state.* All the wavelength of Brackett series falls in Infrared region of the electromagnetic spectrum.<sup>7</sup>

Refer to the table below for various wavelengths associated with spectral lines.

Energy level (n)	Wavelength ( $\lambda$ in nm) in air
$\infty$	1458
9	1817
8	1944
7	2166
6	2625
5	4051

The series was first observed during the years 1924, by August Harman Pfund. Thus, the series is named after him.

*Pfund series is displayed when electron transition takes place from higher energy states ( $n_h=6,7,8,9,10,\dots$ ) to  $n_l=5$  energy state.* All the wavelength of Pfund series falls in Infrared region of the electromagnetic spectrum.<sup>8</sup>

Refer to the table below for various wavelengths associated with spectral lines.

Energy level (n)	Wavelength ( $\lambda$ in nm) in vacuum
$\infty$	2279
10	3039
9	3297
8	3741
7	4654
6	7460

The series was first observed during the years 1953, by an American Physicist Curtis J Humphreys, thus the series is named after him.

*Humphreys series is displayed when electron transition takes place from higher energy states ( $n_h=7,8,9,10,11\dots$ ) to  $n_l=6$  energy state.* All the wavelength of Humphreys series falls in Infrared region of the electromagnetic spectrum.<sup>9</sup>

Refer to the table below for various wavelengths associated with spectral lines.

Energy level (n)	Wavelength ( $\lambda$ in $\mu\text{m}$ ) in vacuum
$\infty$	3.282
11	4.673
10	5.129
9	5.908
8	7.503
7	12.37

*Note*

They are the unnamed series, which follow the spectral pattern described by the Rydberg equation. They are first observed in infrared range during an experiment in 1972 by Peter Hanson and John Strong.

*These series are displayed when electron transition takes place from higher energy states ( $n_h=8, 9, 10, 11 \dots$ ) to  $n_l=7$  or above energy state.*

The series is observed in higher wavelength. The spectral lines are extremely faint and widely spread out. They correspond to highly rare atomic events.

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<sup>7</sup>Brackett series ( $n_l=4$ )

<sup>8</sup>Pfund series ( $n_l=5$ )

<sup>9</sup>Humphreys series ( $n_l=6$ )



## DIMENSIONS OF GLOBALIZATION

BINDU DUA\*

### *Declaration*

The Declaration of the author for publication of Research Paper in The Indian Journal of Research Anvikshiki ISSN 0973-9777 Bi-monthly International Journal of all Research: I, *Bindu Dua* the author of the research paper entitled DIMENSIONS OF GLOBALIZATION declare that, I take the responsibility of the content and material of my paper as I myself have written it and also have read the manuscript of my paper carefully. Also, I hereby give my consent to publish my paper in Anvikshiki journal, This research paper is my original work and no part of it or its similar version is published or has been sent for publication anywhere else. I authorise the Editorial Board of the Journal to modify and edit the manuscript. I also give my consent to the Editor of Anvikshiki Journal to own the copyright of my research paper.

In the contemporary world there is hardly any realm social, economic, cultural and political which can be said to be impervious by the process of globalization. Globalization is an interchange of various attributes among different societies. It is not a new phenomenon, but is an on going process. The rapid increase in the frequency and the density of interchanges make the present process of globalization different from the earlier ones.

In very terms globalization is an increasing global interconnectedness of different parts of world. It is primarily an interchange of economic, social, cultural, technological attributes that takes place between societies when different societies come in contact with each other. Noam Chomsky argues that the word globalization is also used, in a doctrinal sense, to describe the neo liberal form of economic globalization.

The word globalization has been used by economists since 1980s while much of the literature on this has appeared since the late 1970s. Theoretical concept of globalization was penned by an American entrepreneur-turned-Minister Charles Taze Russell who coined the term corporate.

Globalization is viewed as a century's long process, tracking the expansion of human population and the growth of civilization that has accelerated the form of globalization. The nineteenth century is sometimes called "the first era of globalization". It was a period characterized by rapid growth in international trade and powers, their colonies, and later, the United States. It was in this period that areas of sub Saharan African and in 20th century with the First World War and later collapsed during the gold standard crises. Globalization as an idea of modernization within the global market was mentioned in the writings of Marx and Saint Simon. The contemporary globalization differs

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from the process that could be observed in the past primarily in terms of the quantum of interchange and inter connectedness, according to Preterse current accelerated globalization comes in the package together with;

- (1) Information, which means the role of information and communication technology.
- (2) Flexibilisation, that means change in production system toward flexible production.
- (3) Reconfiguration of states and regionalization. His views about globalization as a process; the growing interconnectedness of different parts of the world as awareness and as a project. The project includes various agents:

Projects	Agents
Strategic Globalization	Super Power Politics, NATO
Corporate Globalization	International banks, Multinational Corporations
Developmental Globalism	World Bank, UN agencies WTO, G-7 International Financial Institution
Economic and Financial Global Management	
Ecological Globalism	UNCED, Global environmental Facility
Media Globalism	Media Ind ,CNN
Labour Globalism	ILO, Trade Union
Islamic Globalism	Umma Politics
Catholic Globalism	Vatican
Ecumenical globalism	Inter Religious Dialogues as in World Council of Churches
Consumer Globalism	Everyday Globalism
Anti Globalism	Localism, Delinking

*Source* :Preterse 2001

Globalization is a multifaceted , multidimensional and comprehensive having its impact on social, cultural, economic and political relationships.

### *Features of Globalization*

1. *Market Oriented Approach*; Since the Second World War there has been a deliberate selection of a more market oriented approach by many countries and increased internationalization of economic activities. This tendency increased significantly in the early 1980s as industrialized countries such as USA and the United Kingdom shifted towards more market coordination of economic activities. This increased the pace of globalization to a great extent.
2. *World Trade Grown Significantly*; Due to the faster growth in the world output the world trade has grown significantly, more rapidly than the world output and the national economies have become more open and more closely integrated. Ideas, technologies and cultural attributes are exchanged at a higher acceleration. Many goods and services once non traded, now regularly enter the world market. Internet and mobile phones have made communication easier around the globe
3. *Migration*; There has also been increase of incidences of people migrating for work globally. A significant change in the relative power of world organization during the current phase of globalization has been viewed. On the one hand the international financial institutions such as IMF and World Bank as well as WTO and international organization to regulate global trade have become more powerful. On the other hand, global institutions that have focused on more human centered interests such as United Nations and 120 international labour organizations

have found their position relegated to the background and their power and effectiveness relatively diminished in the face of global changes. The shift in the power of the global institutions is reflected in all spheres of human life.

4. *Globalization of National Policies and Policy Making Mechanics*; the current process of globalization also resulted in the globalization of national policies and policy making mechanisms of national government. National policies include social, economic, cultural and technological areas, which have come under the influence of international organizations and big private corporations. The national governments have had to restructure their economies that demand more thrust in free trade and less spending in social sector. India adopted a New Economic policy that included the elements of 'globalization', liberalization and privatization. The two central components of neo-liberal policies adopted by the Indian government have been the liberalization of India's private sector and reform of public sector.

### *Economic Dimension of Globalization*

The most important dimension of the current phase of economic globalization are the breaking down of national economic barriers, international spread of trade, financial and production activities, the growing power of transactional corporations and international financial institutions.

a) *Liberalization*; Liberalization in general is relaxation of restrictions in social and economic spheres. The policies, trade liberalization or the capital market liberalization, are referred to as neo liberalism. The free market economic policies adopted by neo liberals in the Western countries, put into practice by Margaret Thatcher and Ronald Reagan in the U.S. during 1980s became the official policy of International Financial Institutions (IFIS), it insisted on the deregulations of national economies in the grant of financial assistance or loans to countries all over the world.

In India the pace of globalization gathered momentum when the central government introduced the package of reforms at the behest of IMF and World bank at economic liberalization in 1991. The reforms included short term stabilization measures encompassing devaluation of rupee, restraint on the public expenditure, a plan for the deduction of fiscal deficit and the removal of the restrictions on the flow of foreign capital to Indian markets.

### *Main features of liberalization policy of Indian government*

- Future development through wider participation of private sector and more dependence on the market for the exchange of goods.
- Reduction in the role of the state in economic governance.
- Withdrawal by the state from some economic sectors and its replacement by private sectors.

### *b) Privatization*

liberalization of the economy in the 1980s, the neo liberals of the U.K. and U.S. also advocated privatization to make enterprise more competitive and efficient to meet the challenges of the global economy. Privatization can be done in various ways:

- Public offerings of shares.
- Private sale of shares.

- Entry of the private sector into public sector.
- Reorganization of subsidiary units of a company.

The Indian government adopted various measures with the aim of privatizing the economy. Initiatives such as abolition of license for deregulations of industries, scrapping of legislations such as MRTP and FERA, streamlining of approval communities and de investment in public sector undertaking (PSU).

#### *c) Foreign Direct Investment (FDI) and Globalization of Financial Market*

Foreign direct investment is money invested production by foreign party rewarded with part of ownership of production. FDI flows have been much faster than the world output or trade or domestic fixed investment. Initially FDI was only in developed countries but in 1990s developing countries began to be attracted by substantial FDI. The same was true with India. The largest proportion of FDI approvals in India have been in the infrastructure and core sectors such as power, telecommunications, energy explorations, chemical metallurgical industries.

FDI in India is permitted under following forms of investments:

- Through financial collaboration.
- Through private placements.
- Through preferential allotments.

In the open market system Indian companies are also going global through joint ventures abroad. FDI is not a one way process. Many Indian companies have started becoming respectable players in the international scene.

#### *d) International Trade Regulatory Body*

WTO steps are taken around the globe to regulate world trade by proposing to set up international trade organization along the lines of the international monetary fund (IMF), a world body to facilitate international liquidity and the World Bank. When ITO could not materialize 23 nations around the globe, they agreed to continue trade negotiations that were eventually incorporated in the general agreement on tariffs and trade (GATT), which formally came into existence in 1947.

WTO World Trade Organization came into existence in 1995 replacing GATT, an international organization set up, which means any decision of the organization is applicable to all the member nations. The aim of WTO is to provide a global decision making structure of setting and enforcing rules in relation to international trade. In 2005, 148 countries became members of WTO Accounting for 97% of the world trade, more and more countries are compelled to be members of WTO. The main functions of WTO are:

- Handling trade disputes.
- Administering trade agreements.
- Maintaining a forum for trade negotiations.
- Technical assistance for developing countries.

WTO has a range of rules designed to prohibit trade related to investment measures (TRIMS), including many of the ways in which national governments might seek to develop industry and investment policies to assist the development of industries and firms.

India is a founder of GATT and its successor the WTO. Being part of WTO India avails favored nation and national treatment for its exports to all WTO nations.

*e) Multinational and Transnational Companies and Their Functioning*

the deregulation of economies and financial market led to a sharp increase in financial transactions across national boundaries. The process of globalization has brought to the fore a new set of international actors of multinational companies. MNCS are often described as transactional corporations depending on the nature of operations. The multinational companies are primarily motivated by a desire to make profits; their establishment of production facilities in developing may be both beneficial and detrimental to the people of such countries in certain ways. It creates jobs, improves explorative labour conditions for maximum profits, evasion of taxes, violation of human rights and damaging the environment.

*f) Expansion of Information and Communication Technologies (ICTS) and Birth of Information Age*

the striking aspect of contemporary society is the rapid development of the information technology. Since the 19th century, the story of global economy has been a regular succession of leading commercial and industrial sectors. Since 1970s leadership in the global economy has begun to shift to another set of industries, one that combines computers, the televisions, the digital telephones and the other communication tools which can be collectively called as information industries, the speed of change, the enlargement of capacity for information transmission and proliferation of communication media are very different from that in the past. The explosion of both information and technology has reduced the concept of time and space. ICT is the force in the global system production although with significant ramifications in all other spheres of contemporary human existence.

*g) Outsourcing of Services*

in a global world, information and communication technologies have become the backbone of the business world and the rapid growth of the information technology enabled services ITES around the world. This sector became the part of (IT) industry. Business Process Outsourcing BPO is an important part of the (ITES) industry. Outsourcing is required in different areas like finance, health, accounting, human resources of companies outsourcing is a process through which one company hands over part of work to another company making it responsible for the design and implementation of business process under strict guidelines regarding requirements and specifications from the outsourcing company.

*h) Trade Related Intellectual Property rights (TRIPS)*

a major problem that inventors faced for most of the 19th century was the absence of international regulations governing the patent production. Patent means a convention granted by the state to protect the interest of the investor of the product. According to U.N. a patent is a statutory privilege granted by the government to investors and other persons deriving their rights from investors for a fixed period of years to exclude other persons from manufacturing, using or selling a patented product or from utilizing a patented method or process.



With India becoming signatory to the WTO agreement, it became obliged to follow the TRIPS regime. This made possible for Indian companies to produce any patented product, patented in other countries as well, following a slightly different process without violating the patents rights under Indian laws.

### *Social Dimension of Globalization*

The pace of globalization not only reflects economic front but its ramifications reflects the social and cultural arena of human life. The social dimension of globalization refers to the impact of globalization on the life and work of people, on their families and their society.

- a) *Withdrawal of National Government from Social Sector:-* the reduction in the government economic role reflected in a decline in the public spending. Total government expenditure in India in public spending increased at a per annum rate of 11% during 1960s, 71% in the year 1970s, 6.64% in 1980s but declined to a per annum rate of 4.7% in 1990s. The replacement with private sector means the access of people to employment, capital and social service like education, housing and health services. In India the social sector expenditure as a proportion to GDP had been stagnant in 1990s and there had been a definite shift away from rural development.
- b) *Labour Reforms and Deteriorating Labour Welfare:-* The key component of structural adjustment programmes introduced international financial institutions were deregulated and privatized. Labour market deregulation has been an important feature of structural adjustment programme. The current pace of globalization also result in casualisation or in formalization of the work force causing low wages of labourers and less job security, although it created employment opportunities to some of the work force. The new technology demands more skilled and tend to make existing skills obsolete and require up gradation, new skills and multi skills. Opening of new market and free flow of trade and low tariffs have encouraged flow of foreign goods lowering the employment opportunities of Indian labourers.
- c) *Feminization of Labourers:-* Women have entered the labour force in large number of countries. Over all economic activity rates of women for the age group 20 -54 approached 70% in 1996. Inventors have demonstrated a preference for women in soft industries such as apparel, shoe and toy making, data processing, semi conductor assembling industries that require unskilled or semi skilled labour. The informal sector where women absorbed in large number along with globalization offer very poor labour conditions. Such industries where women are engaged happened to be highly labor intensive, service oriented and poorly paid.
- d) *Poverty:-* Economies were primarily visualized as a mechanism where trade would function as “an engine of growth” and the fruit of growth would trickle down to the poor. The internationalism of trade has opened up the vistas for globalization of production creating profound changes in labour market, such as widening wage disparity, increasing contractualisation of work, skilled based segregation of work. Globalization of trade in agriculture accelerated poverty in the agriculture based nations of the world. Economic liberalization and globalization had an impact on both rural and urban poverty. The substantial changes in institutional arrangements for rural credit, a key factor in helping the poor to escape poverty, due to the reforms in the banking sector has gone against the interests of the rural poor. In the urban areas large scale private investment both foreign and India led to the acquisition of city lands which in turn affected the poor mainly slum dwellers ,hawkers ,restitutes , street dwellers as they were pushed out of the

city to the peripheries which marked degeneration with low value employment and poor living conditions.

- e) *Migration and Urbanization*: - migration is not a new phenomenon .People have always left their homes for in search of better economic opportunities. The current pace of economic globalization has to put a new spin on global migration, causing global uprooted ness and human displacement on an unperfected scale. More than one billion people are crossing national borders as migration workers.

Urban areas offer economic opportunities to rural people. The pattern of economic force, acts as a determining factor in the increasing rate of urbanization. Economic growth based on the expansion of manufacturing industry, a trade mark of current globalization, tends to be associated with higher rates of urbanization while growth based on the expansion of agriculture is associated with reverse.

- f) *Commercialization of Indigenous knowledge*: - the globalization process invades territories, habitats and resources of indigenous people which may lead to destruction of their way of life. Big corporate entities get an access to indigenous knowledge and patent it for the gain and profit. the pharmaceutical corporations in the United States of America under the auspicious of Human Genome Diversity Programme are patenting the indigenous people themselves .they monopolize the use of seed ,medicine and traditional knowledge systems and human genomes. Even the life supporting systems of humanity became the commodities in the present globalization process at the cost of the lives and livelihoods of the vast majorities around the world. This may result in environmental devastation, social displacement, wiping out of cultural and biological diversity.

- g) *Rising Inequality in Wealth Concentration*: - globalization is a very uneven process, with unequal distribution of profits and losses. Globalization affects different categories of countries differently. the unequal and uneven nature of the present globalization process is manifested in the fast growing gap between worlds rich and poor people and between the developed and the developing countries and in the large differences among nations in the distribution of gains and losses. Polarization among countries has also been accompanied by increasing income inequality within countries.

### *Cultural Dimension of globalization*

Globalization has a profound effect on all over cultures and our cultures and the ways we live our lives. It has affected what we eat, wear, the music we hear, the books we read, even the languages we use for communication. Globalization has made some languages extinct for e.g. Latin .English in variant forms (e.g., British English, American English and Indian English) has become lingua franca of many people around the world. The central problem of today's global interactions is the tension between cultural homogenization and cultural hetro genization.

- a) *Increased Pace and Cultural Penetration*: - cultural change or cultural dynamics has *always* been a product of interchange with other culture. Individual cultures are capable of endogamous developments; cultural boundaries are quite porous leading to interpenetration of culture. Cultural dynamics is outcome of the process of mixing, borrowing and adapting cultural attributes. Today in hi-tech communication era, ICTS made communication easier, faster and cheaper. The acceleration of globalization hastens the pace of cultural change.

- b) *Development of Hybrid Culture*: - Globalization at times has been inclusive and integrating and at other unequalising and exclusivist. This is true of cultural impact also. Globalization may lead to one single world culture, likely to be lead to new permutations and combinations, new options and new cultures. This may be termed as third culture or hybrid culture.
- c) *The Globalization of Culture*: - the advancement of science and technology and the improvement o f market, the earth has turned into a global village .it has also resulted in the emergence of global mass cultures due to the increase in consumerism. Our own culture is being systematically appropriated and co modified. Folk and tribal festivals are being packaged through electronic media, plucked out of context.
- d) *Resurgence of Cultural Nationalization*: - Globalization also gives rise to active cultural campaigning to defend local identities. Nations reject global cultural integration and people remain to local histories, traditions and identities .for e.g. European countries have campaigned against the threat of Americanization and defend the diversity and differences of European cultures.

### *Conclusion*

Globalization is a far reaching process having its imprints left in all walks of life. Globalization means increased interaction and interconnectedness in terms of social economic and cultural dimension. The economic dimension includes liberalization, privatization, foreign direct investment, expansion of information technology etc. the social dimension of globalization has a direct impact on everyday life of social being .the multifarious cultures interact with each other at an ever increasing speed and time.

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# DISCRIMINATORY POLICY AMONG THE UNDERGRADUATE STUDENTS TO THE NATURE AND SCOPE TO THE GUIDE FOR COLLEGE TEACHING APPROACH

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## *Declaration*

The Declaration of the author for publication of Research Paper in The Indian Journal of Research Anvikshiki ISSN 0973-9777 Bi-monthly International Journal of all Research: I, G. Sankar the author of the research paper entitled DISCRIMINATORY POLICY AMONG THE UNDERGRADUATE STUDENTS TO THE NATURE AND SCOPE TO THE GUIDE FOR COLLEGE TEACHING APPROACH declare that , I take the responsibility of the content and material of my paper as I myself have written it and also have read the manuscript of my paper carefully. Also, I hereby give my consent to publish my paper in Anvikshiki journal , This research paper is my original work and no part of it or it's similar version is published or has been sent for publication anywhere else. I authorise the Editorial Board of the Journal to modify and edit the manuscript. I also give my consent to the Editor of Anvikshiki Journal to own the copyright of my research paper.

## *Abstract*

*This paper addresses racism and white privilege in America. Racism is generally discriminatory policy and behavior aimed at oppressing nonwhites whereas white privilege is the advantage gained by whites that is not due to ability or merit. It is argued that white privilege is largely invisible and that this allows the current unacceptable status quo to continue. A survey of items is offered as a tool to be used by college teachers to sensitize students to the nature and effects of white privilege.*

**Key words:** Discriminate, racism, racial code words

## *Introduction*

While racism has received considerable attention in the social sciences in the U.S., white privilege generally has not. The data revealing racist policies in American history are legion. White privilege, on the other hand, has been largely invisible. The purpose of this paper is to briefly illustrate the concept of white privilege and offer suggestions on how to make undergraduate college students more aware of its effects. White privilege is best conceptualized as the “other side of the racism coin.” That is, while the study of racism focuses on the harmful effects of discriminatory policies designed to oppress nonwhites, white privilege is a term used to show how whites benefit from

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whiteness, regardless of the effects of racism on nonwhites. It is far easier, for example, to speak out against overt racism (e.g., hate speech, discriminatory policies, racial profiling, etc.) than it is for whites to acknowledge the advantages they receive simply because of their color.

### *Examples of Racism*

Before addressing white privilege specifically, it is important to summarize the nature of racism and its effects. While this certainly is not an exhaustive discussion of racism in America, it helps get the reader into the mind-set necessary to address white privilege. For a more detailed discussion of racist policies in criminal justice see Walker (2011).

Racism has been pervasive in American society. It has been insidious, harmful and resistant to change as well. Jensen (2012), for example, points out that nonwhites are less likely to enjoy the following characteristics when compared to whites:

- . Attend primary and secondary schools with smaller class sizes;
- . Have access to computer technology in public schools and at home while in school;
- . Graduate college;
- . Earn larger salaries;
- . Keep a job during recessions;
- . Have access to adequate medical care;
- . Live in favorable housing (less dilapidation, less crime, etc.);
- . Spend a lower percentage of income on housing;
- . Have adequate access to home loans;
- . Own stocks;
- . Have retirement accounts;

Along the same lines, black income is only about three-fifths that of whites and black joblessness is twice as high. Also, black babies are twice as likely as white babies to die in the first month of life (Jensen, 2012; United for a Fair Economy, 2004). Still others have found that black job applicants with no criminal record are less likely than white applicants with a criminal conviction to get called back by prospective employers (Jensen, 2012; Pager, 2003).

The origin of racism against nonwhites in North America goes back to the 1600s, but much of the recent damage is just as salient. For example, during the New Deal (1930s), the Social Security Act intentionally excluded people working on farms and servants from being covered. This effectively denied nonwhites the benefits that were routinely accorded to whites (Jackson, 1985). This support was generally taken for granted by whites and allowed them to pass down more resources to successive generations. It is not surprising that nonwhites typically had less ability to meet financial responsibilities. This white privilege was a strong boost for whites as they sought to: 1) save money, 2) pass down money to their heirs, 3) provide for their children's education, 4) choose a place to live, etc. Similarly, another New Deal program (e.g., FHA) typically favored whites over nonwhites for home loans. This made it much easier for whites to buy homes and property and to leave them for their children. This type of white privilege gave a huge head start to whites starting out in life (Jackson, 1985).

Also, the U.S. has been loath to enforce fair housing rules on lenders and sellers. As a result, substandard inner-city housing was foisted upon nonwhites with higher rates of crime, pollution, weak and abusive police, etc. As a response, many whites who were averse to living among nonwhites, left for the suburbs and the access to white privileged home loans. This allowed whites to accumulate prime homes and property to be left as inheritances while nonwhites were left in the



squalor of the broken inner-city. Eventually, the federal government began urban renewal projects that led to the confiscation of nonwhite=s property for the purpose of office building and highway construction. This resulted in a population decline that led to less political power which in turn led to vulnerability to having prisons, garbage incinerators, and toxic waste dumps being placed in their neighborhoods (Bullard, 1999).

Labor unions during this time also favored whites as well. Unions typically sought to restrict membership to whites while simultaneously seeking lavish benefits for its members (e.g., better working conditions, healthcare, pensions, etc.). This also exacerbated the inequality between whites and nonwhites.

The end result of this vicious and racist cycle of economic violence against nonwhites was that nonwhite neighborhoods were dilapidated, polluted, undervalued, stigmatized, had poor services (and in the case of police, abusive services), were undesirable, politically weak and essentially hopeless. This acted as a major impediment to getting ahead in life while at the same time providing a huge privilege to whites who had the inverse situation in the comfortable suburbs.

Research has shown that of families with incomes of less than \$6000 per year, two-thirds are black while only 36% are white. This is yet another indicator that poverty cannot explain the deleterious effects of being black in America by illustrating the privilege of whiteness (Bunyan and Mohai, 1992). Race is significantly more powerful than socioeconomic class at explaining and predicting who is most likely to live near hazardous waste sites (Lee, 1993). In fact, if American blacks had the same access to nutrition, wealth, healthcare, and protection from environmental pollutants that whites take for granted, 75,000 fewer of them would die every year (Wray, 1992; Lipsitz, 2006).

Another area where it pays to be white concerns the issue of drug use and possession. While the prison population in the U.S. has dramatically increased since the initiation of the latest war on drugs in the early 1980s, the rate of growth has impacted nonwhites more than whites. This is in spite of the fact that a 1990 study by the National Institute on Drug Abuse revealed that 15% of the United States' 13 million chronic drug abusers were black (compared to 13% black in the population) and 77% were white (compared to 68% white in the population). However, blacks were four times more likely to be arrested for drug violations than were whites (Bertram, et al., 1996). More shocking is the trend toward the persecution of blacks by drug law enforcement. That is, in 1984, blacks accounted for 10% of drug arrests, in 1988 the figure was 40% and in 1990 it reached 42%. Either black Americans suddenly decided to become severely chronic drug law violators or law enforcement became substantially more discriminatory toward them. The available data point to the latter. To make matters worse, blacks also are more likely than whites to receive longer sentences even when committing comparable crimes (Bertram et al., 1996). It is not argued here, however, that police, courts and corrections personnel are all consciously choosing blacks to persecute with anti-drug laws while ignoring similarly-situated white offenders.

Nevertheless, the factors discussed thus far have produced financial and social catastrophes in black neighborhoods that whites largely have the privilege of avoiding. These economic catastrophes harm blacks (e.g., joblessness, housing discrimination, mortgage bias, police discrimination, etc.) so that selling and using drugs actually begin to "make sense" to some people. The poor opportunities to work, buy and own land, and accumulate wealth derails many blacks as they seek to better themselves. This, combined with the problem of the lack of intergenerational transfers of wealth, make it nearly impossible for black parents to exercise control over their children. Without the possibility of an inheritance, many black kids begin to respect the wishes of their delinquent peers more than they do their own parents (Lipsitz, 2012).

Even after all of this, the vicious cycle continues. Black communities then become known as the “bad parts of town” whereas the predominately white suburbs are considered respectable. As a result, crime prevention strategies are designed to keep the suburbs protected. To do this, law enforcement vigorously attacks the drug problems in those communities thereby forcing the inevitable and unstoppable drug trade to move into black neighborhoods. The result? Whites drive to black neighborhoods to buy their illegal drugs and then escape back into the white privilege of the suburbs. So long as the suburbs remain pristine, the extreme social and economic stigma of the inner-cities is tolerable. The “dangerous classes” are allowed to sell and use drugs and otherwise victimize each other so long as they stay in their places (Lipsitz, 2012).

This is not to say that urban drug sellers are ignored. In fact, the process of targeting minority communities for drug enforcement is blatant and unapologetic. The police, not wanting to agitate influential members of the white privileged suburbs, cannot direct their arrest activities at the residents in those communities. However, they have arrest quotas that must be met (although most police departments deny this). Therefore, they go to where open market street sales are highly visible and that takes them to inner-city black neighborhoods. These areas are inhabited by politically and economically powerless blacks who have poor job and education prospects and no place to go. Many of them see high risk drug sales as lucrative. The police have an easy time rounding up enough young blacks to meet their arrest and prosecution quotas. As an added benefit to the criminal justice industrial complex is the fact that these are people with few political connections and no money to afford competent defense counsel. They are far less likely to have charges reduced, dropped or ultimately expunged and they are much more likely to plead guilty because they know the system is rigged against them (Lipsitz, 2012).

### *What is White Privilege?*

White privilege is the hidden, almost invisible side of racism. Whereas overt racist actions and policies disadvantage nonwhites, white privilege is the latent benefit of being white. In addition to the copious privileges of whiteness discussed above, there are still other types of advantages that benefit whites that are beyond the reach of nonwhites.

First is the privilege of genealogy. It is clear that whites have the advantage of being descended from people who traditionally made the rules. Whites have the privilege of having largely come to the U.S. voluntarily as compared to blacks, able to secure land and homes, and legally able to own other human beings. This has afforded whites a major privilege, that of being able to define normality or of assuming that their perspectives are defined as the norm. All others, especially nonwhites, are different. White becomes normal and all other groups are “raced.”

Cohen (1955) alluded to how white normalcy manifests itself in school settings. In his theory of reaction formation, he argued that middle-class people (i.e. whites who are in control) are able to create middle-class measuring rods that define which behaviors are acceptable and those that are to be proscribed. In the U.S., people are taught to believe that if they do not pursue material gain (e.g., the American Dream) then they are lazy or shiftless. People are defined by how much they can earn, spend, consume and the types of materials they can show off. However, the institutional means (e.g., studying, saving, delaying gratification) of attaining the goal of middle-class status are severely blocked among the poor. Whereas the middle-class white child may have: 1) ample space at home, 2) parents to help with homework, 3) a desk, computer, learning software etc., and 4) a stress-free environment in which to study.

Most importantly, the lower-class black child lacks the cultural capital that is taken for granted in white families. Cultural capital is another form of white privilege. Cultural capital represents social benefits that promote well-being. These include things such as 1) socialization on how to be respectful to white authority figures (e.g., teachers, police, judges, employers), 2) education, 3) intellect, 4) modes of speech (e.g., “sounding white” instead of using Ebonics), 5) modes of dress (e.g., being neat instead of gangsta/disheveled, and 6) being taught how to resolve disputes diplomatically rather than with insults or aggression.

The problems that disadvantaged lower-class blacks will have in middle-class settings such as schools are predictable. The lower-class black youth has been indoctrinated by the materialistic American culture to have the same aspirations as other kids with reference to achieving middle-class status. He also wants a job, house, car, security, retirement account, adequate health care, and vacation time with a family. When he confronts middle-class/white America, however, he experiences extreme cultural shock and disadvantage (Merton, 1938). Even though many inner-city schools are substandard and located in black neighborhoods, they still largely function according to middle-class rules. This disadvantage illustrates the middle-class measuring rods that white America has imposed on public-school systems. The criteria for success in this atmosphere includes: 1) ambition, 2) individual responsibility, 3) manners and courtesy, 4) neatness, 5) delayed gratification, 6) skills and achievement acquisition, 7) rationality and planning, 8) refraining from violence, and 9) respect for authority (Cohen, 1955).

Middle-class white kids are taught and socialized these values from an early age. This gives them a huge head start in life given that they will be evaluated according to the same standards. In the movie, “Don’t Be a Menace,” the Wayans brothers illustrate this type of white privilege to perfection. In one scene, A Loc Dogg, @ an inner-city black ghetto youth, wants to apply for a job in a middle-class firm. He approaches the receptionist, a nicely dressed, proper and prim white lady of moderate temperament. As the pleasant music softly plays in the background, Loc Dogg approaches her to ask about the job. He screeches to her loudly, “Hey! I heard y’all niggers is hiring! Whassup?”

Did Loc Dogg approach the receptionist this way because he is mean-spirited? Has hormonal imbalances? Is genetically inferior? Of course not. He did this because he grew up without white privilege and consequently was deprived of the cultural capital and was devoid of the socialization necessary to teach him the proper way to meet the middle-class measuring rods. In short, he doesn’t know how to compete in a middle-class environment following white privilege rules. Whites are the ones who define and decide what proper decorum and etiquette are in this type of interaction.

In another scene, two black teens are innocently shopping in a convenience store owned by an Asian couple. The Asian wife follows the blacks through the store incessantly demanding that they “buy something or get out!” She clearly believes they are untrustworthy and prone to shoplifting. During this time, a professionally dressed white man is stealing items from every aisle but remains undetected by the Asian couple because he simply does not fit the “shoplifter profile.” While these two movie scenes are hyperbolic parodies, the point from them is valid. Black males from “the hood” must endure life in middle-class white America without the benefit of white privilege. The constant psychological strain that this causes is enormous and relentless. What is even stranger is that so many whites wonder why they are often angry and rebel by committing crimes at a higher rate.

Given the magnitude of the obstacles placed in the way of lower-class blacks, success in school becomes problematic as well. Middle-class measuring rods created and evaluated by white America

are relatively easy for whites to follow. When the rules are made by whites, for whites, it is easy, for example, to believe in individual responsibility while simultaneously eschewing communal responsibility.

Whites have convinced themselves that the playing field is level for everyone and if you have ambition and work hard you will succeed. However, as we have seen, the playing field is not level at all, leaving lower-class blacks at a competitive disadvantage. Blacks are told that if they fail it is because they are defective. The emphasis on individual responsibility makes it all the more painful to seek government assistance in order to survive. This of course helps to explain the self-hating that many poor blacks exhibit because they are told that everyone should make it on their own merit. The worst part is that whites genuinely believe that they make it on their own merit and not with the aid of white privilege. This is another reason college students must be made aware of that privilege.

Historically, whiteness also has helped to create the myth of the meritocracy. This is the white delusion that encourages members of society to believe that people have an equal chance at success and will attain it if they follow the Protestant work ethic requiring study, saving, paying one's dues, and following white rules. Part of the meritocratic delusion is the concept of rugged individualism. Here, people are duped into believing that since the early westward expanding pioneers made it without the help of the state then everyone today should do the same. No matter one's lot in life, people should pick themselves up "by the bootstraps." If, for example, a person looks to government for help then it is because of personal defects such as learned helplessness, laziness, greed, low self-control, or even genetic inferiority. To accept aid from government is seen as a cause of intergenerational dependency that will emasculate people and destroy the enterprising spirit by turning the masses into wards of the state. In America, people of color, being devoid of white privilege, are keenly aware of the ludicrousness of this reasoning. They already know that the system was created specifically with the intent of keeping resources in the hands of the powerful, predominantly white elitists. By promoting the myth of meritocracy, white America can more easily assuage its collective guilt for creating and perpetuating acute inequality between races. If, after all, people get ahead strictly as a result of their own merit, then people of color who fall behind must obviously be defective and unworthy of our concern. It follows, then, that government social programs for the poor should be both de-emphasized and drastically slashed in order to reduce the surplus population in American society. To continue to redistribute resources to the surplus population is dysgenic in nature and promotes the devolution of the human species. This forms the basis of Social Darwinism (McNamee, 2009).

### *Celebrating Diversity!*

White America has adopted a ruse as a way of ignoring the problems of inequality and systemic racism called the "celebration of diversity." The ostensible goal of celebrating diversity is to give equal opportunity to everyone regardless of race, creed, color, national origin, handicap status, sexual preference, etc. This is only a superficial goal of course because the real goal of celebrating diversity is to create the impression of fairness and equal opportunity while simultaneously ensuring that there is no meaningful redistribution of resources away from the white ruling elite.

The white privilege scam of celebrating diversity goes like this. The horrible manifestations of racism in the areas of housing discrimination, home loans, racial profiling by the police, the imposition of middle-class measuring rods, inequality of income, early death, and environmental

racism, are to all be forgiven because whites are willing to hire a couple of highly educated nonwhites in the workplace. Imagine the CEO of a firm going on the loudspeaker at his place of business to address the workers as follows:

Ladies and gentlemen of White Supremacy Incorporated (WSI), I have spectacular news! In an effort to promote equality and to offset the unfairness of past American policies and government action, we have sought out, screened, and now hired two new employees. These are not just any new employees, however. No indeed; we have hired both a highly educated, upper middle-class black guy as well as an Oriental. As an added diversity bonus, the Oriental is female. We hereby proclaim this corporation and America to be post-racial as this is proof of a level playing field. We will have a Celebration of Diversity party on Friday complete with ice cream, cake and party favors. Feel free to wear blue jeans and a Hawaiian shirt on that day.

It is precisely the reasoning behind the celebration of diversity that allows whites to remain oblivious to racial inequality and systemic racism. Whites can pat themselves on the back for hiring the Ablack guy and the Oriental female@ and they are able to successfully neutralize the guilt that would be manifest if they were truly race conscious. Not only are whites not race conscious, but they actually pride themselves on being “colorblind.” It is not uncommon, for example, to hear white undergraduate college students who become distressed while discussing these issues, say things such as, “I am colorblind. I do not see race,” “we are all just human beings,” “let’s focus on how we are similar,” “why are nonwhites so sensitive all the time about race,” “why do nonwhites focus so much on racial differences; isn’t that racist too?” Whites clearly have a vested interest in ignoring, or at least obfuscating, any distinctions to be made about race. As long as “we are all just humans,” and “people who fail do so because they are defective,” whites do not have to confront the systemic racism in America and the extremely hard work that must be done to bring about economic and social justice.

### *The Bell Curve and Defective Nonwhites*

In 1994, Herrnstein and Murray published *The Bell Curve: Intelligence and Class Structure in American Life* where they essentially argued that blacks who failed to achieve the American Dream do so because they are genetically inferior and inherit deficient IQs from their defective parents. These types of publications give license to whites to justify the continuation of the racist policies discussed above. After all, if blacks are failing as a result of flawed genetics and defective wiring, then it really makes no sense to seek redistributive policies that will help them and the poor in general. As noted above, to do so would simply be promoting dysgenics. In other words, if we increase welfare spending it is not a way of alleviating the harms caused by centuries of racist policies, but, rather, simply a way of propping up inferior people (i.e., atavists) and will lead to a severe weakening of the U.S. population by relaxing the effects of natural selection. This terrifies white America because redistributive welfare policies will inevitably lead to a proliferation of the “dangerous classes” that will become so numerous that they will swamp the nation, particularly at the voting booths.

### *Intergenerational Transmission of White Privilege*

White privilege also perpetuates itself through the media, literature, entertainment and language. The raw material to make this happen includes slang terminology (e.g., “he was blacklisted,” the Washington Redskins, the Prince of Darkness, etc.), movies, cartoons, ethnic jokes, books, history



lessons (e.g., Andrew Jackson as the “Indian fighter”) and so forth. Such things help create and reinforce racial hierarchies (Barrett and Roediger, 2012). Whites also are quick to reward nonwhites who have learned how to act white. These “model minorities” are those who have learned and internalized the racial hierarchies and understand that whites are on top of it and so long as they are not as bad as blacks, they too can be deemed acceptable in American society. Asian-Americans currently occupy this role but Hispanics are moving up as well (Carbado and Gulati, 2013).

In 1980, the U.S. Census Bureau created two categories of whites: Hispanic and non-Hispanic. This was the culmination of decades of struggle by Latinos to be accepted in the “white club.” Throughout the 1900s, Mexican-Americans fought in courts, legislatures and throughout society to avoid being considered colored. To be tossed in with blacks as colored would have been catastrophic from a social justice standpoint. American society and the courts granted Mexican-Americans the status of “quasi-white.” This meant that while they clearly were not equal to European whites, they at least belonged to something of a parallel universe of whiteness. In essence, white privileged America told Mexican-Americans that so long as they accept white supremacist policies and recognize the inferiority of blacks they at least have a chance to be accepted as quasi-white and can enjoy some of the rewards of that privilege (Foley, 2012).

### *White Privilege to Divide and Conquer*

Being white also gives one the advantage of being able to divide and conquer those who dare upset the white supremacist status quo. For example, the white elite powerbrokers pit union members against average Americans. Americans of all races are warned that victories by organized labor will drive up the cost of products. Unions also are blamed for businesses going bankrupt. The argument is that if unions succeed in improving working conditions, wages and pensions, then businesses will not be able to afford to stay open. Therefore, common folk are to be fearful and oppose unionization when, in reality, unions and nonunion members of middle America would be far better off siding with each other against the elite who cling to obscene amounts of the nation’s wealth. Legions of “Reagan Democrats” abandoned progressive policies in the 1980s based upon this type of fear-mongering coming from those who seek to destroy organized labor.

Along the same lines, powerful white classes seek to pit modestly educated whites and people of color against undocumented workers. Terms such as “illegal aliens” are used to scare middle and lower-class whites concerning the brown invaders from south of the border. Anti-immigrant rhetoric blames migrants for importing communicable diseases, gang members, and drugs as well as for Balkanizing communities in the U.S. with their foreign customs and language. Anti-welfare propaganda is used to scare nativist Americans into believing that the social safety net will burst if millions of Mexican and Central American immigrants are allowed to “infest the country.” Along the same lines, white culture and media promote images of crime designed to keep the masses divided. Criminals are typically portrayed as street offenders and disproportionately nonwhite. We are taught to be fearful of the aggressive thugs in the streets while simultaneously encouraged to ignore the crimes of the powerful such as white-collar and political crimes. This further guarantees that white supremacist control of wealth is not disturbed. This is what Karl Marx referred to as the “false consciousness” (Tucker, 1978).

### *Racists All Wear Pointed Hoods Don't They?*

White privilege gives whites the advantage of defining exactly what racism looks like. The goal of whiteness is to create the perception that racism manifests itself in isolated individual acts or the acts of lunatic groups. Whites routinely pride themselves for their “compassionate” and “progressive” opposition to the White Aryan Brotherhood, the Ku Klux Klan, and the Neo-Nazis. By lashing out at these racist villains, whites are “proving” they have identified the enemies and are staunchly seeking to marginalize them. How, after all, can someone accuse whites of being racist if they are so opposed to these white supremacist groups? Excoriating individual members of these fringe racist groups, however, is self-serving to whites. By doing so they are obfuscating the fact that real racism can only survive when there is cultural, social, and legal support for it (Davis, 2012). It also covers up the fact that systemic racism is running rampant and is being unconsciously condoned by otherwise well-intentioned whites. This is another reason why white privilege must be made obvious to the future generation of leaders as well as college students. In one study, 70% of whites thought that blacks have the same opportunities to live a middle-class life as do Caucasians. Similarly, in 1990, more than one-half of whites saw blacks as innately lazy, less intelligent and less patriotic than whites (Landry, 1991). This illustrates the dire need to bring white privilege to the forefront of discussion in the college setting.

### *Criminal Justice Stigma and White Privilege*

Finally, white privilege gives whites the freedom from the constant fear of being targeted by the criminal justice system based upon the color of their skin. When a black male, for example, is driving (particularly if he is in the “wrong” neighborhood), he has to psychologically maintain a state of hypervigilance. He has to worry about whether each lane change, turn, signal, and speed is within the boundaries of acceptability to white America’s hired status quo enforcers (i.e., the police) or whether he will be targeted for enforcement. Whereas whites have the freedom to completely avoid black neighborhoods, blacks inevitably face the stressors of constantly being reminded that they live in a country set up to benefit whites. This takes an enormous psychological toll on blacks and it is a stressor not faced by whites. This again gives a competitive edge to whites and they need to be made aware of their advantaged status (Rothenberg, 2012)

### *Conclusion*

In light of the above discussion, the question becomes how can we get future generations of students made aware of the impact of systemic racism?

The only way to do this is to continually raise these issues in college classes. Students, particularly whites, have to be made aware not only of the harmful effects of overt racism but must also come to see the privileges they have been given that are completely independent of their merits, abilities, intellect or hard work.

One caveat is in order first, however. It is essential to point out that whiteness, while an unearned privilege that is granted in America, is not the only one available. In fact, there are copious categories of privilege available. For example, a person is privileged over others if the person is: 1) heterosexual, 2) male, 3) Christian, 4) upper-class, 5) physically able, 6) mentally healthy, and 7) educated. A white person, for example, who is gay, atheist, female, handicapped, has a mental illness, and is undereducated, is not better off than a wealthy black who is a college graduate. In sum, we all have times, places, and circumstances where we are the oppressor and at other times we may be the oppressed. Nevertheless, it is indisputable that whiteness confers upon its recipients, advantages, preferences,

vital cultural capital and access to resources that simply are not available to those who have not been admitted to the club. This is true even though biologists and geneticists have eschewed the physical existence of races and come to the realization that the concept of race is a social construct created and perpetuated by those with the economic and political power to do so (Painter, 2012).

This “survey” is not meant to be administered in its entirety as this would demoralize and fatigue respondents. These items should be sampled by college teachers and used as tools to initiate meaningful debate with students in class. Many of these items have been excerpted from disparate sources (e.g., Wise, 2011; McIntosh, 1990) over a period of several years. Some others were created by the author and students from various criminal justice courses.

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# THE GLOBAL SCENARIO OF GENETICALLY MODIFIED FOODS

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## *Declaration*

The Declaration of the author for publication of Research Paper in The Indian Journal of Research Anvikshiki ISSN 0973-9777 Bi-monthly International Journal of all Research: I, *Anita Singh* the author of the research paper entitled THE GLOBAL SCENARIO OF GENETICALLY MODIFIED FOODS declare that , I take the responsibility of the content and material of my paper as I myself have written it and also have read the manuscript of my paper carefully. Also, I hereby give my consent to publish my paper in Anvikshiki journal , This research paper is my original work and no part of it or it's similar version is published or has been sent for publication anywhere else. I authorise the Editorial Board of the Journal to modify and edit the manuscript. I also give my consent to the Editor of Anvikshiki Journal to own the copyright of my research paper.

## *Abstract*

*Genetically modified foods are foods produced from organisms that have specific changes introduced into their DNA using the methods of genetic engineering. These techniques have allowed for the introduction of new crop traits as well as for greater control over a food's genetic structure. It is perceived that it can increase productivity, reduce pesticide use and improve the nutritional quality of food. Though there are many studies evaluating the merits & demerits of GM foods, there are some doubts which persist globally like the safety of consuming genetically modified foods and the impact of biotechnology on the environment. Therefore, this paper examines the major issues concerning GM foods globally.*

**Key words;** Genetically Modified Food, Biotechnology, Labeling

## *Introduction*

Genetically modified foods (also known as GM food, biotech food or transgenic food) are foods produced from organisms that have specific changes introduced into their DNA using the methods of genetic engineering.<sup>1</sup> These techniques have allowed for the introduction of new crop traits as well as for greater control over a food's genetic structure than previously afforded by methods such as selective breeding and mutation breeding. Commercial sale of genetically modified foods began in 1994, when 'Calgene' first marketed its FlavrSavr delayed ripening tomato.<sup>2</sup> GM foods are developed and marketed because it is perceived that they can increase productivity, reduce

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pesticide use and improve the nutritional quality of food. Currently there are number of foods available in the market which are genetically modified such as cotton, soyabean, canola, potatoes, eggplant, strawberries, corn, tomato, lettuce etc. In addition to enhanced level of crop production, human society realizes the benefits of food in terms of low production costs, conservation of biodiversity, more efficient use of external inputs for sustainable agriculture and environment. It also helps in improvement of economic and social benefits of poverty alleviation and fulfilling the demands of expanding population globally. However, some opponents, worry about both the safety of consuming genetically modified foods and the impact of biotechnology on the environment. Therefore, this paper examines the major issues concerning GM foods globally.

### *Global Scenario of GM Crops*

GM crops first appeared commercially in the mid 1990's but today, it seems to have a bright and promising future. Today, the total area of land growing GM crops has rapidly expanded to reach nearly 158 million hectares in 2011<sup>3</sup>, GM crops are mainly grown in America region, where the USA accounts for 70% of the world sowing of GM crops and 30% global market share in GM technology. Major exporting countries of GM crops are US, Argentina, Australia and Canada. Some developing countries such as China and Mexico are also growing GM crops for their domestic markets.<sup>4</sup> Almost twenty five countries are growing GM crops which include India also. The year 2011 showed a remarkable growth of 146 % in GM crops area as compared to 2010.<sup>3</sup> The growth in GM crops was higher in developing countries than in industrialized nations. Major growers of GM crops are Brazil, India, Canada, China, Paraguay, South Africa. Major transgenic crops include Maize, Soyabean and cotton<sup>1</sup> and the major engineered traits include insect resistance, herbicide tolerance and virus resistance.

Regarding GM Foods production in India there is five times growth in food grain production during the last six decades. Because in India the farmers who have poor soils and are unable to afford commercial fertilizers became attracted towards the new GM crops technology which can cope with poor soil and low rainfall. Where as in its neighboring country Srilanka consumers are not aware of GM foods, yet perceive GM foods to be risky to human health. Srilanka does not produce or import GMO's food.<sup>3</sup> Thus, in a world with major nutrition and health problems people think that biotechnology, if used vigilantly and appropriately has enormous potential to improve the quality of life in the poor countries.

### *Global Concerns Regarding Labeling of GM Foods*

Revolution in plant biotechnology and genomics has opened new perspectives and opportunities for plant breeders, though, some countries have skepticism over GM products. Several European Union countries like Poland, Hungary, Austria, France etc. are against GM foods. The EU, Japan, Australia, Newzealand, Korea, Switzerland the Czech Republic, Hungary, Norway and Iceland all have some type of mandatory labeling regulations for GM foods to ensure high level of protection to human, animal and environment health. In contrast, US regulations view GM foods as not substantially different from the conventional varieties. The European Union holds the 'Precautionary Principle' because of the perceived risks of GM foods. Thus countries of the world react differently to GM foods on labeling matters which will have impact on GM crops from production to retailing. The European Commission has proposed a strict system of traceability for GM foods where as in

USA and Canada no strict regulations have been passed. Thus there is a diverse range of regulation and framework for cultivation and use of GM crops. Though labeling would allow consumers to make informed choices and purchasing decisions on issues of health, religious beliefs and personal ethics. Voluntary labeling could also increase the industries credibility and consumer acceptance. Therefore, international agencies such as FAO, Codex Alimentarius and Convention on Biodiversity are working to provide consistent and coherent approaches to GM foods. Codex currently does not include agreed standards on GM foods. There is also a committee on labeling to establish guidelines. (Sheldon, 2002)<sup>5</sup>. Legislation would impose labeling and traceability system based on documentation throughout the food manufacturing process.

### *Merits of GM Foods*

Genetically modified foods are made by inserting the DNA of other species. It is more commonly done in plants. GM foods are made disease resistant and allergy resistant.

GM foods are rich in vitamins A, C, E and unsaturated fatty Acids and probiotics.<sup>6</sup> Thus they help in combating malnutrition in poor countries.

GM Foods grow faster than conventional varieties even in unfavourable climatic conditions and poor soil. The global food crop yield from 1996-2013 has increased and seventy million tones in relatively small acres of land due to GM foods.<sup>7</sup> GM foods are pest and weed resistant, therefore their cost of production is also very less and are free from harmful chemicals and thus environment friendly also.<sup>8</sup> These foods are also reported to have higher shelf life. It is noted that GM crops have been beneficial to both economy and environment.

### *Risks of Genetically Modified Foods*

There is a global concern regarding the risks of GM foods. The scientists world wide agreed that GM foods are marketed even before assessing their safety. The risks of genetically modified foods include:<sup>9,10,11,12</sup>

1. Testing- foods derived from genetically engineering do not have the advantages of conventional foods.
2. Allergenicity- New gene combinations which leads to possibility of novel proteins that may produce allergenicity, toxicity and genetic hazards.
3. Use of viral or bacterial vectors to insert genetic material- particularly, antibiotic resistance genes used in markets may have the potential for delivering antibiotic resistance.
4. Biodiversity risks- Cross breeding with conventional crops to produce weeds and pests varieties can cause threat to flora and fauna.
5. The biggest threat of GM foods is believed that consumption of these foods can develop diseases in humans which are immune to antibiotics.

The acceptance of GM foods depends on the public confidence in the assessment process for safety and transparency in policy. Therefore the challenge of the new millennium is to manage biotechnology with forethought and care.

### *Conclusion*

GM crop cultivation are the fastest growing agriculture technology across the world. Genetically Modified foods have the potential to solve the problems of hunger and malnutrition to some extent if labeling and testing of its safety is properly done. Moreover, intense and serious efforts are needed for risk management of these foods as there is no uniform regulations for GM crops cultivation and marketing globally.

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## SYNTHESIS OF METAL COMPLEXES OF Ni(II), Co(II) AND Cu(II) WITH LIGANDS DERIVED FROM 2,6-DIACETYL PYRIDINE MONOXIME AND 1,2-DIAMINO BENZENE

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### *Declaration*

The Declaration of the authors for publication of Research Paper in The Indian Journal of Research Anvikshiki ISSN 0973-9777 Bi-monthly International Journal of all Research: We, *Urmila Thakur and Ashok Kumar* the authors of the research paper entitled SYNTHESIS OF METAL COMPLEXES OF Ni(II), Co(II) AND Cu(II) WITH LIGANDS DERIVED FROM 2,6-DIACETYL PYRIDINE MONOXIME AND 1,2-DIAMINO BENZENE declare that , We take the responsibility of the content and material of our paper as We ourself have written it and also have read the manuscript of our paper carefully. Also, We hereby give our consent to publish our paper in Anvikshiki journal , This research paper is our original work and no part of it or it's similar version is published or has been sent for publication anywhere else. We authorise the Editorial Board of the Journal to modify and edit the manuscript. We also give our consent to the Editor of Anvikshiki Journal to own the copyright of our research paper.

The present chapter is devoted to the experimental procedures adopted for the preparation of the ligand and its complexes with Ni (II), Co (II) and Cu(II).

In this section we have given the preparation of ligand and its condensation with the divalent transition metal ions from first series.

### *Materials and Methods*

The chemicals were of reagent grade of Aldrich, E. Merck, B.D.H and Loba make. They were of G.R or A.R grade and hence used without further purification. The reactions were carried out in ethanolic solution.

The preparation and isolation of the free ligand followed by complexation with a metal ion, has traditionally been the most common method for the preparation of metal complexes. However, in some cases co-ordinated ligand is remarkably stable as compared to the free ligand and in such cases “insitu” preparation were followed.

The possible synthetic route of ligand with 2,6-diacetyl pyridine as a starting material and o-phenylene diamine is given below:

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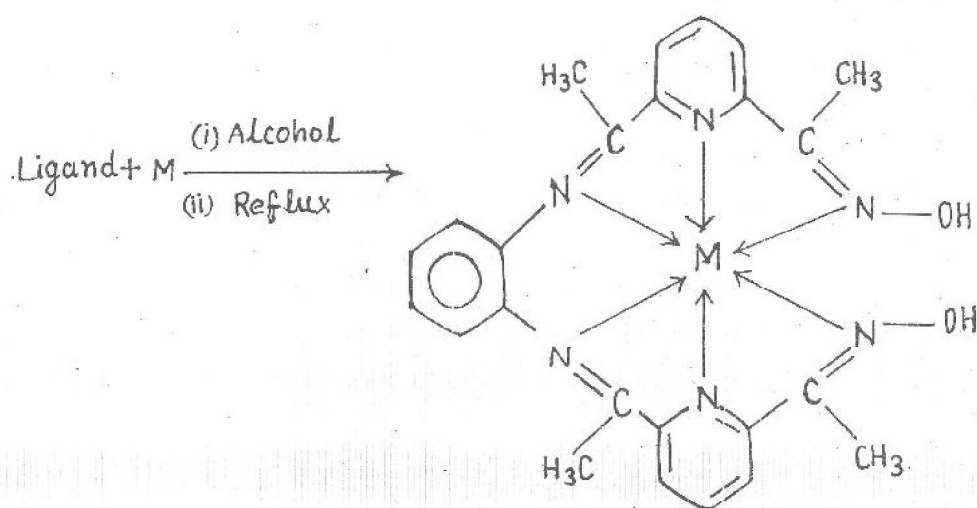
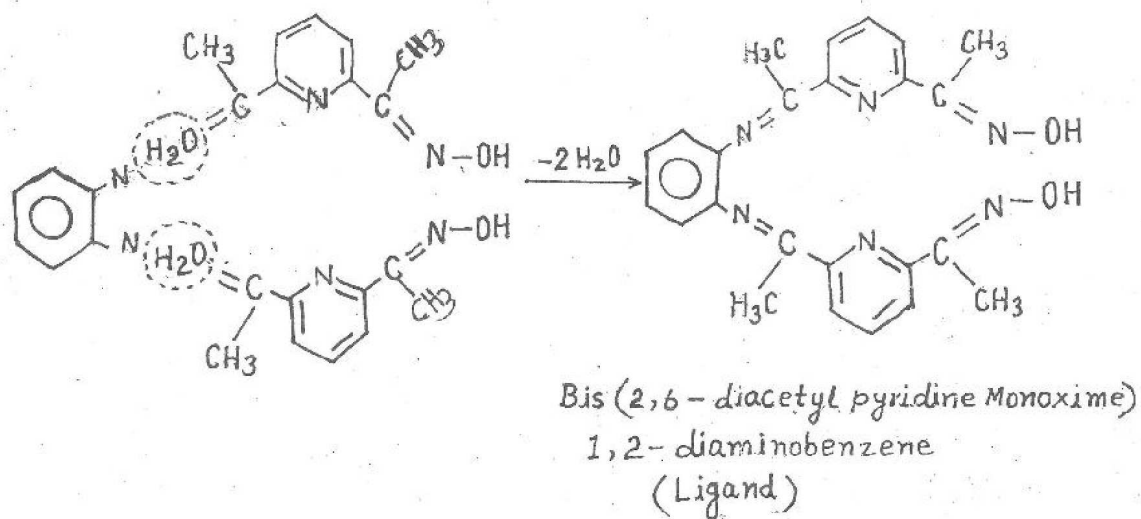
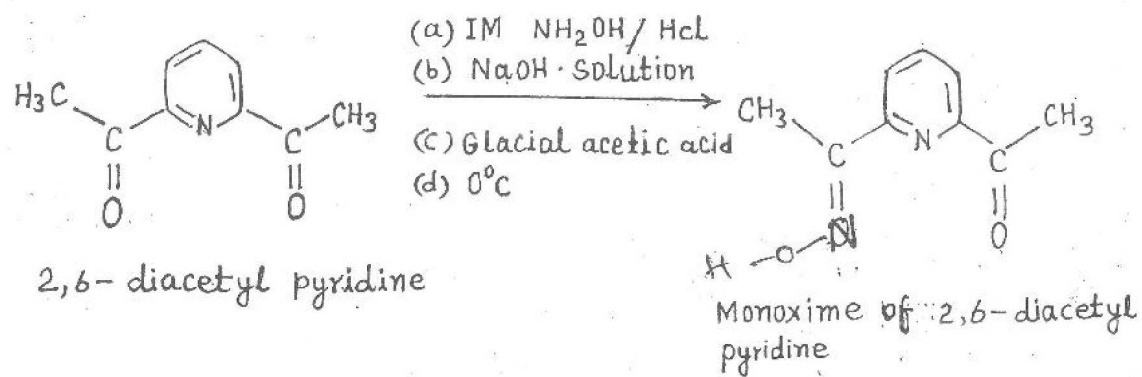


Fig 1



Thus, it is clear that ligand has six potential donor sites which may be as shown in Fig. 1.

The element C,H and N were estimated by semimicro combustion method. The metal ion and analytical data have been given along with their preparative methods. The metal ions Such as Ni is estimated as bis-(dimethyl glyoximato) Ni(II), Co as its Oxinate, Fe volumetrically and Cu by iodometry. The amount of halide ions was determined as their respective silver salts.

### 1. Preparation of 2,6-Diacetyl pyridine Monoxime

A concentrated aqueous solution of hydroxyl amine hydrochloride (3.5g., 0.05mol) was added to an ethanolic solution of 2,6-diacetyl pyridine(6.5 g., .04 mol) and then cooled upto -5°C. To this reaction mixture 20% aqueous solution of NaOH (12g.; 0.3 mol) was added dropwise with rapid stirring and the temperature of the resultant mixture was maintained below 0°C. The colour of the solution became pink. After 90 minutes it was diluted with water and acidified with glacial acetic acid, The mixture was allowed to stand for 30 minutes and then filtered through Succession. The product was recrystallised from aqueous alcohol (60 volume alcohol). A white needle type crystals were obtained. It was filtered, washed with water and dried. The dried product was analysed for its constituents.

The M.P. of this monoxime was found a to be 218°C.

	Found %	Calculated %
Carbon	60.25	60.67
Hydrogen	5.13	5.61
Nitrogen	15.24	15.73

### 2. Bis-(2,6- diacetyl Pyridine Monoxime)-1,2-diamino benzene

2,6-diacetyl pyridine monoxime (0.02 mol) and 1,2-diamino benzene (1.08g.: 0.01 mol) were mixed with the help of agate and mortar. They went into homogeneous viscous liquid after triturating them together for about two hours. The mortar was kept in refrigerator overnight. The product was dried under vacuum and recrystallised from a little ethyl alcohol and analysed. The melting point was found to be 184°C

	Found %	Calculated %
Carbon	66.95	67.28
Hydrogen	5.21	5.60
Nitrogen	19.14	19.62

### 3. [Bis (2,6- Diacetyl pyridine Monoximato)-1,2- diaminobenzene Copper(II)] [CuL-H<sub>2</sub>]

2,6-diacetyl pyridine monoxime (0.01 mol) was dissolved in 20 mol. absolute alcohol. The solution was warmed to boiling. To this solution an alcoholic solution of Cupric acetate monohydrate (0.005 mol) was added dropwise with constant shaking An alcoholic solution of 1,2-diamino benzene (0.005 mole) was added and the whole solution was refluxed on a hot water bath for one hour. The mixture was cooled at normal temperature and filtered. The blackish cluster type product was

obtained which was recrystallised from water alcohol mixture (1:1). The compound was dried and analysed for its constituents.

	Found %	Calculated %
Copper	12.65	12.96
Carbon	58.34	58.82
Hydrogen	4.23	4.52
Nitrogen	16.85	17.15

4. *[Bis-(2,6-diacetyl pyridine monoxime)-1,2- diamino benzene Copper(II)] Chloride [Cu L]Cl<sub>2</sub>*

An ethanolic solution of 2,6-diacetyl pyridine monoxime(0.01 mol.) was added to an ethanolic solution of Cupric Chloride dihydrate (0.005 mol.) with constant shaking. To this solution an alcoholic solution of 1,2-diamino benzene(0.005 mol. was added and whole solution was refluxed on water bath for one and a half hour. A purple brown precipitate was formed after cooling. The solid product was filtered, washed with alcohol and dried. The dried product was analysed for its constituents.

	Found %	Calculated %
Copper	10.95	11.28
Carbon	50.86	51.20
Hydrogen	4.02	4.26
Nitrogen	14.45	14.93
Chloride	12.15	12.62

5. *[Bis-(2,6-diacetyl pyridine monoxime)-1,2diamino benzene Copper(II) Bromide [CuL ]Br<sub>2</sub>*

2,6-diacetyl pyridine monoxime (0.01 mol) was dissolved in 20 ml absolute alcohol and the solution was warmed on hot water bath. The alcoholic solution of cupric bromide hexahydrate (0.005 mol) was added followed by ethanolic solution of -1,2-diamino benzene(0.005 mol )and the mixture refluxed on hot water bath for one hour. A brown precipitate was obtained on allowing the solution to stand for some time. The compound was filtered, washed with alcohol

It was analysed after drying.

	Found %	Calculated %
Copper	9.21	9.74
Carbon	43.95	44.20
Hydrogen	3.26	3.68
Nitrogen	12.37	12.89
Bromide	24.05	24.55

6. *[Bis-(2,6-diacetyl pyridine monoxime)-1,2 diamino benzene Nickel (II)] [NiL-H<sub>2</sub>]*

Nickel (II) acetate tetrahydrate (0.005mol) was dissolved in absolute alcohol and an alcoholic solution of 2,6- diacetyl pyridine monoxime (0.01 mol) was added to it dropwise with constant shaking. An alcoholic solution of 1,2-diamino benzene (0.005mol.) was further added to it. The mixture was refluxed for 35-40 minutes. A blackish product was obtained. It was allowed to stand for two days then a blackish mass was left behind. The precipitate was dried and analysed for its constituents.

	Found %	Calculated %
Nickel	11.83	12.07
Carbon	59.03	59.44
Hydrogen	4.03	4.54
Nitrogen	17.01	17.33

7. *(Bis (2,6-diacetyl pyridine Monoxime)-1,2-diamino benzene Nickel (II) ]Chloride [NiL]Cl<sub>2</sub>* (0.01mol) of 2,6-diacetyl pyridine monoxime was dissolved in 25ml absolute alcohol. An alcoholic solution of Nickel Chloride hexahydrate (0.005mol) was added into the above solution and the resultant solution was warmed upto boiling. The solution acquired brownish green colouration. To this solution was added an ethanolic solution of-1,2-diamino benzene (0.005mol). The mixture was refluxed on water bath for 30 minutes, a red preceipitate was formed after cooling. It was filtered, washed with alcohol and dried. The dried product was analysed for its constituents.

	Found %	Calculated %
Nickel	10.20	10.49
Carbon	51.02	51.65
Hydrogen	4.13	4.30
Nitrogen	14.79	15.05
Chloride	12.06	12.73

8. *[Bis-(2, 6-diacetyl pyridine Monoxime)-1,2-diamino benzene Nickel (II)] Bromide [NiL]Br<sub>2</sub>*

Nickel (II) bromide hexahydrate (0.005mol) was dissolved in 25ml, alcohol. An ethanolic warm solution of 2,6-diacetyl pyridine monoxime (0.01mol) was added to the above solution. The mixture became dense and reddish. An alcoholic solution of 1,2-diamino benzene(0.005 mol.) was added slowly to the above solution with constant stirring. The whole content was reflexed on hot water bath for sometime After cooling, light brown precipitate was filtered, washed with alcohol. It was dried and analysed.

	Found %	Calculated %
Nickel	8.76	9.04
Carbon	44.01	44.54
Hydrogen	3.26	3.71
Nitrogen	12.22	12.99
Bromide	24.03	24.74

9. *[Bis-(2,6- diacetyl pyridine Monoxime)-1,2 -diamino benzene Nickel(II)] Iodide [NiL]I<sub>2</sub>*

Nickel (II) iodide Hexahydrate (0.005 mol) was dissolved in about 20ml. absolute ethanol and alcoholic solution of 2,6-diacetyl pyridine monoxime(0.01mol) was added. An ethanolic solution of 1,2-diamino benzene (0.005 mol) was added slowly to the above solution with constant shaking. The whole content was concentrated on hot, water bath. After Cooling, dark red precipitate was filtered. The product was washed with alcohol. The sample was dried and analysed.

	Found %	Calculated %
Nickel	7.23	7.90
Carbon	38.21	38.89
Hydrogen	3.01	3.24
Nitrogen	10.86	11.34
Iodide	33.92	34.30

10. *[Bis-(2,6- diacetyl pyridine Monoxime)-1,2- diamino benzene Cobalt(II) [CoL-H<sub>2</sub>]*

An alcoholic solution of -2,6-diacetyl pyridine monoxime (0.01mol) was added to an ethanolic solution of cobalt (II) acetate, tetrahydrate (0.005 mol.). To this solution an ethanolic solution of 1,2-diamino benzene (0.005mol) was added and the whole mixture was refluxed on water bath for 40 minutes. On cooling a dark brown precipitate was formed which was filtered. The precipitate was washed with alcohol, dried and analysed for its constitution.

	Found %	Calculated %
Cobalt	11.85	12.16
Carbon	59.12	59.39
Hydrogen	4.23	4.53
Nitrogen	16.97	17.31

11. *[Bis-(2,6- diacetyl pyridine Monoxime)-1,2- diamino benzene Cobalt(II)] Chloride [Co L]Cl<sub>2</sub>*

2,6-diacetyl pyridine monoxime (0.01mol.) was dissolved in 20ml. alcohol The solution was warmed and added to an alcoholic solution of Cobalt(II) Chloridehexahydrate (0.005mol.) with Constant stirring. An ethanolic solution of 1,2-diamino benzene (0.005mol.) was added to the above solution. Light red precipitate was formed. It was refluxed on a hot water bath for an hour. The compound was cooled, filtered, washed with alcohol, dried and analysed

	Found %	Calculated %
Cobalt	10.02	10.57
Carbon	51.21	51.61
Hydrogen	4.02	4.30
Nitrogen	14.76	15.05
Chloride	12.03	12.72

12. *[Bis-(2,6- diacetyl pyridine Monoxime)- 1,2-diamino benzene cobalt(II)] Bromide[COL]Br<sub>2</sub>*. An alcoholic solution of Cobalt (II) bromide hexahydrate (0.005mol) was added dropwise to the warm ethanolic solution of 2,6 - diacetyl pyridine monoxime(0.01 mol)and the resulting solution was warmed to boiling. An ethanolic solution of 1,2 diamino benzene (0.005 mol.) was added with constant stirring when a red precipitate was obtained. It was refluxed on hot water bath for some time. The Compound was filtered, washed with alcohol, dried and analysed for its constituents.

	Found %	Calculated %
Cobalt	8.89	9.11
Carbon	44.02	44.51
Hydrogen	3.21	3.70
Nitrogen	12.33	12.98
Bromide	24.06	24.72

13. *[Bis-(2,6-diacetyl pyridine monoxime )-1,2-diamino benzene Cobalt(II)] Iodide[CoL]I<sub>2</sub>*. Alcoholic solution of Cobalt (II) iodide hexahydrate (0.005mol.) was slowly added to the warm solution of 2,6-diacetyl pyridine monoxime (0.01mol.) in alcohol. The resulting solution was warmed to boiling on hot water bath. An alcoholic solution of 1,2-diamino benzene (0.005mol.) was added dropwise to the above solution with constant stirring when a reddish brown precipitate appeared. It was refluxed for one and half hours on the hot water bath and then filtered after cooling. Subsequently, it was washed with alcohol and analysed after drying,

	Found %	Calculated %
Cobalt	7.21	7.96
Carbon	38.04	38.86
Hydrogen	2.98	3.23
Nitrogen	10.86	11.33
Iodide	33.92	34.27

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## TAGORE : FIRST NON-EUROPEAN TO EVER WIN A NOBEL PRIZE!

DR. PARUL RASTOGI\*

### *Declaration*

The Declaration of the author for publication of Research Paper in The Indian Journal of Research Anvikshiki ISSN 0973-9777 Bi-monthly International Journal of all Research: I, *Parul Rastogi* the author of the research paper entitled TAGORE : FIRST NON-EUROPEAN TO EVER WIN A NOBEL PRIZE! declare that , I take the responsibility of the content and material of my paper as I myself have written it and also have read the manuscript of my paper carefully. Also, I hereby give my consent to publish my paper in Anvikshiki journal , This research paper is my original work and no part of it or it's similar version is published or has been sent for publication anywhere else. I authorise the Editorial Board of the Journal to modify and edit the manuscript. I also give my consent to the Editor of Anvikshiki Journal to own the copyright of my research paper.

Born on May 7, 1861 the Bard of Bengal, Rabindranath Tagore has inspired generations of people through his writings, poetry and thoughts. Tagore was much ahead of his time and his works were loved not only in India but across the world. His much-acclaimed work 'Gitanjali', which was first published in 1910 and later translated and published into English in 1912, won him the prestigious Nobel Prize in Literature in 1913 for "his profoundly sensitive, fresh and beautiful verse, by which, with consummate skill, he has made his poetic thought, expressed in his own English words, a part of the literature of the West." Infact, Rabondranath Tagore was the first non-European to ever win a Nobel Prize!<sup>1</sup> Remembering Tagore on his 160th birth anniversary today, here we list down his timeless poems that continue to resonate his creative charm and are still as relevant. These poems reflect upon different moods and are a must read for all. Read on!

### *Waiting*

The song I came to sing/ remains unsung to this day. I have spent my days in stringing/ and in unstringing my instrument.

The time has not come true,/ the words have not been rightly set;/ only there is the agony/ of wishing in my heart.....

I have not seen his face,/ nor have I listened to his voice;/ only I have heard his gentle footsteps/ from the road before my house.....

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But the lamp has not been lit/ and I cannot ask him into my house;/ I live in the hope of meeting with him;/ but this meeting is not yet.

The poet wants to say in this verse that “The song i came to sing ,Unheard till today.i’ve spent my days stringing And in unpacking. The time has not come true,The words are not set up correctly; there is only pain of desire in my heart.....I didn’t see his face,I have not heard his voice; Only i’ve heard their gentle steps From the road in front of my house..... But the lamp is not lit And I cannot beg him in my house; I live in the hope of meeting him; But this meeting is not over yet.”

Rabindranath Tagore’s traditional education began at a public school in Brighton, East Sussex, and England. He was sent to England in the year 1878 because his father wanted him to become a barrister. Later some of his relatives such as his nephew, niece and sister-in-law supported him during his stay in England. Rabindranath had always despised formal education and thus showed no interest in learning from his school. He later got admission at University College in London, where he was asked to learn law. But he once again dropped out and learned many of Shakespeare’s works on his own. After learning the essence of English, Irish and Scottish literature and music, he returned to India and married Mrinalini Devi when he was just 10 years old.

The first Asian writer to win the Nobel Prize for Literature, Rabindranath Tagore mesmerized the world with his spiritual insights and finely wrought writings. This comprehensive and engaging anthology gathers his polymath achievement, from the extraordinary humanity of *The Post Officer* to memoirs, letters, essays and conversations, short stories, extracts from the celebrated novel *The Home and the World*, poems, songs, epigrams, and paintings. This inspired collection of works by one of this century’s most profound writers in an essential guide for readers seeking to understand Indian literature, culture, and wisdom, and the perfect reintroduction of Tagore’s magnificence to American readers.<sup>2</sup>

Amal stands in Madhav’s courtyard and talks to passers-by, and asks in particular about the places they go. The construction of a new post office nearby prompts the imaginative Amal to fantasize about receiving a letter from the King or being his postman. The village headman mocks Amal, and pretends the illiterate child has received a letter from the king promising that his royal physician will come to attend him. The physician really does come, with a herald to announce the imminent arrival of the king; Amal, however, dies as Sudha comes to bring him flowers.<sup>3</sup>

*The Post Office* is a 1912 play by Rabindranath Tagore. It concerns Amal, a child confined to his adoptive uncle’s home by an incurable disease. W. Andrew Robinson and Krishna Dutta note that the play “continues to occupy a special place in [Tagore’s] reputation, both within Bengal and in the wider world.” It was written in four days.

W.B. Yeats was the first person to produce an English-language version of the play; he also wrote a preface to it. It was performed in English for the first time in 1913 by the Abbey Theatre in Dublin, directed by W.B. Yeats and Lady Gregory; this production transferred to the Court Theatre, London, later the same year. The Bengali original was staged at Tagore’s Jorasanko theatre in Calcutta in 1917. It had a successful run in Germany with 105 performances and its themes of liberation from captivity and zest for life resonated in its performances in concentration camps where it was staged during World War II. Juan Ramón Jiménez translated it into Spanish; it was translated into French by André Gide and read on the radio the night before Paris fell to the Nazis. A Polish version was performed under the supervision of Janusz Korczak in the Warsaw ghetto.<sup>4</sup>

In 1901 Tagore founded an experimental school at Shantiniketan (“abode of peace”) in rural West Bengal, where he sought to blend the best of Indian and Western traditions. They settled permanently in the school, which became Visva-Bharati University in 1921. The grief caused by

the death of his wife and two children between 1902 and 1907 is reflected in his later poetry, which was introduced to the West in *Gitanjali* (Song). Prasad) (1912). This book, containing Tagore's English prose translations of religious poems from several of his Bengali poetry collections, including *Gitanjali* (1910), was authored by W.B. Yeats and Andre Gide and he received the Nobel Prize in 1913. Tagore was awarded knighthood in 1915, but he declined it in protest against the Amritsar (Jallianwala Bagh) massacre in 1919.

From 1912 Tagore spent long periods out of India, lecturing and reading from his work in Europe, the Americas, and East Asia and becoming an eloquent spokesperson for the cause of Indian independence. Tagore's novels in Bengali are less well known than his poems and short stories; they include *Gora* (1910) and *Ghare-Baire* (1916), translated into English as *Gora* and *The Home and the World*, respectively. In the late 1920s, when he was in his 60s, Tagore took up painting and produced works that won him a place among India's foremost contemporary artists.<sup>5</sup>

Rabindranath's father had bought a lot of land in Shantiniketan. With the idea of setting up an experimental school in his father's estate, he shifted base to Santiniketan in 1901 and established an ashram there. It was a prayer hall with marble floors and was named 'Mandir'. There classes were held under trees and followed the traditional guru-shishya method of teaching.

Rabindranath Tagore hoped that the revival of this ancient method of teaching would prove beneficial when compared to the modernized method. Unfortunately, his wife and two of his children died during their stay in Santiniketan and this left Rabindranath distraught. In the meantime, his works started growing more and more popular amongst the Bengali as well as the foreign readers. This eventually gained him recognition all over the world and in 1913 Rabindranath Tagore was awarded the prestigious Nobel Prize in Literature, becoming Asia's first Nobel laureate.<sup>6</sup>

*Short stories*; Tagore began to write short stories when he was only a teen. He started his writing career with 'Bhikharini'. During the initial stage of his career, his stories reflected the surroundings in which he grew. He also made sure to incorporate social issues and problems of the poor man in his stories. He also wrote about the downside of Hindu marriages and several other customs that were part of the country's tradition back then. Some of his famous short stories include 'Kabuliwala', 'Kshudita Pashan', 'Atottju', 'Haimanti' and 'Musalmanir Golpo' among many other stories.<sup>7</sup>

*Novels*; It is said that among his works, his novels are mostly under-appreciated. One of the reasons for this could be his unique style of narrating a story, which is still difficult to comprehend by contemporary readers, let alone the readers of his time. His works spoke about the impending dangers of nationalism among other relevant social evils. His novel 'Shesher Kobita' narrated its story through poems and rhythmic passages of the main protagonist. He also gave a satirical element to it by making his characters take jibes at an outdated poet named Rabindranath Tagore! Other famous novels of his include 'Noukadubi', 'Gora', 'Chaturanga', 'Ghare Baire' and 'Jogajog'.

*Poems*; Rabindranath drew inspiration from ancient poets like Kabir and Ramprasad Sen and thus his poetry is often compared to the 15th and 16th Century works of classical poets. By infusing his own style of writing, he made people to take note of not only his works but also the works of ancient Indian poets. Interestingly, he penned down a poem in 1893 and addressed a future poet through his work. He urged the yet to be born poet to remember Tagore and his works while reading the poem. Some of his best works include 'Balaka', 'Purobi', 'Sonar Tori' and 'Gitanjali'.<sup>8</sup>

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