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**AN ARDENT EXPONENT OF SCIENCE AND TECHNOLOGY & THE ARCHITECT OF MODERN ODISHA:  
BIJU PATNAIK**

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**Abstract**

A life, replete with numerous upheavals, a journey that was rooted in resilience, a relentless attitude to win and achieve newer heights, a heart that felt the pulse of the common mass, a man who sang the hymns of glories of the nation and the state always on lips, the eyes that saw the generations ahead, a selfless Samaritan, a visionary, a patron of modern science, an aviator by profession, a military strategist, a thinker, a daring smart pilot who could shake the British apple cart. An eagle against all odds, the flag bearer of Jammu and Kashmir to add it to India's map, the unsung hero of the Indian freedom struggle, a crusader against corruption, an adored persona across political spheres, a nationalist beyond politics, and a 'Bharat Ratna' by his own rights. The gallant warrior, who saw the thrill and thunder of the Second World War, a saviour of Indonesian pride, the 'Bhoomi Putra' of the Island nation, the incarnated 'Kharavela' of Kalinga, and above all the architect of modern Odisha; can only be attributed to a revered personality who resides in the heart and minds of the people of Odisha, as an epic, an Icon, a legend, is none other than Bijayananda Patnaik [Biju Patnaik]. The present paper aims to highlight the multifaceted character of the iconic personality, particularly as an ardent exponent of science and technology and as the architect of modern Odisha.

**Keywords:** Bhoomiputra, Kharabela, Science, Technology, Aviator, Development, Odisha.

**Introduction**

Born on March 5, 1916 in Cuttack, the traditional capital of Odisha, the unsung hero of India's freedom struggle, an ardent exponent of science and technology, and above all the architect of modern Odisha, Bijayananda Patnaik [as Biju Patnaik, on common lips] is a revered persona in the heart and minds of people of Odisha. Cuttack enjoyed its status as the capital even after its formal decoupling from Bengal on April 1, 1936, which was an outcome of a prolonged campaign and a popular movement for 'Swatantra Odisha'. The primary objective of such a movement was to restore the independent status of 'Odia' culture, tradition and especially, the unique identity of the language from the planned aggression of Bengali Language of neighbouring Bengal, erstwhile Northern Province of unified Kalinga state. Biju Patnaik had his school education in erstwhile Mission Primary School, Cuttack, at present- well known as Christ Collegiate School. From his childhood days, he was always fascinated by airplanes & dreamed to become a pilot. During these days he would often run to Cuttack's 'Barabati' fort to see and observe the landing of airplanes from close quarters that frequented the place in those times.

The Ravenshaw College was Biju Patnaik's alma mater, where he did his bachelor's degree. The college named after Thomas Edward Ravenshaw is one of the oldest colleges, and currently among the best universities of Odisha. To chase his dream of becoming an airman, he dropped from Ravenshaw College to join the 'Aeronautic Training Institute of India' in Delhi. It was his indomitable will, his ambition, and his skills that made him one of the best pilots of those eras. Biju Patnaik too flew with some private airlines; he too joined the Royal Indian Air force of British India at the start of the Second World War. He, not only earned the medal of victory, but also became the head of the Air Transport Command wing of The Royal Indian Air force. Mere appreciation of science and technology could be the leisurely approach of a layman, but in Biju Patnaik, it was his bite, since, without a fair understanding of the scientific knowhow's one can't become a pilot of greater heights. Unmistakably, Biju Patnaik had a rich appetite for science and technology, which he nurtured till the end. April 17, 1997, at the age of 81 curtains did fall to a glorious journey.

A man of impeccable dignity, a commoner, a military strategist, lived a simple life, a heart within and the head high in the oblivion, nourishing all along a dream of modern India, free India, an India of industrial growth, and science and technology, besides the crucial role he played to strengthen the Indian freedom struggle. Like an eagle against the storm, resilient and unperturbed, he faced all hurdles that came on his way to set his own path to move on, scaled unattainable heights, set examples for others to toe his footsteps. It is on the anvil of the Indian freedom struggle, he utilized his skill as an ace aviator to airdrop leaflets in order to sensitize the freedom fighters, when the Quit India Movement was in full swing, and for the Indian soldiers fighting against Myanmar as part of the British Indian armed forces. He also helped shuttle freedom fighters from one place to another during the Independence struggle. It was during this time that he became friends with Jawaharlal Nehru. In later years, he too founded the Kalinga Airlines that operated the vintage Dakota planes in the early years of Independence. These planes, which were later merged with Indian Airlines, played a significant role in Indonesia as well.



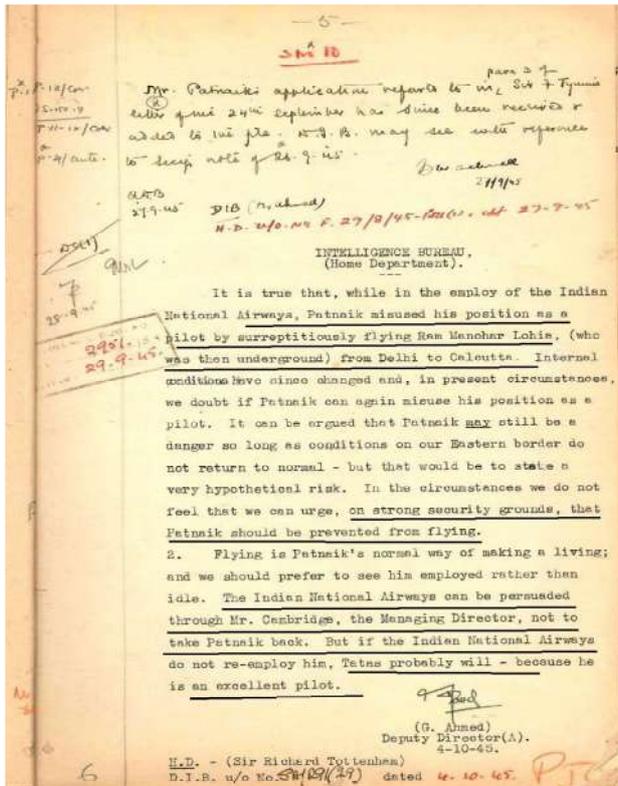
Image 1 Courtesy: Prem Patanaik  
Biju Patnaik flew former Indonesian PM SutanSjahrir  
and vice-president Mohammad Hatta out of Java

Biju Babu ardently advocated inculcating scientific temper in the minds of the people. It is under his able guardianship and patronage Odisha in particular and the Nation, in general, saw many industries come up at a pace to match the standards of other developed nations worldwide. It would not be out of proportion to say that Biju Patnaik sang the songs of an early bird, the music of an Industrial Revolution in India. He established Kalinga tubes, Kalinga Airlines, Kalinga Iron work, Kalinga Refractories and The Kalinga, a daily Odia newspaper. In 1951 he took initiative to establish the international Kalinga Prize for the sole purpose of popularization of Science and Technology among the people and entrusted the responsibility to UNESCO.

From 1952 to 2005, The Kalinga Prize was being presented annually by UNESCO; barring the years 1973 and 1975. From 2006 to 2008, the award was not presented since the statute and financial guidelines were being revised. Since 2009, the UNESCO Kalinga Prize is being presented bi-annually. It has so far been awarded to 70 brilliant promoters of science & technology since its inception, including some of the great scientists who have been awarded the Kalinga Prize are- “Louis de Broglie (1952), Julian Huxley (1953), George Gamow (1956), Bertrand Russell (1957), Karl von Frisch (1958), Arthur C. Clarke (1961), Fred Hoyle (1967) and Sergei Kapitsa (1979). Seven Nobel Laureates have also been decorated with this great and magnanimous honour of the world” (Mishra,2012). So far, the prize has been awarded to 70 people from 25 different countries worldwide. In 2019 the award went to - ‘Karl Kruszelnicki’ of Australia – “in recognition of his long-standing commitment to fire up people’s curiosity for science and share his passion for the subject for over 30 years, using television, radio, podcasts, print media, books and social media to make science accessible to all.” [UNESCO, 2019]

As stated earlier, he had a natural fascination towards aeronautics, industry and adventure. As a relentless traveller, he travelled many countries including U.K., U.S.A., U.S.S.R., Paris, and several others, and in the process acquired more first-hand knowledge on the technology and scientific advances, as well as their apt incorporation into common life. As a nationalist and as a man of ardent exponent of science and technology, he thought of improving the living standards of the common mass and was fully convinced that without building a scientific temper in the country, such a towering goal could not be achieved. Hence, he wanted to establish industries, build institutions and other related facilities; so that a conducive scientific environment is built in the nation and made the state of Odisha the centre of it, wherefrom 'Development' can be oxygenated and ventilated to the rest part of the nation.

Unlike his boyhood, his political activities were full of adventures. During student life, he set out on a bicycle from Cuttack to Peshawar, which was a guardian task at hand in those times. Yet, the determined Biju Patnaik did it. It is during the 'Quit India Movement' he collaborated with underground leaders and was imprisoned for thirty months. At the risk of his life, he landed the first Indian plane in Kashmir in 1947 when Pakistan attacked India. On returning to Odisha, he took interest in industries and established quite many industrial units, hubs and corridors. It is a matter of pride and prestige for the people of the State, that in a short span of time he could make it possible. His skill as an aviator of matchless dexterity and ingenuity was a headache for the British rulers of the time, as evident from different Intelligence reports and secret files. In one of his tweets, Prime Minister Sri Narendra Modi revealed one such secret record in praise of Late Biju Patnaik that speaks for itself.



Excerpts from the Record INTELLIGENCE BUREAU, (Home Department)

It is true that, while in the employ of Indian National Airways, Patnaik misused his position as a pilot by surreptitiously flying Ram Manohar Lohia, (Who was then underground) from Delhi to Calcutta. Internal conditions have since changed and, in present circumstances, we doubt if Patnaik can again misuse his position as a pilot.

It can be argued that Patnaik may still be a danger so long as conditions on our eastern border do not return to normal – but that would be to state a very hypothetical risk. In the circumstances, we do not feel that we can urge, on strong security grounds, that Patnaik should be prevented from flying.

2. Flying is Patnaik's normal way of making a living, and we should prefer to see him employed rather than idle. The Indian National Airways can be persuaded through Mr. Cambridge, the Managing Director, not to take Patnaik back. But if the Indian National Airways do not re-employ him, Tatas probably will - because he is an excellent pilot.

G. Ahmed Deputy director[A] 4-10-45

H.D. [sir Richard Tottenham D.I.B. U/O No. sa/291[29] dt. 4.10.45

Image 2. source Twitter: @narendramodi5<sup>th</sup> march-2020

This is quite evident from the above record that Biju Patnaik enjoyed a good rapport with Ram MonoharLohia and was an accepted personality across political circles irrespective of their belief and modus-operandi of contributing to the Indian freedom struggle. He commanded respect from his opponents too and that was because of his uncompromising attitude towards national interest. A life dedicated to the cause of the nation and state.

It is evident from several secret files of American Intelligence CIA, that mention the foresightedness of Biju Patnaik, his closeness to Nehru, and his role as an ace military strategist. In 1963, USA was eager to bolster its radio transmitting capacity against China; Nehru agreed to locate a VOA [Voice of America] transmitter somewhere in eastern India and in lieu of it, India was assured of technical support for Bokaro steel Plant and military aid by USA. On Biju's insistence, Odisha was one of the places earmarked for the facility. In brief; the Americans were allowed to use Indian Territory for their broadcasts, which were against the spirit of non-alignment principle, India followed at that time. With this news, the Indian media as well as the entire opposition were up in arms and made much hue and cry, but Biju Patnaik stood firm and ardently supported the project. Much to the surprise of Biju Babu, Nehru changed his mind and cancelled the USA proposal under pressure from the opposition, citing an unrealistic excuse that - Americans disagree on the Indian condition of it being completely staffed by Indians. Nehru's topsy-turvy and sheer indecisiveness resulted in America's withdrawal from the Bokaro Steel Plant.

Similarly, as per recently declassified documents on the history of the U-2 programme obtained, reveals that in the establishment of Charbatia as a base for refueling the CIA's U-2 spy planes was possible because of Biju Patnaik. A reluctant Nehru, on Biju's insistence, agreed to allow the US to overfly Indian Territory and use Charbatia as a base for refueling the CIA's U-2 spy planes. It was the collected data from the secret flights made by these U-2s aircrafts, which informed India about the nature of Chinese incursions inside Indian Territory. "It is Biju Patnaik who could make the Americans agree to set up a plant for processing the films that were shot by the spy planes. A huge complex with 30 air-conditioned flats was built for the nearly 60 CIA technicians, who worked round the clock. The complex still exists, yet! In this age of satellite technology, the setup has become obsolete." [Dhir, 2021].



The first mission out of Charbatia took place on May 24, 1964. In December 1964, when Sino-Indian tensions along the border increased once again, Charbatia too became active once again; wherefrom three highly successful missions were conducted. The typical roles of the American spy planes during Chinese debacle have never been told and have remained a secret till date. The formation of Establishment-22, popularly known as SFF [Special Frontier Force] at Charbatia comprising the Khampa rebels, and Biju Patnaik's role in it was yet another feather in the cap of Biju Babu's achievements. "The Special Frontier Force (SFF) is recently in the limelight after the operations carried out on the night of 29, August on the south bank of Pangong Tso in Eastern Ladakh, which reminds the legacy of Biju Patnaik as a military strategist" [Jha, 2020].

Despite his short stint as the Chief Minister of Odisha in his first term, that lasted for 27 months only. Biju Patnaik left his imprints in the history of emergent and evolving Odisha. He injected a rare dynamism and workmanship into the administration, ran a powerful and efficient administration to redraw the image of Odisha, and was successful to put it in the national limelight. Many more projects which he spearheaded include the Port of Paradeep, Orissa aviation centre, Bhubaneswar airport, the Cuttack-Jagatpur Mahanadi highway bridge, Regional Engineering College, Rourkela, Sainik School Bhubaneswar, Orissa University of Agriculture and Technology- [OUAT] Bhubaneswar, National Aluminum Company [NALCO], Talcher Thermal Power Station, Balimela Hydel Project, HAL-Sunabeda and the Choudwar and Barbil industrial belts. The list becomes endless to establish the fact that he had a genuine lenience and knack for science and technology. He wanted to bring in - academics, industry, research and logistics together, to complete a chain of all-round development, which only a visionary of his stature can formulate.

The last words of Biju Patnaik still reverberate in the minds of people of Odisha to serve as the tip of the iceberg to understand the noble dream and design he nourished all through his life.

"In my dream of the 21st century for the State, I would have young men and women who put the interest of the State before them. They will have pride in themselves, confidence in themselves. They will not be at anybody's mercy, except their own selves. By their brains, intelligence and capacity, they will recapture the history of Kalinga." [Patnaik, 1992]

Biju Patnaik is one amongst the legendary personalities of Odisha whose stature has grown even after his death. He continues to inspire and draw respect from people belonging to different walks of life even today. He commands respect from his political rivals too, who hold him in high esteem. The multifaceted character of the legendary leader won accolades across political platforms in the aftermath of the freedom struggle. As a friend and a close confidant of the first prime minister of Free India Pandit Jawaharlal Nehru, Patnaik played a vital role in giving shape and direction to Indian politics. As an ace Pilot of indomitable courage played a critical role to evacuate and rescue 'Sukarno' and his family from Indonesia, who were under house arrest by the Dutch forces and in a time when there was an imminent threat to their life. Indonesia was freed from Dutch rule in 1945, and its first President Sukarno along with Prime Minister Sutan Sjahrir formed the first independent government in that country. In 1950, the Indonesian government rewarded Patnaik honorary citizenship of Indonesia and awarded the 'Bhoomi Putra', [son of the soil] a recognition rarely given to any foreigner.

He strongly believed in socialism and federalism. He felt that unless the constituent states progress on equitable levels development of a nation shall always remain unattainable. Hence, he advocated the fair distribution of revenue and recourses to strengthen the federal structure of the state. In absence of which, India would never become strong to reckon with. He had a vision for the growth and development of Odisha. He believed that in order to strengthen the backbone of the country, which heavily rests on the shoulders of the strong peasantry; modernization of agriculture is a must. In addition to that, a judicious use and application of scientific knowledge and technology are necessary. He too, at the same time, as the natural entrepreneur and founder of Kalinga Airlines and Orissa Textile Mill, wanted that agrarian feudalism has to be dismantled to bring in an industrial revolution. In both cases, the focus was on growth and science, as well as a pragmatic approach to maintain a fair balance between the two, both agriculture, and Industry.

His ambitious projects, which he named as 'Decade of Destiny', were meant to elevate the State to a new height. Biju Babu (as fondly called by his friends, followers and well-wishers) seldom tolerated red-tapism, and always wanted the things to be done immediately and without any delay. The importance that Biju Babu attached to Odisha's industrial development was reflected in his memorable speech, which he delivered at the inauguration of the Odisha Planning Board on June 15, 1962. He had said –

"A people cannot grow unless the industries were developed and established here". Calling upon the bureaucrats to change their work-style, Patnaik said, "In the new set-up in the new adventure which we are going to embark upon, I would expect my officials to become thinkers. I would expect them to collectively and willingly push the State towards the goal of prosperity." [The Pioneer, 2021]



He always carried a bigger and greater dream close to his breast for the State. In 1951 he made a separate fund allocation for the international Kalinga Prize aimed at the popularization of Science and Technology. He entrusted the liberty and responsibility of selection of the fittest candidate for the Prize to UNESCO. First awarded in 1952, the Kalinga Prize is presented annually by UNESCO to a person or personalities, with definite credentials in making an outstanding contribution to the field of science and technology. Needless to mention, that The Kalinga Prize is regarded as one of the prestigious international recognition in this field. He too dreamt to establish a Science city in the state of Odisha at Burla in Sambalpur district, as well as its adjacent areas, primarily because of the availability of natural resources necessary for such an innovative project. He chalked out a plan for setting up a state-of-the-art laboratory and other related facilities here in Odisha, which would draw scientists from all over the world to come to Odisha. To accelerate his vision, he too invited Dr. Krishna Dronamraju, president of the foundation for Genetic Research at Houston, to help in establishing a new science centre at Bhubaneswar. Even a separate page was devoted to cover science and technology-related contents in the Kalinga News Daily established by him. Its primary objective was to imbibe and inspire the young generations to grow with an appetite for science and technology from early ages. In 1961, Biju Patnaik invited Prof J.B.S. Haldane, an internationally-acknowledged Biologist, Scientist and Philosopher, to Odisha to continue his work on genetics. Haldane by that time was amongst the greatest scientists of the 20th century. Many of his papers he published were aimed at fine-tuning the common understanding of how evolution takes place.

In 1957 Haldane migrated to India and his friendship with P C Mahalanobis took him to join the Indian Statistical Institute at Kolkata where he headed the Biometry unit. He collected a small band of enthusiastic young students and began research on various topics. Haldane became an Indian citizen and adopted pure vegetarianism. He was keenly interested in inexpensive research but was unsuccessful in gathering support for his ideas and necessary co-operation from other establishments like CSIR and wanted to leave India when Biju Patnaik asked two of his senior officials to visit Kolkata to make an offer of the post of Director of the Biometry and Genetics Laboratory to Haldane that was being set up at Bhubaneswar. Haldane came to Bhubaneswar and met Biju Babu, and accepted the offer. In his own words, Haldane described that he had readily agreed because he felt that "Biju was capable of displaying great respect towards individuals whom he considered to be performing worthwhile work". [The Tribune, 2021] Haldane strongly believed that Indian students and scholars have in them tremendous potential, but "It is the intolerable conditions imposed by bureaucrats and not the low salaries or the lack of equipment, which cause so many Indians to take up posts abroad." [Haldane, 1962]

In February 1961, Haldane moved to Odisha as head of the entirely independent research establishment, where he worked together with his young colleagues along with his earlier students from Kolkata who followed him afterwards and published a slew of papers on population genetics that are considered as classics. While working in Odisha, he always stressed the suitability of Ethology, or the study of animal behaviour, as a topic of scientific research. Haldane had grand plans for pursuing a number of original projects together with his students. He tried his best to inculcate a western attitude of doing a research project in them – but with local material and minimal apparatus. It was his firm conviction that India offers ideal conditions for investigating the genetic basis for malarial resistance. In one of the international science conferences, wearing 'Kurta and Pajamas', he projected India as his country and invited scientists to collaborate on projects in human genetics. His name too did the rounds as a potential claimant of the Nobel Prize.

Haldane tried to impart science in simple language to the commoner who must know what goes on inside the research laboratories, for a few of which he pays. He wrote articles and scientific essays in a number of journals and newspapers, gave radio talks, published books and gave many lectures both in India and abroad. His articles in 'The Hindu' evoked an overwhelming response from the general public, and they flooded him with queries. A genuine and good friendship developed between Biju Patnaik and Haldane. They went on to meet and have long talks often. Haldane developed a keen interest in India and believed that the prospects for doing useful scientific work here is vast and untapped yet. His readings of Hindu, Buddhist, Jain and Islamic philosophy to a greater extent bolstered this interest.

For the subsequent three years, Haldane imparted to the Indian scientific scene a different colour and character. He devoted himself to assisting the event of science in this country, which he believed had tremendous potential for growth. The Biometry Lab would have certainly become a premier institution of the state, and therefore the world, but for the sad demise of this genius on December 1, 1964, at Bhubaneswar did put the curtains down there on to succeed in the specified destination at an early stage. He had left a will for his body to be utilized for medical research; his body was subsequently taken to the Rangaraya Medical College, Kakinada in Andhra Pradesh, where his skeleton and body parts are preserved even today for research projects. Years later, Biju Patnaik fondly recollected his acquaintance with Haldane, while chatting with senior academicians of the department of anthropology of the Utkal University. He revealed his mind, which he had mooted years ago, and proposed to build a statue and to name a road after Haldane. He too stressed that, this is high time; the state should revive the proposal as a tribute to the memory of Haldane.



He had the courage, the zeal and dynamism to devote his life for the state of Odisha and India as a whole, without an iota of self-interest and personal gain. He was not only a statesman, who stood on moral high grounds, he too was an avid strategist on security and military matters. It is not only former Prime Minister Jawaharlal Nehru, who often was amazed by Patnaik's familiarity with military subjects; even succeeding prime Ministers, of recent past like P V. Narashmha Rao, and Chandrasekhar, took advice from Biju Patnaik on security and strategic matters. As the strongest critic of corruption, and as a strong advocate of courage and valiance, he earned an adorable niche in the heart of hearts of Odisha people as the 'champion Persona of Kalinga, 'The Kharavela'. According to Biju Patnaik, "to be born poor is not a crime but to remain so is indeed inexorable" (Twitter, 2019). He often rued that despite the rich natural recourses and plenty of minerals, the desired progress of the state remained a non-starter by succeeding governments in power. In fact, his contributions in different fields shall always remain matchless and monumental to be remembered forever.

A visionary, and as an ideologist, inspired adventurous ideas and incubated the progress of Odisha under his able guardianship, set path, gave direction and instilled pace to the incorporation of science and technology in every walk of life. He was and remains, an awe-inspiring figure till date, his influence in shaping both Odisha and India cannot be denied. He shall live not only in the memories of people who have met him, but for the people who have heard him, or read about him. His legacy shall stay as a beacon and shall continue to inspire for generations after generations...as an iconic personality, who made a far-reaching impact on the contemporary Indian history

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