



Nobel: Not A Noble Battle for Women

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Abstract: *Countless inspiring women have made historic contribution to science but they remained as the neglected pioneers. Their invaluable contributions and discoveries are often being unaddressed in main discourse of science. Despite their tremendous contributions they are treated unfit in general to be good scientist and their achievements are not being well acknowledged. The occasion of Nobel Prize is clear evidence of this absurd contention. It becomes a self-reinforcing loop, sustaining gender inequality in a system already marked by long-standing unfairness. Many deserving women have gone unrewarded over the years for their egregious achievement. While no concrete evidence suggests that women are inherently inferior to men, overwhelming evidence documents the misogyny, sexism, and institutional bias that hinder their careers and consistently fail to recognize their outstanding achievements. Nobel prize is not an exception to this notion. Now it will need to ask hard questions to readdress this imbalance. Discriminating women in respect with their caste, class, race, gender and geographical location is an irreparable harm for advancement of science. There is a way of changing attitude in science could be by re-gendering the notion of what science is.*

Keywords: *Science, Nobel, Women, Equality, Imbalance.*

1. Introduction: Nobel season is now over, like another year again we are glittering, celebrating the achievers who pioneered some of the greatest advances in academic field without questioning for many deserving those who have gone unrecognized over the years. It makes a small ‘Black hole’ in the ground of Nobel. The award “Nobel” itself is surrounded with questionable politics or “The merchant of death is dead” (The Merchant of Death Is Dead!, 1888). Yes it was a News Paper headline wrongly reported by a French journalist in the year 1888 when Alfred Nobel’s brother died. Nobel gets shocked by reading his own obituary which was depicted negatively. “Needless to analyze the inner sense of this statement, we can say that despite of all controversies we have accepted, honored and embalmed “Nobel” as a most prestigious, glorious reward not only for the achievers but also for the nation and in its long history of journey mostly women achievers remain unrecognized, unaddressed and undervalued for their contributions. So, the journey of Nobel is not always noble. It gets pollute with politics of nation, religion, region, caste, class, race and most noticeably with gender bias. Nobel is a vicious cycle that perpetuates ongoing gender inequality in a historically unfair system. Many deserving women have gone unrewarded over the years. It is not only the simple error of omission or commission. To suppress the original fact many of us still justify that women are unfit for logical and intellectual work like science and mathematics, Despite the overwhelming documentation and many prominent examples viewing the fact that women have gone unrecognized for their egregious contributions. Why their contributions are only confined into the literary work art and peace? The breakup picture of Nobel prize wins by gender, by category and by statistics suggests that women have been deemed better suited for “emotional” “soft” and “humane” endeavors, such as literature and peace, while

males were considered more gifted for the “logical”, “hard” and “no – nonsense” scientific work, such as mathematics, physics or chemistry. Indeed, 32.7% of all Nobel awards received by women were for peace (10.4% for male), 26.9% for literature (11.7% for male) as for men the highest percentage were in physics and physiology with about 24% of all male awarded Nobel prize in each discipline, followed by chemistry with close to 21%. Do these ratios validate a gender-neutral notion of Nobel and its purpose? Though surprisingly Nobel institute found no proof of gender bias for eliminating the name of the nominee because of the gender of the nominee and completely denied any allegation with this issue. But the reality says different things that many women were nominated for their ground breaking invention number of times but still no Nobel in their hands causing race, nation, and gender identity and it is true that Nobel laureates will be overwhelmingly male and men are still vastly overrepresented in science (Lunnemann, Jensen, and Jauffred, 2019). Geographical location plays a vital role for nomination too. Throughout the Nobel’s history, The United States, is in first place with 323 award winners. UK with 113 winners and Germany with 87 winners are holding second and third positions respectively with their regular recipients where majority of the winners are from physics, chemistry and medicine. Only 17 awards have been given to men or women from Africa and 10 to those from South –America ((Shenoy, 2019).

Now the pertinent question is should we rely only on statistical figure and how should these statistical ratio be analyzed? Are these significant indicators of intellectual ability or rather a mere statistical indicator of a male – centered bias where women play a marginal role? An in-depth query is needed, to resolve many doubts.

The surprising fact about science stream is that of the more than 600 Nobel Prizes in science stream till now just 20 prizes have been awarded to women (physiology or medicine, chemistry and physics) and needless to say that these prize -winning women overcame tremendous adversity to establish their unparalleled contributions to science (Blakemore, 2016). A table is showing below the statistical picture of Nobel Prize Award by gender in each category.

2. Statistical Analysis of Nobel Prize by Gender

In Table 1, the number of Nobel prizes awarded by gender and category (1901-1908) is presented.

Table 1. Number of Nobel Prizes Awarded by Gender and Category (1901–2018)

Nobel Prize	Number	% of Female	Number	% of Male
Chemistry	5	9.6	176	20.6
Economics	1	1.9	80	9.3
Literature	14	26.9	100	11.7
Peace	17	32.7	89	10.4
Physics	3	5.8	207	24.2
Physiology or Medicine	12	23.1	204	23.8
Total	52	100	856	100

Presently Table 1 is slightly changed for female laureates because in Literature and in Economic science it has been increased by one respectively. In Table 2, the name of female Nobel Laureates has been presented.

Table 2. Name of The Female Nobel Laureates (1901–2025)

Year	Name	Category	Citation / Achievement
1903	Marie SkodowskaCurie	Physics	Research on radiation phenomena.
1911	Marie SkodowskaCurie	Chemistry	Discovery of radium and polonium.
1935	Irène JoliotCurie	Chemistry	Synthesis of new radioactive elements.
1963	Maria GoeppertMayer	Physics	Discoveries concerning nuclear shell structure.
1983	Barbara McClintock	Physiology or Medicine	Discovery of mobile genetic elements.
1991	Aung San Suu Kyi	Peace	Non-violent struggle for democracy and human rights.
1993	Toni Morrison	Literature	Novels giving life to essential aspects of American reality.
2004	Wangari Maathai	Peace	Contribution to sustainable development and democracy.
2009	Elinor Ostrom	Economic Sciences	Analysis of economic governance, especially the commons.
2018	Donna Strickland	Physics	Development of chirped pulse amplification for lasers.
2020	Emmanuelle Charpentier	Chemistry	Development of CRISPR genome-editing method.
2021	Maria Ressa	Peace	Efforts to safeguard freedom of expression.
2023	Katalin Karikó	Physiology or Medicine	Discoveries enabling mRNA vaccine development.
2025	Mary E. Brunkow	Physiology or Medicine	Discoveries concerning peripheral immune tolerance.
2025	María Corina Machado	Peace	Work promoting democratic rights in Venezuela.

3. Age dynamics and delayed acknowledgment in science: Not only the gender, age also a crucial factor for achieving Nobel prize. The average age of recipients has been found to be steadily increasing in recent years. Across all categories in 2019, laureates were on average nearly 60 years old. Esther Duflo who won the Economics Nobel is the youngest laureate. Indeed, across all conventional scientific fields, Nobel laureates have increasingly tended to receive their prizes at an older age. Why the scientific breakthrough happens only in old age? In recent times, researchers often make discoveries early in life, and this trend is shared by many others. It is true that the full impact of a discovery is not always immediately recognized. Since it makes sense to let it mature sufficiently, it could take many years to win an award. The average age of physics laureates was 41 between 1931 and 1940, but it has steadily increased since then, reaching 68 so far this decade. This excessive caution in honouring long-past discoveries leads to younger, currently active scientists, a significant number of whom are women, missing out on recognition. This also resulted in the

loss of a chance to recognize them in their lifetime. Here we can take an example of boundary breaking American Astrophysicist Vera Rubin, whose observation in 1970's provided the first compelling evidence for the existence of dark matter and her discovery turned science on its head. She was very much influenced by Marie Mitchell a 19th century astronomer during her college life. Though Rubin did encounter many social and institutional challenges throughout her lifetime and faced gender troubles as she decided to choose science for her future. She was first woman to legally use Palomar's Telescope in 1963 (Shenoy, 2019). A time was when women were prohibited from using the instruments there. Moreover, she often used her scientific platform to eradicate all forms of gender discrimination prevailed in this field. She fought for years to include female intellectuals in Cosmos club at Washington, D.C. A decade after women were allowed to join there. Rubin died in the year 2016, at the age of 88 but she did not receive the highest scientific honor for her groundbreaking work. Isn't it a lost opportunity to recognize and give tribute to one of the greatest contributors of science? There are number of cases like Vera Rubin where women may have been unjustly overlooked or derecognized in the Nobel series. Lise Meitner did much of the work on nuclear fission for which Otto Hann received Nobel in 1944 in Physics and still there is controversy over Rosalind Franklin, whose X-ray photographs of DNA were used by James Watson (Medicine1962) and his colleagues who received the prize (Cobb, 2015). How this tragedy be explained? The science speaks for itself it does not matter who did it.

4. Overlooked Pioneer: Jocelyn Bell Burnell: This is the story of astrophysicist Jocelyn Bell Burnell, who, while a student under her supervisor Antony Hewish, discovered the first radio pulsars—a discovery for which Hewish and Martin Ryle won the 1974 Nobel Prize in Physics, while Burnell herself was left out (British Astrophysicist Overlooked by Nobel Wins \$3M Award for Pulsar Work, 2018). Probably the mystery and misery of not achieving Nobel by Jocelyn is hidden in her name “No – Bell”. Many Prominent astronomers expressed outrage at this omission and exclusion but she did not complain. Except Nobel she has received many honors and prestigious awards from nations and organizations around the world. Moreover, she became the first female president of both the institute of Physics and Royal Society of Edinburgh.

5. Systemic bias in Nobel Selection: Year after year, we helplessly observe winners' demographic portfolio and a clear vision of an entrenched gender stereotype is found where only old white men are the heroes of science. An inevitable question arises that does Nobel committee wish to project this image to the world really? Or it is occurred by chance?

It is true that the awards purely aim to recognize outstanding work however the choice is always subjective because the Nobels are not dealt out by a divine authority, but by a group of people. So, there is always politics of recommendation and since the nomination process remains enveloped in secrecy, there is minimum protection against bias or lobbying and maximum chance to play an unfair card.

2009 was the record-breaking Nobel year for women when five women became laureates in four categories. Out of this five notably, 76-year-old Prof. Elinor Ostrom was the first female to win Nobel in Economics.

On the contrary, 2017 is remembered for another reason. It was the ninth time in history that no women were among the Nobel laureates. The Peace Prize went to the International Campaign to Abolish Nuclear Weapons, and Hiroshima survivor Setsuko Thurlow accepted it, but she was not a laureate.

Moreover, in the 119 years since Nobel prize was inaugurated only 54 of 950 (923 laureates and 27organization) Laureates have been women. A small ray of hope was seen in 2015 when Tu Youyou was recognized for discoveries that led to a treatment for malaria though we have to wait a full 54 years to find the next female laureate after Marie Curie (Nobel in physics). Very recently Nobel prize has been awarded to Esther Duflo in Economics (2019), Donna Strickland in Physics (2018), Frances Arnold in Chemistry (2018), Nadia Murad (2018) for Peace, and Olga Tokarczuk in Literature (2018). When Donna Strickland

received this award as a physicist many media house focused on the fact that she is the only the third female physicist to receive the award after Curie and Maria Goeppert Mayer (1963) 60 years later. Though Frances Arnold also won this award in Chemistry it does not establish the equality and moral of neutral ethics for Nobel culture because for a long history of Nobel the voice of female intellectuals specially in science were being unaddressed in main discourse of accomplishment. The rarity of female laureates raises new questions about tactful exclusion of female achievers from science technology engineering and math (STEM). Only some recognitions are being made for women in the field of peace and literature. Isn't it a mere ornamental? Or women cannot make any wander? Yes, there was a wander woman who has been rewarded twice and she is the first person and first woman to have won multiple Nobel. Ever since she became the first women Nobel Laureate in 1903. She initially was not nominated for the Nobel Prize. Then her husband and joint researcher protested and refused to accept an award finally her name was incorporated and a new panel has been accepted with the name of first female laureate Marie Curie in the history of Nobel. She was a scientist of a bit strange who never displayed interest in politics, gender or advancement of women. She was totally obsessed with science which enabled her to do work immensely only for the advancement of science. Prof. Athena Donald a British Physicist said that "We don't want to be Marie Curie". Marie Curie's life showed science as a human adventure.

Women have been struggling through the nominee list to finally be able to call a Nobel their own and have always been swimming against the current and continue to do so still now. The question has to be raised firmly that do women faces hindrances only in the field of science in accomplishing the achievement that are recognized by the Nobel prize? The Nobel Prize in Literature for 2018 was awarded to Polish author Olga Tokarczuk (a woman) for her wonderful narrative imagination, which, with encyclopedic passion, represents the crossing of boundaries as a form of life. The 2019 prize, meanwhile, went to Austrian author Peter Handke. Notably, Olga is the 15th female laureate in literature in hundred years of history of Nobel Prize. In peace and literature prizes, women have fared better than in the science and engineering. During the early years of the Nobel Prize, women in science faced active but hidden discrimination. Nowadays, the disadvantage is more subtle.

6. Challenges of Work-Life equilibrium: There is another special challenge for a woman of being both Scientist and a mom and the journey of a scientist mother is not so bland. Most onerous and productive years of a female scientist's life correspond to the optimum years for child-bearing and child-rearing. Working 14 hours a day or coming into the laboratory in the early morning to check on an experiment is not compatible with the demands of parenthood. Accordingly, many women scientists opt for careers in industry or in teaching academic institutions rather than in research institutes. But male scholars are not being asked at all about their family responsibilities and duties.

7. Unsung Contributors in the Sciences: Apart from exclusion, omission and de-recognition of woman as an achiever, women play another vital in the Nobel war that is often overlooked and not valued that are their role as mother and wives of Nobel laureates. It is another dimension to evaluate their sacrifice, support, care, and devotion in private sphere. It should be revisited and revalued in this complex context of Nobel game. It is evident fact that such women are strong and supportive to their laureate son and husband. At least forty Nobel laureates lost their fathers before the age of 11, about double the normal rate and were brought up by their mothers. It is another interesting fact that the marriage of Nobel scientists is more enduring than the norm. The divorce rate in the US averages about 44%, compared to just 11% among Nobel laureates in the 20th century and 7% among Nobel scientists; women must be credited equally for these outcomes. In their role as wives and mothers, women play a greater role in Nobel Prizes than is suggested by the number of prizes they win (Prat, 2016). More surprising fact is that brilliant, skilled and highly educated women were unable to get paying jobs at academic institutions except as "add-ons" to their academic husbands. But Marie Goeppert Mayer's story was entirely different (Nobel in physics, 1963) on her journey from university to university, essentially as an unpaid volunteer, to pursue her research and discover that nuclei with the magic

numbers of protons and neutrons were more stable than other elements. Initially her research work was treated as a wasteful work as “Women don’t need to know as much about physics”. When she was honored with Nobel after her crowning achievement a controversial caption was made by the San Diego Newspaper that “San Diego Mother wins Nobel prize” (Mother of San Diego Wins the Nobel Prize: From machismo to the atomic nucleus, 2020).which is not only insulting but also disgraceful. Here we must take again an inference of Marie Sklodowsk Curie, who’s too often revered as the “Mother of modern physics”. Why this mother metaphor is associated to female researcher consciously? Is it to glorify their achievement or to gibe them? Women laureates do not spend much time bemoaning on this issue.

The author of “The Marie curie Complex: The hidden history of women in science “ Historian Julie Des Jardins strongly proclaimed in her research of cultural history of science that problem of Women in science is predominantly cultural where fields like theoretical mathematics and physics or engineering are treated staunchly more masculine so this mother epithet is hardly a compliment for a female scientist and the “Mother” metaphor has been such an albatross for women scientist (Des Jardin, 2019). According to Des Jardin number of women entering in the field of science are now much higher than they have been but the numbers are no means equal. She argues one of the primary reasons of “Women in science problem” is not a number problem. So, increase of number will not assure the change of culture of science as we hope.

Despite the awareness about gender equality in the 21st century, the Nobel politics still show the disparity even though there are many who deserve to win this award in their field, a bare minimum of 6% of total individuals who have won the prize up to 2016, are women. If we observe the scenario of Nobel between 1901 to 2019 science have been awarded to women 54 times and only Marie Curie, has been honored twice, the Nobel prize in Physics in 2003 and Nobel Prize in chemistry in 1911.This indicates that 53 women in total have been recognized for their remarkable contribution in science during this period.

8. Remarkable Women in STEM: Few female scientists who made outstanding contribution in stem field are presented in Table 3.

Table 3. Notable Female Scientists and Their Outstanding Contributions to STEM Fields

Name	Profession	Notable work	Remarkable Award	Remark
Kiara Nirghin (25 th Feb, 2000-)	South African Inventor, Scientist.	In creating a super absorbent polymer which could increase food security in drought-stricken areas of world.	Google Science Fair Award (2016).	She is 19, a student, scientist, and advocate for women and girls in STEM. Leading voice in UN Women’s “I am generation equality” campaign.
Marcia Cristina Bernardes Barbosa	Brazilian Physicist.	Research on complex structure of the water molecule.	Nicholson Medal, (2013). L’oreal UNESCO Award for women in science (2015).	Actively involved with the Gender issue in Physics.

Maryam Mirzakhani (12 th May, 1977-14 th July, 2017)	Leading Iranian scholar and Mathematician.	On simple geodesics on hyperbolic surface and the volume of the moduli space of curves.	Blumenthal Award (2009). Satter Prize (2013). Clay Research Award (2014). Field Medal (2014).	The only woman and the first Iranian winner of the Field Medal.
Segenet Kelemu (20 th May, 1957-)	Ethiopian Molecular plant pathologist.	On growing more food and agricultural constraints in Africa, Asia, Latin America, North America.	L'oreal UNESCO Award for women in science (2014). Fellow of the World Academy of Science in 2015.	First woman to go college from her community in Ethiopia.
Tu Youyou (30 th Dec, 1930-)	Chinese Pharmaceutical chemist and Malariologist.	Breakthrough invention of artemisinin and dihydromtemisnia to treat malaria.	Nobel prize in physiology or Medicine.	First Chinese woman to receive a Nobel prize in any category.
Kathrine Johnson (26 th Aug, 1918-)	African-American Mathematician, Physicist and Scientist of NASA.	Pioneering work on U.S. space exploration and navigation supporting of the spacecraft which helps to flew first U.S. astronauts into space and earth orbit.	NASA Langley Research center Special Achievement Award (1971, 1980, 1984, 1985, 1986) Honorary Doctorate from various universities and colleges. Congressional Gold Medal (2019) & many more awards.	First African-American woman to attend graduate school and to work on Nasa Space programme.

There is no concrete evidence that women are in any way inherently inferior to men when it comes to work any of the sciences or any of their subfields. But there is overwhelming evidence for misogyny, sexism, and institutional bias that hinders their careers and fails to recognize them for their outstanding achievement. Studies have shown those who persist in these careers faces explicit and implicit barriers to advancement. Bias is most intense in fields that are predominantly male, where women lack a critical mass of representation and are often viewed as token or outsiders. Researcher have empirically disagreed the traditional stereotyped notion that women are not good in science and not so much interested in mathematics. Studies show that girls and women avoid STEM not because of lack of their cognitive ability but because of their early exposure and experience with STEM. They actually face a number of structural and institutional barriers in academic STEM Careers. Moreover, another pertinent issue is discrimination in pay structure. It often makes difficult for women to pursue with their research and career considering this economic discrimination in workplace. This disparity creates an imbalance between their professional life and personal life. Working women feels isolated, and susceptible to harassment in male-dominated work place. They are often treated as the extra addition to culture of lab and academic department.

For centuries women have made significant contributions to the field of STEM. They have invented life-saving remedies, devised world altering inventions, and produced far-reaching research, but in many cases their invaluable contributions and discoveries are minimized or neglected. This unfortunate situation has been portrayed recently on the stage in a drama 'No Bells' at the Winnipeg Fringe Festival performed by Portal Theatre Company (Nobel Prize in Science Strictly a Man's Game, 2015). It is story about why female laureates in science are very few who have succeeded. This is high time for looking back on history with accurate eyes and reassess how valuable, and yet undervalued their work.

9. Cross –national and Indian context: According to the report (2018) of UNESCO, representation of women in science throughout the world is only 30% which is too lower in India that is only 14%. Needless to say, that Female scientists of India have faced tremendous obstacles in choosing their profession and gaining acknowledgement in respect to their merits and contributions. Kamala Sohonie, one of the pioneering Indian Biochemist who in 1939 became the first Indian woman to receive a Ph.D. in a scientific discipline at a British university also encountered difficulties with her career While the director of Indian Institute of Science (IISc) renowned Scientist C.V. Raman denied to give chance to kamala for pursuing research at IISc. Because he did not think that women are capable, competent for science or scientific research. But Kamala took it as a challenge. She protested Raman's decision to deny her admission with a Gandhian style dharna in front of his office. After some persuasion Raman had to retract and he agreed to give her a chance but with some very stringent and unfair restrictions. She was finally granted admission at IISc. The first woman to be admitted on the condition that she would be on probation during the first year of her research. She agreed to Prof. Raman's conditions and started to work at IISc in 1933 and she was able to change the perception of C.V. Raman about women in science. Prof. Raman was impressed by her performance and gave her permission to pursue further research. After completion of her masters with distinction in 1936 further she was offered a scholarship to pursue her Ph.D. at Cambridge University and she earned a Ph.D. degree there. Her acceptance into and work at the Indian institute of science, (Bangalore) was a landmark decision for women to be accepted into the institution for the first time in its history. Raman decided to open the door of IISc to women from academic year 1937-38 Godbole & Ramaswamy, 2011). Her legendary battle with a Nobel laureate won Indian women an equal platform in stem field. It was a noble fight against prejudice and discriminating practice of society.

10. Bibha Chowdhury – a forgotten star in Indian Physics: The unheralded star of Indian Science with immense contributions to the field of particle physics is Bibha Chowdhury an unknown name for the most of us. She is the first Indian woman to earn a Ph.D. in physics but unfortunately remained unacknowledged throughout her lifetime. Prof. D.M. Bose supervisor of Bibha and she herself jointly discovered the mesons (sub- atomic particles that are unstable and decay in few hundredth of a second). Though Prof. D.M. Bose was hesitant to employ women initially, in spite of Bibha showed her mettle and made pioneering experimental contribution in the field of Physics (Roy, 2019). However, they could not follow up on the meson research because unavailability of photographic emulsion plates necessary for experiments during the years world was facing world war II An English Physicist C. F. Powell made the same discovery using similar methods a few years later for which he was awarded the Nobel Prize. Bibha's bibha (means light) thus lost her luster with history. She never received any accolades that she deserved. But her brilliance, her devotion and her simplicity will continue to inspire the countless girls who want to excel in science. Physics was, as it is still, a subject dominated by men.

11. The path ahead: Countless inspiring women have made historic contribution to science but they remained as neglected pioneers. During the period of early 20th century, when doyenne of chemistry was growing up in Bengal a Bengali woman started her journey with chemistry While it was almost unheard of for a woman to study chemistry. Further her research contributed to the development of drugs that treated epilepsy and malaria. In an era where women had not even the freedom to choose their career options, she fought against all odds to achieve her aim and nothing could stop her. Her philosophy in life was imbibed

with a very strong work ethic, she said “*I wish to work as long as I live*”. She is highly regarded for her groundbreaking contribution in medicinal chemistry. She is the First lady President of the Indian Science Congress and First woman D.Sc (Godbole & Ramaswamy, 2011). of India. She is renowned Indian chemist, Ashima Chatterjee, Khaira Professor of Chemistry, Calcutta University. She will be remembered for her lifelong contribution to science.

India marked another incredibly proud moment in history while ISRO successfully launched its second mission, Chandrayaan-2, to the moon headed by two women scientists, Muthayya Vanitha was the project director and Ritu Karidhal was the mission director of Chandrayaan-2 first time in India’s space mission history, the ISRO Expedition were spearheaded by two women. ⁽¹⁵⁾ As the country celebrates the proud moment, people are praising for ISRO but we must remember that behind the success of the mission there are two incredible women. This is not the end of the story. It’s the beginning of the chapter. We got Prof. Chandrima Saha as the President of Indian National Science Academy in the 85 years history of Academy, Dr. Renu Swarup as the Secretary, Department of Biotechnology (Government of India), Prof. Annapurni Subramaniam as the Director of Indian Institute of Astrophysics, Prof. Sanghamitra Bandyopadhyaya an Indian Computer Scientist as the Director of Indian Statistical Institute. Hope for the day when no gender perspective will be ingrained in the word “Scientist”.

Despite the all hindrances, dedicated and persevering women and girls of 21st century are pushing all the boundaries of the obstacles to reach the platform of scientific knowledge and seeking solution to complex global challenges every day. Their effort has changed the way we see our world, and their stories deserve to be told and retold repetitively. Unequal access to education, technologies, and leadership position have steered countless bright female minds away from STEM careers and impeded their progress.

Letting girls involved in science should be everyone’s agenda. We can encourage more women and girls to pursue STEM careers by depicting other women’s success stories because present society needs best, brightest, most capable and headrest workers of this world whether they are being felicitate with Nobel or not but science must facilitate them for noble cause of welfare and development of human society.

“we need more women in science : not for the betterment of women, but for the betterment of science.”

10. Conclusions: In the landscape of Nobel Prizes, the enduring underrepresentation of female academicians is not an incidental statistical deviation; it is actually a reflection of deep-rooted institutionalized inequalities and epistemological injustices within the global knowledge production and validation system. This study evidently presents challenges to entrenched misconceptions and myths of presumed objectivity of merit-based evaluations aligned with the Nobel organization, which rather demonstrates a neutral system highly influenced by gender norms, assumptions, institutional controllers of access and opportunities, and global power hierarchies. Needless to say, scientific authority and its legitimacy are often mingled with masculinized, gendered norms of knowledge creation. As a consequence, the exclusion, undervaluation, and omission of recognition of female contributors exhibit a deeper crisis in the culture of scientific acknowledgment, which leads to enhancing not only the distortion of historical facts and records of scientific achievements of female academicians but also reinforces contemporary hindrances that continue to marginalize women and present them as an almost invisible community.

Hence, more emphasis should be given to a basic reassessment of the nomination process criteria and evaluation framework that controls the prestigious recognition of Nobel awards. So, rather than addressing symbolic imbalances, we must focus on dismantling the systemic bias, which is highly exclusionary in nature; otherwise, the narrative of scientific excellence will remain covered and incomplete as before. To change the landscape of the Nobel field through reframing and reimagining, it is necessary, and it is possible only when we initiate an inclusive, gender-sensitive lens for the intellectual integrity and holistic

development of epistemology, taking into consideration the fact that it is not merely our ethical imperative but a necessary condition for the well-being of the whole scientific community.

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