CHAPTER - 4

Setting the Agenda:
Mahendra Lal Sircar and his Institute

I now examine the Indian Association for the Cultivation of Science (IACS), founded by M.L. Sircar and which was important for various reasons. For one, it attempted to develop an institutional articulation of the relationship between nationalism and scientific research in colonial India for the very first time. Second, the IACS stressed the importance of fundamental research in science by Indians. It encouraged Indians to explore the inner logic of science, question and develop their own hypotheses and arguments. Now Indians were presented with an opportunity to formulate new concepts of nature and the universe within the theoretical premises of experimental science.

Born in 1833, Mahendralal Sircar lost his parents at an early age and was brought up by his maternal uncle, an affluent lawyer in Calcutta. He studied in Hare School and matriculated with a junior scholarship in 1849. Sircar then joined Hindu College where he excelled in mathematics. Refusing to go in for a liberal English education, he joined Medical College in 1855 at a time when this was the only place for the study of systematic, experimental science courses. In his six years' apprenticeship, he became a trained scientist, won many prizes and was awarded a L. M. S. in 1860 and finally a M. D. in 1863 (first in the order of merit). He was the second Indian to get this degree after Chandra Kumar De. He thereafter set up private practice and soon acquired the reputation of being one of the foremost medical practitioners of Calcutta. When a branch of the British Medical Association was set up in Calcutta under the aegis of the veteran SCG Chuckersburyty, Sircar became a member and later, its vice-president.¹

Sircar had broached the project of a national science association to the public in 1869 in his famous article "On the Desirability of a National Institution for the Cultivation of Science by the Natives of India", in the Calcutta Journal of Medicine

¹ A Century: Indian Association for the Cultivation of Science, 1976, p. 4.
(which was started by him the same year). This was followed by pamphlets, letters to the *Hindu Patriot* and public addresses.

Sircar was joined in his mission by a missionary called Reverend Father E. Lafont; a man with a keen interest in science, engaged in building a spectra-telescope observatory at St. Xavier's College, Calcutta. The new Lieutenant Governor of Bengal, Richard Temple, expressed his appreciation of and support to Dr. Sircar’s proposed scheme. The first meeting of subscribers was held on 4 April 1875 at Senate House of the Calcutta University.¹

The Association was formally established at the third meeting of the subscribers to the projected Science Association held on 15 January 1876 at the same venue. In a minute dated 21 February 1876, the Lieutenant Governor offered a building at 210 Bow Bazaar Street to the Association free of all charges. In this new premises, the Association was formally inaugurated on 29th July, 1876 Lafont and Sircar were asked to lecture on Physics and Kanai Lal De on chemistry.²

Sircar wanted his institute to perform two functions; one was cultivation of and research in science by Indians while the other was the popularisation of science amongst the general populace. He articulated his goals clearly in his first article.

We want an Institution which will combine the character, the scope and objects of the Royal Institution of London and of British Association for the Advancement of Science. We want an Institution which shall be for the instruction of the masses, where lecture on scientific subjects will be systematically delivered and not only illustrative experiments performed by the lectures, but the audience should be invited and taught to perform themselves.⁴

Thus, Sircar set his ‘nationalist’ agenda, to build a culture of science in India through its practise and popularisation. Let us examine that agenda more closely now.

For Sircar, the practice of western science was analogous to nationalism. The

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one could not exist without the other. In many instances, Sircar stressed that political nationalism had no meaning if it did not have science as its guiding spirit. In his worldview science was a metaphor for liberty and enlightenment from the preceding 'dark' ages, the catalyst for a new cultural and political self-expression. As he was fond of saying, "The best way, in my humble opinion, to do this (achieve nationhood) is not by platform blustering and newspaper invectives, but by substantial achievement in the field of intellect".\(^5\)

In an illuminating passage that Sircar quoted from an European journal, he spoke of the virtues of blending scientific culture with that of a truly national life.

> For that interpretation of national life, past and present, without which the citizen cannot rightly regulate his conduct, the indispensable key is - Science. Alike for the most perfect production and highest enjoyment of art in all its form, the needful preparation is still - Science. And for purposes of discipline-intellectual, moral, religious- the most efficient study is - Science.... Necessary and eternal as are its truths, all science concerns all mankind for all times.\(^6\)

Sircar felt that the scientific spirit was a clear indicator of national progress and status. He found the two compatible because to him science was a moral force. Western science represented enlightenment, the path towards correct judgement, the ability to make the right choices and to nationhood. This moral aspect of science holds the key to Sircar's thought. It also explains Sircar's emphasis on the need for Indians to 'cultivate' modern science on their own. This is the first of the two pillars of Sircar's nationalism.

**Science, Morality and 'Cultivation'**

Sircar's understanding of science, as a moral force can be located within Baconian and Comtean ideas of scientific morality. Bacon's new scientific methods sought to provide a true moral guiding force by leading the human mind to the correct path, "not leaving it to itself, but directing it perpetually from the very first, and

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\(^6\) Ibid. p. 18.
attaining our end as it were by mechanical aid". Comte, too, saw in positivist science the true moral force of social and political life. In fact, in the post-Enlightenment view of the world, the sciences of nature became the paradigm of 'correct' 'rational' knowledge in all aspects of life. At the same time, the Baconian principles stressed man’s control over nature. The appropriation of nature to serve human interests was directly related to a nation’s resources and prosperity.

Such ideas greatly influenced 19th century, Indian intellectuals. Bacon’s claims to absolute unique truth through a 'new method' was accepted as legitimate. Ram Mohan Roy expressed his faith in Bacon’s method as the true guiding spirit of modern life. For Mahendralal Sircar, the appeal of science was similar. Moral laws by themselves were obscure and could lead to scepticism; on the other hand physical laws were ‘verifiable’, scientific phenomenon were capable of reproduction by an arrangement of their causal conditions and left no scope for scepticism. It thus provided the “unchallengable basis on which the human mind can take its stand for positive certainty in all its investigation”. Physical science was a superior form of knowledge because only it could convince the human mind about the “unalterable relationship between cause and effect, with the idea of law pervading the universe. Thus initiated the mind stakes off for ever all the ideas of chance and caprice and chaos from the government of the universe as false and mischievous, having no basis in living reality”. Moreover, like Bacon, Sircar too described the advent of modern science as a great conquest over nature:

...This world is ablaze with their light, and the merest tyro can descent on the marvels man has wrought by the aid of that light; how from the humble position of minister and interpreter he has rises to the sublime rank of master of Nature. And there does not appear to be any limits to our knowledge and consequently to our conquests over her vast domain...

7 Jatinder K. Bajaj, "Francis Bacon, the first philosopher of Modern Science: a Non-Western View", in Ashis Nandy (Ed), Science, Hegemony and Violence: A Requiem for Modernity, OUP, Delhi, (1988)1990, p. 28...
9 Ray, Life and Experiences of a Bengali Chemist, Chuckerbutty, Chatterjee & Co., London, 1932, pp.140-141...
10 Annual Report. 1878, p. 17.s
11 Ibid., p. 16.
12 Sircar, "On the Necessity of National Support to an Institution for the Cultivation of the Physical
The doctor saw in science the true form of knowledge, a culture which prompted men to achieve control over their minds and their surroundings. He placed his "sincere faith in the capability of the physical science to act as the firm and solid basis of the development and regeneration of man's moral and spiritual nature..."\(^{13}\)

Contemporary India to Sircar, in many ways represented everything that was opposed to modern, rational, progressive ideas. The greatest obstacle here was the lack of a truly scientific temperament. Sircar like his contemporary Bankim explained the differences between the East and the West in terms of culture. Europe was equipped with a rational, progressive culture while Asia suffered from a regressive, irrational mindset. Contemporary Hindu culture constituted the greatest problem. Its greatest evils were traditional orthodoxy, polytheism, idolatry, and the priesthood, none of which he found compatible with the scientific spirit.

Referring to the dominance of the Hindu priests as "the most crafty, the most selfish and the most demoralised of any in the world",\(^{14}\) he argued that such a priesthood and religion was particularly opposed to the search of Truth- the goal of science.

It is not right that any man, far less that so many millions of men for generations without number, should be kept down in false and unworthy belief and thus deprived from the elevating and regenerating influence of the first and highest- Truth. If for no other reason, pre-eminently for this, is it the supreme duty of every devout student of nature to endeavour his best to introduce a knowledge of the physical science amongst the people of this country?\(^{15}\)

His opinion of idolatrous and pantheistic beliefs which "must receive their death blow from such study" of the sciences was similar.\(^{16}\)

Sircar found the pursuit of 'true' knowledge inconceivable under such circumstances, because the human mind became idle and wandered in useless speculations, while knowledge became inward looking.

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\(^{13}\) Science by the Native of India", February, 1872, in Sircar, Indian Association, p. 16.

\(^{14}\) Annual Report, 1902, p. 20.

\(^{15}\) Sircar, Moral Influences of Physical Science, P. Sircar Anglo-Sanskrit Press, 1892, p. 19.

\(^{16}\) Ibid.
The Hindu mind, thanks to this religion which has been swaying it for centuries without number, and thanks no less to its other surroundings, has become more of a speculative than of a practical character singularly deficient in patient industry to observe materials, too prone to hasty generalisation, depending more upon its own inspirations than upon outward facts.\(^\text{17}\)

Thus traditional Indian knowledge of nature and natural laws remained superficial and rudimentary for Sircar, they diverted the human mind from the right path towards 'unnecessary' 'unsolvable' pursuits, "And necessarily they had in many cases to go astray and waste their energies in problems which are unsolvable, and attempted to formulate and maintain propositions which became stereotyped into dogmas, a blind faith."\(^\text{18}\) (Emphasis mine). It was this sort of intellectual exercise which was the "cause of the arrest of all progress in India".\(^\text{19}\)

Sircar was of the opinion that Indian scientific knowledge was merely a "chaotic mass of crude and undigested and unfounded opinion on all subjects".\(^\text{83}\) He was very clear that science was alien to Indian culture. Physical science was of modern European origin.\(^\text{20}\) "...I believe I am not committing any unpardonably unpatriotic sin when I say that physical science did not exist in our country even in days of its greatest glory - of its loftiest intellectual achievements. And certainly it does not exist in the present day. It must be introduced from the west."\(^\text{21}\)

While replying to criticism of his strong views regarding traditional Indian knowledge Sircar argued how that even the notion of scientific knowledge was alien to Indian tradition. The very conditions of scientific thought did not exist in a society devoted to idolatrous, and speculative pursuits.

I admit for the sake of argument that there was science even in a high state of cultivation. But I beg leave to ask where are the traces of such a state of things? Certainly they are not to be found in the voluminous literature that has come down to us as heritage. To characterise as science the crude speculations

\(^{17}\) Sircar, "On the Desirability...", pp. 4--5
\(^{19}\) Ibid.
\(^{20}\) Sircar, "On the Desirability ....", p. 4.
about nature and her laws contained in this literature, speculations which could not go beyond the five elements, would be to show the grossest ignorance of science and of the methods of scientific enquiry.\(^{22}\)

In another instance he pointed out that Asia was yet to develop a material culture. He believed that originally all arts were handicrafts devoid of scientific knowledge. At a critical juncture, Europe systematised empirical knowledge into science, introducing machines and making production cheaper. In this regard, India and the rest of Asia lagged behind.

In the present day the difference between one nation and another in the scale of civilisation depends upon the amount of cultivation of these arts or rather of the sciences on which they are founded. The backwardness of our country, indeed of Asia generally, notwithstanding the existence of arts as yet inimitable, as accounted for by the want of cultivation of these arts and sciences.\(^{23}\)(emphasis added)

Thus, for Sircar, the 'cultivation' of science and the arts was crucial for development. The mere practice and use of technology was not enough. It had to be studied, developed further and turned to an experimental research culture. The lack of a scientific temperament in Asia's past was the cause of its later suffering. This is how 'cultivation' holds a key area in his thought. Sircar was never seriously concerned about the Indian past. Troubled by the cultural distance between the contemporary East and the West, his attention was on the present - on "whether are we to remain contented with our ignorance of it".\(^{24}\) His logic of 'cultivation' was a concern for the nineteenth century. The choice to him was clear. India had to practise science because such studies left "little room for dogmatism" as any one could satisfy himself about the facts by "observation and experiment". But this had to be the conferment of Europe, for this science India had to look up to the West;

It (Science) must be introduced from the west. The natives of India, if they want to take rank with the civilised nations of the world, if they must escape

\(^{22}\) Ibid., 1899, pp. 17-18.
\(^{23}\) Ibid., 1900, pp. 24-25.
\(^{24}\) Ibid., 1899, v. 18.
from the ignominy of being morally and intellectually effaced from the face of the globe, must do what these nations are doing, must take to cultivation of science which will elevate them from the position of slaves to the rank and dignity of the Masters of Nature". 25

The essence of Sircar's nationalism was to cultivate science, undergo moral regeneration and to become 'masters of nature'. The two had to go together as only science could provide the nation its required moral strength as well as its material development. In Sircar's mind, there was no other choice for Indian nationalism. It had to adopt science as its religion if it intended to survive in the 'race of nations'; "There is no status quo in the universe. There is progression and retrogression. The chief determining factor of progress is now and will always remain science. The amount of its cultivation in any country will thus be the chief index not only of its civilisation but of its power of maintaining its existence..." 26

With science at its core, Sircar's nationalism was a vigorous exercise of power for existence, progress and the conquest of nature. The thrust of Sircar's ideas was entirely moral; crucial to his thought was the morally regenerating inspiration of science. Material development could only be brought about after such regeneration was achieved. This moral content, of this mission was obvious in his project, IACS, which aimed at, "...fulfilling functions of the moral, noble and elevating character, being no less than remodelling the Asiatic mind, leading it from airy regions of vain and mystifying speculation to the solid grounds of nature's facts and laws." 27

The countries which practised science, thus, were mature and self-sufficient. The rest, unable to master that knowledge, were still immature and dependent, 'idle' and 'childlike', unable to exploit and control their surroundings. Due to the lack of this scientific knowledge, Indians, in spite of the contact with west, remained, "unproductive recipients" of the products of science. 28 As Sircar was fond of saying, "...there is an immense difference between the civilised man and the man happening to live in civilised times, between the man of science and the man whom accident has placed in

25 Ibid., 1893, p.18.
26 Ibid., 1899, p. 19.
27 Ibid., 1887, p. 15.
28 Sircar, "On the Necessity...", p. 25.
the era of science...".29

Sircar wanted the Indian to become ‘civilised man’ and a ‘man of science’. That was the moral content of his nationalism. According to him, Indians had remained “idle spectators of the wonders presented to our view by what we vaguely understand as science.” Little had they realised that science was “in reality the offspring of the human brain brought forth in much travail”.30 (emphasis mine). If Indians were to become men of science, they would, instead of being “idle spectators” have to catch up with the western mind. To do that they would have to practise science themselves. In Sircar’s words, Indians would have to ‘cultivate’ science themselves, to ensure that the “Hindu mind can be developed to its full proportion”.31 In his very first article in 1869, he argued:

The kind of knowledge which is best calculated to remove prejudice and spirit of intolerance from the mind is what passes by the name of the physical sciences..32

... The best method, and under the present circumstances the only method, that we conceive of, by which the people of India can be essentially improved, by which the Hindu mind can be developed to its full proportion, is .. by the cultivation of the Physical Science. The great defects, inherent and acquired, which we have pointed out as characteristic of the Hindu mind in general of the present day, can only be remedied by the training which results from the investigation of natural phenomena.33

Only cultivation of science could challenge the backwardness of Indian minds. As Sircar suggested at the Annual meeting of 1893,

...Hence the cultivation of science must form an indispensable element of our national culture, as it is in all civilised countries... It is with this view,
Gentlemen, that I have striven all my life long to induce my countrymen, Hindu and Mahometan alike, and any other race of people who pride in the name of India, to unite in the holy bonds of fraternal sympathy and love for the common, worthy cause of mutual advancement by the at present best means, and I might say, the only means, within human reach, namely, the cultivation of the physical sciences. 34

Although diffusion of scientific knowledge was also one of the motto of the IACS, original research by Indians was always considered its higher, more sacred objective. Discussing the objective of his institute, he made this hierarchy of priorities explicit:

The object, with which this Association was founded is not simply the diffusion of a knowledge of the truths of science discovered elsewhere. This is but one of its object, and a very inferior and subordinate one. The other, the higher, the primary object is... which was adopted in the very first resolution founding the Association, viz., "to enable the Natives of India to cultivate Science in all its departments with a view to its advancement by original research, and (as will necessarily follow) with a view to its varied application to the arts and comforts of life". 35

It was in this particular stress towards 'cultivation' that Sircar made his mark in Indian nationalism. While his understanding of science as a progressive and moral force could be located in the whole genre of 19th century Indian intelligentsia starting from Rammohan, Sircar had chosen for himself a deeper association with science. He had chosen a crucial path for the manifestation of such values through the research of science.

But Sircar's emphasis on the importance of cultivation of science betrays another significant aspect of his thoughts. For him, Indians as idle "unproductive recipients" represented a child like state of existence. The 'cultivation' of science was a learning process, a 'man-making' project. It was a path through which men could turn into mature adults after childhood and adolescence. Sircar's nationalism, based on

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34 Annual Report, 1893, p. 18.
35 Ibid., p. 22.
science was based on such notions of growth. Consequently, his writings are full of adult-child metaphors.

**Research and Adulthood**

Mahendralal Sircar once remarked,

> For that direct self-preservation, or the maintenance of life and health, the all important knowledge is - Science. For that indirect self-preservation which we call gaining livelihood, the knowledge of the greatest value is - Science. For the discharge of *parental* function the proper guidance is to be found only in - Science. \(^{36}\) (emphasis mine)

The paternalism of science mentioned above is a reflection of the predominant western rational attitude towards the colonised world. Edward Said has described how through western rational explanations, Europe appeared as the secular creator of a new world, as God had created the older one. \(^{37}\) In a way it reflected the general paternalism of entire European colonialism vis-à-vis the Orient. The colonised peoples were seen as children who needed to mature to become responsible ‘men’ or ‘citizens’. As Ashis Nandy indicates, colonialism picked up contemporary European attitude towards childhood as a “blank slate on which adults must write their moral codes” and drew a new parallel between primitivism and childhood. \(^{38}\) In such a scheme the colonised always appeared as ‘children’ which term was coterminous with primitive or a ‘blank slate’. Colonialism was seen as a necessary function of Europeans to help the helpless children grow towards higher morality, adulthood, and maturity. Western knowledge was supposed to play the patronising, paternalistic role in this project. Nandy shows how 19\(^{th}\) century Indian intellectuals like Bankim, Vidyasagar, and Madhusudan Datta functioned within this paradigm while attempting in their various ways to make ‘adult men’ out of Indians.

To Sircar too, the lack of a scientific tradition in India, although an old civilisation, restricted it to a state of adolescence. The ability to ‘cultivate’ science to

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\(^{38}\) Nandy, *The Intimate Enemy, Loss and Recovery of Self under Colonialism*, OUP, New Delhi, p.11-18.
him was the precondition to becoming an adult. That is why he believed that the
deficiency of a 'science culture' in India could not be met by merely teaching science in
schools. Schools were for children where the pupil was only taught. What was needed
was an association to encourage research in science, because only scientific research
would help in the development of children into men.

...In schools pupils can never rise to the state of practical workers in science,
so as to be able to carry on independent investigation, not because of any fault
in the psychology of the pupils themselves, but because such a thing is
impossible in statu pupillaris. Men must continually be at a subject, observing
and experimenting, before he can acquire that knowledge of it which will
enable him to feel his own deficiencies in the branch of science which he has
made his speciality, - before indeed he can engage with any hope of success in
researches which will improve both himself and his science.39

Elsewhere Sircar made clear the 'man making' aims of his Association, when he
asserted that "...We have, I told you, no scientific men at all, and we want to create
them- train men in science".40 Father Lafont, his old friend and fellow founder of IACS,
shared these views. He reacted strongly to suggestions that the Institution was 'merely'
an educational one. He claimed the higher status of a 'scientific institution' for IACS. "it
was not a school, it was a scientific institution in which modern discoveries in science
were promulgated".41

It was in this same spirit that Sircar thought of university education as
insufficient for national regeneration. He always resisted the affiliation of the IACS to
Calcutta University which, he was afraid, might simply turn it into a college.
Universities he believed, only taught science thus its scope was limited and could not
fulfil the greater task of making men;

It is true, that our universities are turning out at high pressure and speed
graduates in the various faculties, - masters and bachelors, - by hundreds and

39 First meeting of Subscribers at the Senate Hall, Calcutta University, 4 April, 1875, cited in Chittabratna Palit, "Mahendralal Sircar, 1833-1904: The Quest for National Science", in Deepak Kumar (Ed.), Science and Empire; Essays in the Indian Context, Delhi, 1991, p. 156.
40 "On the Necessity...", p. 33.
41 Arun Kumar Biswas, "Revered Father Eugene Lafont and the Scientific Activity of St. Xavier's
thousands. But if we are to judge them by the only and infallible test of - "by their fruits ye shall know them"- how would they stand? How would they compare with their brethren of Europe and America?^{22}

Sircar insisted that universities were only the first stage; they produced only students not men of science vital to a mature nation, "merely to learn parrot-like what other nations are teaching is to abdicate our position as an intellectual people, as a member of the republican of letters".^{43} Sircar's Association too had taken up teaching science but that was because at that point it was almost non-existent in universities. His hoped that once colleges developed the art of teaching of science, IACS could focus on its primary objective; "then its only raison de etre will be advancement of science by original research. If it cannot be made to fulfil that object, it would be better that it should cease to exist."^{44} Sircar was always uncomfortable with the popular demonstration-lectures at IACS as they generally gave the wrong impression that, "attendance at these lectures will convert the audience into full-blown men of science and discovery will follow after discovery as in Europe and America."^{45} 'Man-making', Sircar believed, was a much more arduous process. It needed active participation, effort, originality and judgement on the part of the individuals involved.

Sircar's ideas in this regard had reached a consensus among his colleagues at IACS. When a proposal came up in 1893 to affiliate IACS to the Calcutta University, all the members except Lafont opposed it as a 'degradation' of the prestige of the Association.^{46} For, Reverend Lafont, a missionary and a teacher at St. Xavier's, the diffusion of knowledge always had a separate appeal. He successfully convinced Sircar to open the lectures of the Institute for students of First Arts Examination. Sircar, faced with the reality that not much original research was in any case being conducted at the IACS, chose to be pragmatic. He realised after some initial hesitations that, "it would be no derogation of its (IACS's) dignity to tell the University that the lecture which were being delivered within its walls would fully prepare students for the First Arts

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^{41} *Annual Report*, 1898, p. 15.
It was because science was placed as the emancipatory moral force that the institute was conceived as a great seat of fundamental science, as opposed to utilitarian science. The belief was that only research in the fundamentals of science could improve the moral standards of human beings. This position becomes apparent in the debate with the Indian League on turning IACS into a technical school. While Sircar and his friends were preparing the blueprint for the Association, a scheme for a technical institution was initiated by the Indian League- a semi-political organisation. The objective of the League was to combine scientific instruction with practical training, and the drilling of men in manual and mechanical industries, on the model of Technischen Hochsulen of Germany and Switzerland.

Sircar's plan for the 'cultivation' of science was criticised by the League as being premature and intended merely for intellectual pleasure. Suggestions were made for the amalgamation of both projects into a single institution undertaking teaching in science as well as instruction in mechanical arts. The Lieutenant Governor General Richard Temple too was sympathetic towards such a plan.\(^4\) The third meeting of the subscribers at the Senate Hall in 1876, saw two opposing camps vigorously arguing their positions. On Sircar's side were Father Lafont, Raja Ramnath Tagore, Dr. Rajendra Lal Mitra, babu, Digambar Mitter, Raja Jatindra Mohan Tagore and Keshab Chandra Sen. Sambhu Chandra Mukherjee, Kalimohan Das and Reverend K. M. Bannerjee defended the League's position.\(^4\)

Reverend Bannerjee, Chairman of the League talked of a "combination of scientific teaching with practical training", and "utilising the discoveries already made before aspiring after such discoveries".\(^5\) He also accused Sircar of "Soaring aloft, without looking beneath".\(^5\) Sambhunath Chandra Mukherjee, described the project of the IACS as, "unnecessary luxury, an anachronism and an anomaly - the scheme involved a waste".\(^6\)

\(^4\) Ibid. pp. 17-18.
\(^4\) Kumar, Science and the Raj, pp. 199-200.
\(^5\) Palit, op. cit., p. 157.
\(^5\) Kumar, Science and the Raj, p. 200.
\(^6\) Ibid.
A strong support for Sircar's position came from the Orientalist, Rajendralal Mitra. In his arguments the Asiatic Society's search for 'pure' knowledge and the 'Man-making' project of nationalism got linked.

Science had a higher and nobler claim than the narrow, utilitarian, Benthamite one. It was the most powerful lever for progress, for the advancement of civilisation, for ennobling the mind of man. Do not confound Science with technical education in the industrial arts. ... let every step of science education be explained by experiments, for science to be effectually learnt should be learnt in the laboratory; but do not attempt to make your Institution a school of technical education in the industrial arts under the misnomer of practical Science.53

Somewhere, thus, the attitudes towards science of the Asiatic Society and the IACS met, although through very different routes. The 'man-making' project and purity of science necessarily had to go together. To that extent there were certain shared values between IACS's nationalist definition of science and the romantic one of the Asiatic Society.

Father Lafont also stressed the need of fundamental science for Indians to become self-sufficient and independent. The League, he alleged, wanted to, "...transform the Hindus into a number of mechanics requiring for ever European supervision whereas Dr. Sircar's object was to emancipate in the long run his countrymen from this humiliating bondage".54

Thus the very foundation of IACS posed a certain opposition to utilitarian research. With the larger moral responsibilities that the institute had taken upon itself, its preferences were clear. In later years such a position was reiterated by Mahendralal Sircar's son and successor Amrita Lal Sircar. He took up the cause of fundamental science with greater zeal. Taking over the Association at the height of the Swadeshi movement in 1904/05 he criticised those whose "cry is for industry" stressing the fallacy of "applied research".55 He epitomised the ethics of disinterested fundamental

51 A Century, p. 11.
54 Palit, op. cit., p. 157-158.
research when he quoted a Pa·.s journal to define the role of scientists,

A little body of men, forsaking the world and the things of the world, had gathered together under the compulsion of a great idea. They had given up the rivalries and personal interest of ordinary men, and sharing their goods and their work, they lived in austere devotion to science, finding no sacrifice of health or money, or what men call pleasure, too great for common object....

Here the shared attitudes towards science of the IACS and the European scientific bodies like the Royal Society, which worshipped a certain purity of science, become obvious. The 'man-making' project and purity of science necessarily had to go together. Nationalist science had thus re-articulated the romantic adventurism of metropolitan science.

Thus IACS concentrated its courses on “pure science”. The first lectures were by Dr. Sircear and Reverend Father Lafont on Physics, Rai Tara Prasanna on chemistry and Reverend A. de Penaranda on Astronomy. Simultaneously, the laboratory was built. When Father Lafont left for France due to ill-health, a sum of Rs.4000/- was given to him for importing an assortment of instruments and apparatus for illustrating lectures on thermotics, acoustics, electricity and optics from France. In 1878 a large number of new instruments arrived, including a sympalmograph, a phonograph, and a Caitellet’s machine for the liquefaction of oxygen. In the next few years further physics and chemistry apparatus arrived. Father Lafont continued his lectures in Physics on light, general physics and sound until 1893. After Lafont, Rajendra Nath Chatterjee taught optics and general physics. Among others to teach were J.C. Bose and Ashutosh Mukherjee.

Questions of morality, nation building and cultivation of science had set one of the central agendas of the IACS. It had structured its orientation, ethics as well as the nature of its courses. This had been one component of its nationalist science. The other half of IACS’s nationalist agenda was the search for self-reliance which provided the crux of its nationalism.

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56 Ibid. p. 23.
57 A Century, p. 15.
58 Ibid.
‘Self-reliance’ for the Adolescent

Mahendralal Sircar was very clear that his institute was to have a ‘national’ character, when he said, “there must be national-support to this national work. This can only be secured by an organisation which must be national in its character”. This ‘national character’ did not originate from a critique of colonialism. As I would show later, Sircar’s nationalism was particularly free from such a critique. The urge for ‘national support’ reflected Sircar’s search for self-reliance of Indians in areas of scientific research.

....We should endeavour to carry on the work with our own efforts, unaided by Government, perhaps more properly speaking, without seeking its aid. Now this does not mean that we will not accept any aid from that quarter if it comes to us unasked, and unhampered with conditions and restrictions, excepting the all importance condition of the continuance of the Association. Let me not be misunderstood. I want freedom for the institution. I want it to be entirely under our own management and control. I want it to be solely native and purely national.

Why was this search for self-reliance which articulated itself in a ‘freedom’ for an institution, “entirely under our own management and control”? Why was the need felt to develop an independent base of Indian scientific research? For an answer let us delve further into Sircar’s arguments. To him the independent status of the IACS was, “to make my countrymen, in the matters of science-cultivation at least, self-reliant”, to help them “master the elementary principles of science unaided, that is except with the aid derived from books and instruments”. He stressed that the Association would be open to any aid from the government which would, “not interfere with the independence of the Association as a national Institution. Such independence is essential to the very life of the Institution as calculated to engender the spirit of self-reliance which has well-nigh become extinct.” In essence, ‘self-reliance’ went beyond his institute or scientific research. It actually reflected Sircar’s ‘man-making’ project. He stressed that to become

59 Ibid. p. 16.
60 Annual Report, 1893, p. 18.
responsible men, Indians must develop the spirit of self-reliance, which unfortunately in India had “well-nigh become extinct.” And what better way could there be to do so other than practising it in science, the great moral force? To that extent we can expect the elements of adult-child, mother-child relationships in the project. This is apparent when Sircar talks of the advantages of the British rule to India.

Of these favourable circumstances the most efficient is SELF RELIANCE. This we have not yet learned. For any move tending to our own prosperity we expect always to be helped by the Government. If the Government were to do everything for us, we shall never do anything for ourselves. We must be weaned from this sort of dependence upon others, just as a baby is weaned from the mother’s breast”.

Sircar’s metaphors are striking. British rule performed the role of the mother who blessed India with western science, while Indians were children learning to suckle the virtues of science from her. For the children to grow up they had to be ‘weaned’ by instilling in them qualities of self-reliance by pursuing science on their own. Thus, the dual project of establishing an independent research institution for Indian science could ensure both organisational and intellectual maturity, “And we wish that the Institution be entirely under native management and control. We say this not out of vanity but simply that we may begin to learn the value of self-reliance in matters in which we may do it without any serious risk.”

The search for ‘freedom’ from government was thus to instil a sense of responsibility among Indians who were seen to have become unnecessarily dependent on the government and not necessarily an anti-colonial sentiment.

...A blind and slavish dependence upon the government and idle and passive murmuring whenever government fails to accomplish anything, are all that we are capable of. They always shirk the responsibility of any good and great undertaking, and consequently can never have an adequate idea of the

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64 Hindu Patriot, June 1, 1891, p. XXXV.
65 Ibid. p. 8.
privilege of such responsibility and the pleasure attendant there upon....

Here we see Sircar’s notions assuming more political shape. In his scheme, independent scientific research was to be the crux of the Indian search for self-reliance in the political and economic arena. The phrase “idle and passive murmuring” indicate Sircar’s attitude towards the nascent moderate political nationalism of his times. As mentioned earlier, he always felt that nationalism could be achieved far more effectively through the practice of science than through ‘platform blustering’. He equated his self-reliance in science with the ethics of political self-government in his 1899 speech at the Association Annual meeting.

We are justly desirous of having the privilege of self-government. We cannot have better fields than these (cultivating science independently) for the exercise of the virtue of self-reliance and for the display of our fitness for self-government for here we shall have help from all quarters and hindrance from none, if we only know to help ourselves. (emphasis mine). 67

One way to achieve self-reliance was, as shown above, to focus on original research in science. The second was in the sphere of organisation, by arranging, primarily, funding, necessary because science was expensive and as Sircar understood well enough, “men have stomachs as well as minds. The mind must have leisure to think that it may think with any advantage, and this can only be secured by providing the demands of the stomach”. 68 In his scheme funding had to come from Indians, both to make the IACS and the Indians ‘self-reliant’. In the Annual meeting of 1887, he asked, “But where are the funds to come from? Your Honour must have observed, that it has been my endeavour all along to make the Institution purely and entirely a national one ... I therefore expect and wish that the funds should come from my countrymen....” 69

On another occasion, Sircar discussed his ideas of the ‘freedom’ of scientific research.

And the only way, which I can think of by which this (growth of IACS) may

68 A Century, p. 9.
69 Annual Report, 1887, p. 15.
be effected is to set free and properly direct the two forms of energy that are to be found in the country, partly latent and partly working or rather, to speak in more appropriate terms, being dissipated in wrong directions, I mean the energy of intellect and the energy of hoarded wealth.70

This 'energy of hoarded wealth' was with rich Indians. Sirur's appeal for funds was mainly to them. Citing the example of Pearson and Carnegie of USA, he added.

May I not hope that the happy contagion will spread in our country, and bring under its blessed influence her patriotic sons, who will thus be enabled by the proper use of their wealth to wipe off for ever the stigma that has been cast by the poet upon her as being a land of "barbaric pearl and gold".71

He urged rich Indians not to "squander whatever wealth you possess in idle amusements", while donating money to the IACS would surely prove their "enlightened liberality for the amelioration and elevation of your country."72 That would be their sacred contribution to nationalism.

There is I believe potential energy in the shape of hoarded wealth. It has only to be set free for this purpose to be transformed into kinetic energy of the highest kind, because intellectual and moral, to raise your country from its present degraded position to the high level of the highest intellectual nation on earth. The possessors of this wealth have only to be awakened to their true interests and then things will be done.73

Such appeals based themselves on the 'moral and intellectual' aspect of 'nation-building'. However, Sirur also had an innate belief in the socialist distribution of "hoarded wealth".

....The money ought, in my humble opinion, to come from the rich whose wealth is ultimately traceable to the sweat of the brow of the poor. In contributing towards the advancement of science the discoveries of which tend more for their

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70 Ibid. 1891, pp. 26-27.
71 Ibid. 1901, p. 31.
72 Ibid. 1902, p. 27.
73 Ibid. p. 28.
benefit than the benefit of the poor, the rich only repay a double debt which they are bound in all fairness to pay.\textsuperscript{74}

The costs of running the various laboratories of the world were placed before the public in comparison to that available to the IACS, to emphasise the huge gap in the two.\textsuperscript{75} The most important need Sircar felt was to have paid professorships as it was important not to depend only on honorary lectures.\textsuperscript{76} Almost all of Sircar's speeches were accompanied by an appeal for funds to this cause. But in reality, apart from Jamshedji Tata very few were coming forward. Others showed little interest. Sircar's moral and socialist appeals made little sense to them. Thereupon, Sircar reacted sharply, feeling let down by his countrymen protesting against the "positive antagonism towards the Association".\textsuperscript{77}

...Strange as it may appear, it is a fact and a fact that remains a blot in the national character of the present time that the Association, though struggling for existence for upwards a quarter of a century, is ignored and even looked down upon with cold disdain by those whom it gave not only the heartiest welcome but gave all the help and encouragement in its power to work within the walls...\textsuperscript{78}

He observed that the wealthy sections of Indians were more interested in donating money to build a memorial to the late Queen Victoria. Hoping to lure them to the cause of scientific research, he offered to endow a chair in Queen Victoria's name. However, even that failed to take-off.\textsuperscript{79} Frustrated with such indifference, the doctor exclaimed, "oh, that they would understand,... that there cannot be a worthier object of charitable endowment than learning..."\textsuperscript{80}

Sircar's reactions were strong because for him here the Indian self-reliance and thus Indian adulthood were at stake. Seemingly, Indians had failed to stand up on their own feet, and become 'men'. What frustrated Sircar most was the realisation that very

\textsuperscript{74} Ibid. 1898, p. 25.
\textsuperscript{75} Ibid. p. 23.
\textsuperscript{76} Ibid. 1900, p. 19.
\textsuperscript{77} Ibid. 1898, pp. 23-24.
\textsuperscript{78} Ibid.
\textsuperscript{79} Ibid. 1901, p. 25 and p. 30 also see Ibid., 1902, p. 18.
\textsuperscript{80} Ibid. 1902, p. 18.
little fundamental research was being actually undertaken by young Indians in his Association. This indifference to the fundamentals of science, he felt, reflected Indian moral immaturity and thus the fallacy of Indian nationhood. He called the lack of enthusiasm to ‘cultivate’ science a - ‘conceit’. In the last couple of years of his life, Sircar became increasingly restless and frustrated at the state of affairs. His anger was directed particularly towards the young students. “And for this, pardon me, if I tell you, you are partly to blame... not a single student either during college life or after, has come forward, ever since the foundation of the Association, to cultivate science for the sake of science.”

In his last speech to the Annual meeting of the IACS he talked of how he felt he had ‘wasted’ his life:

...I do not know how to account for this apathy of our people towards the cultivation of science. And therefore I am forced to confess that I made a mistake in starting the project of founding a Science Association at all, and that I have wasted a life, as I have told you, in attempting to make it a national institution.

To Sircar’s despair he felt the project had not even taken-off. He found the task to be too imposing if not impossible:

...But unless this be the faith of all my countrymen, or at least of our leaders, no amount of faith of a single individual will avail. Strangely enough, the experience of a whole life compels me to say that faith in the elevating and regenerating influence of science, if it does exist in the mind of our community, has not grown yet to bear fruit. Oye! Gentlemen, pardon me, if I question if it is a living faith at all.

The main pillars of Mahendralal Sircar’s thought were fundamental research, moral values and self-reliance. However, nationalism in a colonial context had to refer to British rule. Indian nationalism reacted to colonial rule in various ways from feelings...

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81 Ibid. 1901, p. 33.
82 Ibid. 1901, p. 32.
83 Ibid. 1902, p.19.
84 Ibid. 1901, p. 21.
of gratitude to partnership to positive antagonism. A study of the attitude of the IACS towards the colonial state will complete our understanding of Sircar’s ‘scientific’ nationalism.

**Sircar’s IACS and the British Rule**

Sircar put forward a critique of the colonial state’s apathy towards scientific research in India, “...I say with deep regret that our government has hitherto offered no opportunity, nor offered any encouragement to the pursuit of science by the natives of India....”

He was also critical of the government’s educational policy, particularly in the universities. In 1902 he questioned the University Commission’s decision to introduce higher fees in education, to restrict science education to a few selected colleges and to abolish second-grade colleges teaching up to F. A. standards.

Sircar’s criticism has to be seen in the proper perspective, for it interrogated the performance of the colonial government, or the lack of it, in certain fields. He did not challenge the very basis of colonialism; its economic and political roots, did not disturb Sircar. Second, Sircar found many differences between its policies and that of the western nation-states. We must remember here that the European scientists of the Asiatic Society had similar complaints.

Sircar did not attempt to distance himself from the colonial regime, as was clear when he appealed to governor-general Woodburn to convince Indians to donate more money for this ‘great cause.’ Moreover, Sircar was not opposed to British aid. In the Resolution 8 of the Plan of the Association, Sircar made it clear that he was open to European assistance in terms of teaching as well as funds, even if that might be “charged with departing from the quintessence of my scheme, which is to make my countrymen, in the matters of science cultivation at least, self-reliant”. This was necessary because “we must admit we have to learn even the very rudiments”.

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Again in Resolution 18, he made clear his expectations from the government for his 'noble' cause which any enlightened rule was ought to promote:

...A government that professes to rule by the laws of justice, and by all requirements of advancing civilisation, ought not merely to foster such a sense of duty, but cultivate and develop it. We are fortunate to be under such a government as this, and therefore we sanguinely expect aid from it.\(^90\)

Mahendralal was practical enough to realise that the task he had undertaken was difficult and that British aid was necessary even for his brand of self-reliance;

At the same time it must not be forgotten that it is impossible in the present day to cultivate science in all its branches and to the fullest without aid and encouragement from those who have all the resources of the country at their command. ...Government has already done much for the Association by its moral support, and by acquiring the land for it on which its premises stand; and it can do much more in a variety of other ways.\(^91\)

Sircar was thinking of two categories of help. One was the employment of indigenous men of science in its services and the recognition of institutions like the IACS. Second, he wished the colonial state would provide money and other aid to such institutions.\(^92\)

However, the significant condition that Sircar put on such aid was that it would not interfere with the independence of the Association, "...All this (if) government can do without touching the independence of the Association, the Association will make much more rapid progress that it can with its own unaided resources."\(^93\)

Sircar emphasised the independence of the IACS, because of his search for self-reliance and self-sufficiency in scientific research. The other and more interesting motive was the scientist's search for insulation from outside influence during scientific research. Scientific communities committed to 'pure' scientific knowledge have

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\(^{91}\) *Hindu Patriot*, June 1, 1891, p. XXXV.

\(^{92}\) *Annual Report*, 1898, p. 25.

\(^{93}\) *Hindu Patriot*, June 1, 1891, p. XXXV.
generally sought to shield themselves from external control. The history of Royal Society as well as the Academy de Sciences illustrate that.\textsuperscript{94} We have already seen how a scientific community committed to 'pure' scientific knowledge sought to shield itself from external control. This was the case with the Asiatic Society. The IACS, which shared similar ethics of scientific knowledge as a pursuit of the 'pure' was looking for similar immunity.

A couple of years after Sircar's death in Amritalal Sircar's words it becomes evident how this idea of 'independence' was an outcome of the two main themes of IACS; the concept of 'cultivation' of the fundamentals of science and the search for 'self-reliance'. Amritalal expressed the fear that if the Association gave up its independence and became affiliated to the government, Indians would never become self-reliant, "We shall never have the courage to stand on our legs again."\textsuperscript{95}

Clearly, such 'Independence' did not necessitate political emancipation from the colonial regime. It was a search for moral maturity as well as scientific insulation. Reacting against suggestions of grants, affiliations to the government and acceptance of the regulations of the universities he argued that such a step would hamper scientific research.

If the grant be unconditional, then why not take it to utilise in any way you like, rather than to equip yourselves for the petty tyrannies of University Regulations, where the freedom of professors and students and also the freedom of constructing your tables and chairs and rooms, are sacrificed...\textsuperscript{96}

In his opinion true research was not possible in Universities under pre-existing government regulations. There, teaching occurred within a structured course and syllabus. Research must be free from such control, "If we once fall from our higher pedestal of independence there will be no chance of recovery, and this noble institution will be converted into an ordinary school."\textsuperscript{97}


\textsuperscript{95} Annual Report, 1907, pp. 34-35.

\textsuperscript{96} \textit{Ibid.}, p. 35

\textsuperscript{97} \textit{Ibid.}
Amritalal’s ideas of independence can be traced in other speeches. Mr. Bruhl, one of the members, stressed the importance of independence in his support of Amritalal, "...Let us be entirely independent; let us not be tied by red tape; red tape is as the hangman’s tape to scientific research." He even suggested that since the colleges by then had started science teaching and setting up of laboratories on a large scale, the Association should sever ties with the universities and go back to its ‘basic’ interest, scientific research and short courses of public lectures on recent advances in science.

These apprehensions of losing touch with the ‘higher’, ‘sacred’ and ‘pure’ scientific knowledge show that the two pioneering institutes of scientific research in colonial India, (the Asiatic Society and the IACS) shared similar concerns. Sircar and his colleagues had incorporated the same ideas of dichotomy between scientific research and public life, within an institute, which was, however, focussed largely towards a great public goal ‘national regeneration’. The two worlds of the Society and the IACS were thus familiar and yet distant. We shall now focus on how such orientations shaped the relationship of the IACS with British rule.

Sircar's preoccupation with such a notion of independence and the identification of modern science as both Western and virtuous shaped his attitude towards colonialism. Although an advocate of self-reliance and intensely nationalist Sircar did not produce a political, economic or even a cultural critique of the British rule. Unlike Bankim, he did not see British rule as ‘invasive’. For him it was a positive force within the country bringing about desired cultural and social change. A clear sense of reverence and even gratitude towards the British is unmistakably present in his speeches and writings. He believed that the presence of the British in this country was a great ‘advantage’ which Indians must utilise for this regeneration.

I am not ignorant of the fact that adverse circumstances for a series of centuries have had a most paralysing influence upon our energies, but these energies, as we have abundant evidence, are not altogether gone beyond recovery, and we have this advantage that we are now given, under a beneficent rule, opportunities for intellectual activity such as never existed

88 Ibid. p. 39.
89 Ibid. p. 40.
even in days of our greatest glory.  

His appeal to the British was to fulfil, “the mission for which Providence has appointed them, ...to raise the Indian people to a level with themselves”. While asking for aid from the British Sircar suggested that, “To the latter (British people) we doubt not, it will be gratifying to see that we have at last learnt to beg for such noble purposes which we must gratefully set to the credit of their own example...”

Clearly Sircar’s reverence for western scientific thought had ruled out scope for any real antagonism towards British rule. The cultural superiority of Western knowledge that Sircar had acknowledged had confirmed the power equation. India had to eternally feel grateful to the west for having bestowed science on the country.

Gooroo Dass Banarjee, Sircar’s friend and colleague in the IACS expressed similar opinions. Using a scientific metaphor in one of his speeches he compared British rule to the sun, giving light, warmth and life to Indian soil. It was due to such sentiments that Amritalal Sircar later took the initiative to help the British in their war efforts during the First World War. Speaking as the Secretary of the IACS he said, “Both man-power and wealth- power of India should be sacrificed for the cause of our benign Government- a government which has given us peace, prosperity, wealth and order”. His appeal was mixed with elements of loyalism, obedience and celebrated the insulation of the scientist in search of the higher truth. Arguing that if the scientists help the Government during War, the Government would certainly help IACS in the future he added, “Gentlemen, I do not dabble with politics, nor have I a mind to do so. I am a Hindu of the Hindus and I know too well that if I behave well, my governor can never be harsh with me. We must not find fault with others, but must know what we are.”

Amritalal in fact described the coming of the British not as a conquest but as an intimate family bonding.

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100 Ibid. 1899, p. 17
101 Ibid. 1898, p. 21.
103 Annual Report, 1898, p. 39.
105 Ibid.
Britannia expanded her empire all over the Seas but she came to India not with the idea of conquest but to meet her elder sister as it were. The younger sister, seeing the lawlessness and disorder, prevailing over the whole country of her elder sister, gave her law and order and the elder in return bedecked her with pearls and gold...\(^{106}\)

The metaphor of the elder sister used here for India and the younger one for Europe is very interesting. Although Mahendralal had generally referred to Indians as 'children', the evidence of India's ancient civilisation and the Orientalist glorification of the same paved the way for this comparison between India and Europe. The justification of the present state of India, in spite of such an illustrious heritage had occurred, predictably enough, was in its 'lawlessness and disorder'. Now, if the two metaphors used by Mahendralal and Amritalal are combined we get an interesting picture. The elder sister (India) in spite of her age and wisdom had lost her glory due to lawlessness and disorder. As a result, she could guide her children to maturity, which her younger sister (Europe), with her more superior order and new knowledge was able to do.

However, the appreciation of a glorious ancient Indian civilisation made the task of introducing western science into this country more complicated for Sircar and his colleagues. How Sircar and IACS tried to grapple with this problem constitutes the final subject for discussion.

**Western Science and the Eastern Mind**

Having defined Western science as essentially of European origin and pedigree, the problem Sircar faced was that of preaching it in a country that appeared so very different. The problem was indeed of a great magnitude to Sircar for his belief in the existence of an essential Eastern mind and culture comprising of the Asiatic world.

Sircar's construction of the 'Easternness' was often directly based on the Orientalist classifications of the East and the West in which the Oriental man was essentialised in a manner which emphasised the differences between him and modern western man. If the distinctive culture of west was its science, its technology and love for progress with reason at its heart, the distinctive culture of East was its spirituality.

\(^{106}\) *Ibid.*

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Quoting liberally from European Orientalist texts Sircar had constructed the India of his ideas. Thus the India of antiquity was a land of "all the wealth, power and beauty that nature can bestow". The Indian mind had, "most fully developed some of its choicest gifts, has most deeply pondered on the greatest problems of life, and has found solution of some of them which well deserve the attention even of those who have studied Plato and Kant." The literature that it produced was concerned with the inner and eternal life. Indians should take pride that they "own such a land as the land of their birth and who have the privilege of having come from such a glorious ancestry". Sircar often referred to an 'Aryan vigour', while talking of Indian regeneration by which he meant the dormant but not dead spirit of the Indian mind. Not very clearly formulated, this concept Sircar's link between the past and the present. Sircar used it to argue that Indians were capable of pursuing scientific research.

Sircar's cosmology was based on this distinction between the Eastern and the Western mind. It constituted of things material and spiritual, of the matter and the mind. The matter was the manifestation of the Supreme Mind with the impress of His image upon it and therefore capable of development from the lower to the higher forms through fixed and eternal laws.

Thus science which, to Sircar was the enquiry into the laws of so-called matter was ultimately an enquiry into the thoughts of the Eternal mind. It is possible to see that Sircar's cosmology of mind and matter was influenced by Bacon's notion of the Divine Mind and the new scientific method of grasping the same. In Sircar's opinion the West and East had pursued two different trajectories of development. While the West pursued the study of the laws of matter, the East had only been involved with the mind. Eastern spirituality according to Sircar, had become meaningless without matter and 'reason'. Thus begins his critique of the East. This critique reflects the Orientalist obsession with and the romanticisation and overvaluation of Eastern spirituality which had suddenly and paradoxically given East a lamentable, backward appearance. In other words it was

107 Ibid., 1895, p. 15.
108 Ibid., p. 16.
109 Ibid.
110 Ibid., 1896, p. 20.
111 Ibid., 1902, pp. 20-21.
the opposite "back swing of the pendulum" referred to by Said.112 The confinement to
the spiritual domain was the crux of the decline of the East because as Sircar put it, "To
despise matter and to neglect the study of its laws is to despise ourselves and to neglect
our own interests".113

Similarly in the Orientalist pattern Sircar went on to produce a critique of the
aggressive materialism of the west. In doing so Sircar comes close to his contemporary
and the other prominent 19th century Bengali intellectual- Bankim. He too, like Bankim,
stressed how Christianity had failed to counter material culture,

The Civilisation of the west, notwithstanding its profession of the blessed
religions of love preached by Jesus Christ two thousand years ago, is still and
threatening to become more and more the civilisation of iron and blood,
whose aim seems to be to polish the weaker nations and the so-called savage
races off the face of the earth, forgetful or unmindful of a cardinal doctrine of
that religion, that "of one blood hath God made all the nations of man".114

For Sircar, the solution was thus not in European Christianity which before this
aggression, "seems to be absolutely impotent".115 According to Bankim the answer was
to be sought in the spirituality of the East. Bankim’s synthesis was to produce a
complete and perfect man- learned, wise, agile religious and refined- a better man than
the merely efficient and prosperous one of the West.116 Sircar, too, believed that the
eastern spirituality could ‘humanise’ the West. "Even at the risk of raising the smile or

112 Said, op. cit., p. 150.
113 Annual Report, p. 22.
114 Ibid., 1900, p. 25.
115 Ibid.
116 Chatterjee, Nationalist Thought and the Colonial World: A Derivative Discourse?, OUP, Delhi,
1986, p. 67. However, in Bankim’s case the reconstruction of the perfect man was perhaps not as
straight forward as suggested by Chatterjee. Sudipto Kaviraj argues that Chatterjee exaggerates the
Victorian elements in Bankim’s Krishna-the perfect man. According to Kaviraj, Bankim
reconstructed Krishna within a traditional framework of redefinition. In the Gaudiya Vaisnava
tradition, Krishna was transformed from a warrior - rationalist figure to a man of action and serious
philosopher of praxis. Bankim reconstructed Krishna from within that tradition to provide a rational
(as different from ‘rationalist’) solution to the crisis of the colonial situation. Krishna through this
‘rational’ reconstruction was transformed into God of a dependent nation who had to help them
cross, nullify, reject, and transcend in practice the historic indignity, subjugation. This is part of
Kaviraj’s larger contention that Bankim was a man of both the traditional and the modern worlds.
Bankim’s aesthetic can be set against that of classical Sanskrit literature, and at the same time, that
of the modern. See his The Unhappy Consciousness: Bankimchandra Chattopadhyay and the
Formation of Nationalist Discourse in India., Delhi OUP. 1995, particularly, pp. 74-106.

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even the laughter of contempt at the audacious declaration, I cannot help giving expression that that influence will proceed from India....".117

Central to such a claim was Sircar's belief that religion and spirituality could play an important role in science. Spirituality was not opposed to science; it was the crowning glory of man's rational pursuits, the ultimate sphere for man's search for the truth of nature or the Supreme Mind.

I cannot believe that faith is blind and religion is irrational, that is, that they have no basis in the understanding as they have in the heart. What truly constitute man's higher and spiritual nature are, it must be remembered, super-addition to his animal and intellectual nature, which they were intended to crown, and not supersede. They stand enthroned on their conjoint platform. And the more elevated the platform the sublimer must be the flight of that which stands by the platform.118

India, Sircar believed could provide this 'sublime' spirituality to western materialistic science. This ultimate refuge in Indian spiritual was an interesting reflection of the romantic Orientalism of Bouvard, Schlegel and Novais. The latter believed that a study of Indian spirituality would defeat the materialism and mechanism of the West, leading to the regeneration of Europe.119 Sircar's nationalism altered this vision slightly for an Indian regeneration.

But which India could fulfil the imposing task of humanising science? The present degraded, divided, immoral one? Bankim had imagined an ideal India which had a strong, aggressive Hindu national culture and pride.120 Mahendralal Sircar, the scientist, sought a different route. To influence western civilisation, the East must morally regenerate itself through western science and 'rational' culture. Both men were talking of a cultural assimilation, a national regeneration of the East and 'moral conquest' of the west, although in different terms.

Sircar's concept of true religion varied from that of Bankim. Sircar's

119 Said, op. cit., p. 115.
120 Chatterjee, Nationalist Thought, pp. 56-57.
monotheism, his belief in the Almighty Father, differed from Bankim’s trinity. Along with it went his critique of Hinduism, particularly its idolatrous priesthood. His active support to reform movements of Hindu social systems always stressed the ‘unscientific customs’. He was a great advocate of the raising of the marriageable age of boys and girls in the Brahmo Marriage Act inaugurated by Kebah Sen and of the Age of Consent Bill and this the doctor did by scientific analysis of anatomy and health. He was a monotheist and his writings show his reverence for the Creator, his faith in His Dispensation and a thorough resignation to His will. He denounced idolatry and saw ‘God in Nature’ and ‘Nature in God’.

It was with such faith towards monotheism and the Supreme Mind that Sircar sought to question Darwin’s theory of natural Selection. And it was here that he found an ally in his life long partner- Father Lafont, the Jesuit Missionary who had urged Indians, not to “...attach undue importance to discoveries on the material side of the Universe”.

Father Lafont’s (1837-1908) career was closely linked to the history of St. Xavier’s College (1860), an important institution of science education in 19th century Calcutta. Lafont received his training in science at Namur. As soon as he reached Calcutta, he started popularising and demonstrating elements of science and acquired apparatus for his laboratory. In St. Xavier’s College, Lafont was primarily involved in meteorological studies and had an observatory built on the college terrace. He was soon well known for his accurate predictions of the cyclone of 1867. In 1874, he initiated investigation in spectro-telescopic studies and started astronomical studies, in which he was helped by Father Penaranda.

Jesuits have had a long tradition of scientific research and publication from the early 17th century. As men travelling to far corners of the earth to preach their faith, they facilitated researches particularly in the fields of astronomy, celestial mechanics, geodesy etc. Travelling in various parts of Asia, Africa and America they carefully

121 Ibid., p. 67.
122 Bose, Chunilal, op. cit., pp. 45-46.
123 Ibid., p.46.
124 Annual Report, 1907 p. 45.
125 Ibid., pp. 80-84.
studied and documented the diverse natural phenomenon.\textsuperscript{126}

In the early 1880s, Lafont saved the first ballooning experiment in India from the mouth of disaster. Percival Spencer, a ballooning expert, claimed to hold a show in front of a huge crowd who had bought tickets for the event at Ballygunje maidan. The gas company involved failed to inflate the balloon, Spencer's attempt was unsuccessful and tickets were refunded. Lafont, never to lose out on a chance to demonstrate the wonders of science to an Indian crowd, volunteered to generate the hydrogen required if Spencer agreed. This was settled and a few days later another huge crowd assembled at the Race Course; the Grand Stand Course and maidan were packed. The Viceroy Lord Ripon was present and the balloon slowly rose helped by high southerly breeze to much joy.\textsuperscript{127}

If Lafont indulged in flights of fancy, Sircar sought to ground his ideas in practical considerations. In Sircars’s scheme of Eastern spirituality the Eastern mind was endowed with a high imagination which could give a new direction to scientific research. But he was careful to stress that an Oriental imagination, without ‘rationality’ had become meaningless. It had to be brought under the control of reason, so that it "may not run wild regardless of or in opposition to, positive facts".\textsuperscript{128} Reason would be the string to tie the balloon of Indian imagination to the ground; imagination without reason had been the root of Indian misery.

\textit{(How) the Asiatic mind can be developed to its full proportions, is by the cultivation of physical sciences, where the imagination may take its sublimest flights, but always as a captive balloon, though with an ever lengthening chain of positive facts, which, while it gives it ample scope to soar beyond the region of senses, keeps it bound down to the solid ground of truths already discovered.}\textsuperscript{129}

Thus on the one hand while Indians were taken on a fascinating ride into the world of scientific wonders, on the other, they were taught the virtues of scientific

\textsuperscript{126} Steven J. Harris, "Transporting the Merton Thesis: Apostolic Spirituality and the Establishment of the Jesuit Scientific Tradition", \textit{Science in Context}, vol.3, no.1 pp.29-65
\textsuperscript{127} Udayan Namhrodry, \textit{St. Xavier's; the Making of a Calcutta Institution}, Viking, 1995, p. 69.
\textsuperscript{128} Annual Report, 1900, p. 22.
\textsuperscript{129} Ibid., pp. 22-23.
control, order and rationality. Western science was to take total control of Indian emotions and their intellect. This was how the project of their 'regeneration' was supposed to take-off. However, Lafont and Sircar had some more goals in common, including developing the spirit of fundamental scientific research among Indian youth.

The Jesuit scholars of ST. Xavier's college, such as Lafont, were using the college laboratory to demonstrate scientific theories and experiments with the help of instruments. They also encouraged students to take part in such experiments. During the 1870s while a few pieces of scientific equipment languished in Presidency College, the St. Xavier's laboratory was vibrant with activity and was the "cynosure of all eyes". Lafont wrote to his Superior in Belgium to send the college more priests with scientific learning. During his visits to the Paris Exhibitions (1879 and 1900), Lafont procured the latest equipment for his laboratory. Moreover, under his leadership the Society of Jesus sought to develop a scientific culture not only in Calcutta, but through the metropolis, in other parts of the country.

Father Lafont, like Sircar, was a crusader for fundamental research. His advocacy of greater stress on science, experimental science in particular, and more laboratories in colleges convinced the members of the 1903 Indian University Commission to develop more laboratories and museums. To Lafont fundamental science had a great appeal because as a missionary, a teacher and a scientist in colonial India, he found in such science the true knowledge to enlighten Indians about the 'truths' of nature. Technical training could be helpful only after that, "It would be difficult to teach a nation how to apply things they do not know anything about. It is necessary, therefore, to teach the sciences before their application to the arts could be taught with advantage."

Sircar could not have found a better supporter for his own project of enlightening Indian minds with the virtues of science. It is not surprising that Lafont was the first to respond positively to Sircar's 1869 article. Lafont subsequently assisted Sircar in establishing and developing the IACS. Significantly the Catholic priest

110 Biswas, op. cit., p. 86.
111 Ibid.
112 Ibid.
113 Ibid.
114 Ibid.
considered this to be the best thing he did in India.\textsuperscript{135}

But the most crucial area in which their ideas met were in their concepts of spirituality, religion, mind and matter. It met in Sircar’s Monotheism and Lafont’s Catholicism. Being a Catholic priest and a scientist was problematic, particularly when modern scientific theories were rejecting Christian theology. It was necessary for Lafont to reconcile the two worlds. For Lafont the study of scientific truth was the “study of God’s works”.\textsuperscript{136} About being a Christian missionary he said, “I belong to a community commonly, though erroneously, regarded as antagonistic to science. Well gentlemen, I declare to you, though Catholic and a Priest, I hail with delight and pursue with love any advance of true science”.\textsuperscript{137} Lafont often asserted: “Truth cannot be opposed to truth.”\textsuperscript{138} Thus for him, the study of science was compatible with the spirituality of Christianity. To him science dealt with nature, it was a study of the laws which govern the natural phenomenon, was the study of God’s work. It was for this reason, Lafont, like Sircar, believed that the study of science had a moralising influence on the human mind, “The more we study the works of God, the more are we convinced of the ‘vastness’, the ‘glory’ and the ‘splendour’ of the Mind which is often beyond our grasp.”\textsuperscript{139} Now their project had become a joint one. The roots of this project lie in the relationship between natural philosophy and theology in the early modern Europe. The two, as is being increasingly recognised, shared deep conceptual influence and interaction.\textsuperscript{140} One of the central features of such an interaction was the concept of God. The role and point of natural philosophy was the study of God’s creation and God’s attributes. The central urge was to study God and God’s creation in a way different from that of theology.\textsuperscript{141} The conflicts between science and religion were a much later phenomenon, particularly reflected in the debates around Darwin. Sircar and Lafont’s ideas could be seen as a reiteration of this earlier European tradition.

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\textsuperscript{134} Ibid., p. 84.  \\
\textsuperscript{135} Ibid.  \\
\textsuperscript{136} Annual Report, 1904, p. 29.  \\
\textsuperscript{137} Namboodiry, \textit{op. cit.}, p. 77.  \\
\textsuperscript{138} Biswas, \textit{op. cit.}, p. 87.  \\
\textsuperscript{139} Annual Report, 1902, p. 32.  \\
\textsuperscript{141} Cunningham, \textit{op. cit.}, p.388.
\end{flushleft}
But the very fact that they had articulated it in a colonial world had attached new meanings to it. It had enriched science as a moral force in a different territory. Lafont recommended science as the ideal moralising and learning experience for 'regeneration' of the Indian 'mind', which was not true for "many other products of western civilisation".  

When I took upon myself the task of diffusing and popularising Science in Bengal and joined my efforts to those of Dr. Sircar, I was compelled by the thought that I could in all conscience recommend to the natives of this country, the unrestricted study of Western Science without misgivings or restrictions, because I saw in it the study of God's works and nothing but good can come out of it.  

For Lafont, such a study would ensure a higher morality and a new religious ethic among Indians which came tantalisingly close to Christianity. The moralising tone of this passage, reminds us that Lafont had come to India not just as to teach science, 

In the study of the laws and facts of Nature, they (the natives of this country') would find an incentive to the love of Nature’s God, they would increase in reverence for the Creator, they would in fact become not only clever men, but better men, knowing their duties towards their Almighty Father and towards their fellow creatures, in a word they would learn to become more useful and less selfish members of the Universal Brotherhood of mankind. (emphasis mine)  

But to be fair to Lafont, he was not the only person preaching a new religious ethic bordering on Christianity in 19th century India. Ram Mohan’s monotheism shared many of aspects of Christian cosmology. In fact we have already seen how Sircar’s monotheism shared some of the values of Lafont’s spirituality and morality and urged that western science be infused with this new religious ethic. Both believed in taking the Indian mind to a higher morality and enlightenment with this combination of materialism and spirituality. The IACS had provided the ideal platform for this project.

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142 Ibid., 1904, p. 29.
143 Ibid.
144 Ibid.
In an Orientalized India, Lafont found an ideal field to reactivate the 'ideal', of a 'lost' spirituality to counter materialist western science. And in the spirituality of science Sircar found the ideal justification for the study of science by Indians. Such was the common meeting ground for Lafont and Sircar. This is how Sircar sought to build a bridge between Western science and the Eastern mind.

For such a project, Sircar found Comte’s positivism too materialist, as it sought to eliminate the concept of the Supreme Mind from science. He remarked that it was "a philosophy which had gone far beyond agnosticism, and audaciously taken up the position of an emphatic protest against all belief in a creative intelligence as opposed to all progress..." Indian positivists, of course found Sircar’s theological hypothesis regarding the origin and destination of the world incompatible with positive science. "A man cannot serve two masters;" they wrote, "sooner or later, he, (Sircar) must make his election between theology and Positive sciences". But Sircar was firm in his faith in the need to spiritualise science. To demonstrate his point he challenged Darwin’s theory of natural selection, in which he found support once more from his missionary friend.

In a famous lecture, called the “Moral Influences of Physical Science,” Sircar argued that the history of evolution had to take note of the concept of first cause. Sircar showed that in the beginning even Darwin almost agreed to the existence of a Deity and a first cause, but later doubted the ability of the human mind, which he believed had evolved from the lowest animals, to deal with such complex thought of its own origins. The implications of Darwin’s arguments, that the mind of man would not be trusted to come to any conclusions, were unacceptable to Sircar. For it would lead men to “suspend judgement in every matter and paralyse all action”. For Sircar the human mind was capable of drawing legitimate conclusions from sufficient data using the ‘scientific’ method. Such methods would establish the legitimacy of the first cause as it “satisfies the very necessity of our being, and offers the only solution of the great mystery by which we are surrounded”.

To the doctor it was not only the origin but also destination of life that was

146 "Dr. Sircar on Scientific Education". The Bengalee. 151 January 1870, pp.20-22.
147 Moral Influence, p.30.
148 Ibid., p. 22.
important. Death for him, was a blessed event which freed the inner spirit from the trammel of its existence in this world. A concept of never-ending life was crucial to Sircar's scheme for then, man could see a beneficial meaning in the Universe and could be assured of his destiny and his reverence for the Supreme Mind. For Sircar, science was the knowledge which sustained this grand faith of origin and destiny of life. A true knowledge of science would sustain faith in the Creator and not oppose it.\textsuperscript{150}

If such was the nature of true science, Sircar argued, it had great prospects in the land of spirituality-India. He suggested that the introduction of science to the Eastern Mind would not be disruptive or shatter its spirituality leaving behind a "bitter atheism and sad agnosticism" as often feared. It would actually enrich its spirituality,

I do not believe that man's higher nature has suffered in the least from the advance of science. I do not believe that the noblest aspirations of man have received any check from the unfolding of what are falsely called 'cold material laws'.

....

I do not believe that man's primitive faith and with it his religion, has anything to fear from what are ignorantly apprehended to be encroachments of science.\textsuperscript{151}

Darwin's theory which argued for the abolition of teleological evolution was highly disturbing to the late 19\textsuperscript{th} century European intelligentsia. Both religious groups and biologists found it difficult to accept evolution just for competition for survival and without a specified goal.\textsuperscript{152} Sircar's reaction ran similar to the contemporary European reaction to it.

It should be also mentioned here that Darwin's theory of evolution was widely contested in 19\textsuperscript{th} century colonial India. Bankim's explanation of evolution rested on the

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\item \textsuperscript{150} \textit{ibid.}, p. 23.
\item \textsuperscript{151} \textit{ibid.}, pp. 23-30.
\item \textsuperscript{152} Ghosh \textit{op. cit.}, p. 317.
\end{itemize}
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concept of Hindu trinity: creator, preserver and destroyer (Brahma, Vishnu, Maheswara) as different from Darwin’s scheme. His attempt was to show that the trinity was not in opposition to science. The other important critique came from Ramendra Sundar Trivedi, at a slightly later period. Trivedi’s ideas ran along similar lines to Sircar’s, but he could not sustain his absolute faith in science. He came to the conclusion that the evolution of the world ultimately was maya-controlled by supernatural forces beyond the comprehension of science.

But Sircar and Lafont remained faithful to their particular definition of science, particularly its moral message for Indians. In his last communication to the IACS, before his death, Sircar wrote, “I have only to reiterate my conviction that if our country is to advance at all and take rank and share her responsibilities with the civilised nations of the world, it can only by means of science on positive knowledge of God’s work.”

Thus Sircar presents another instance of the negotiations between the material and spiritual domains that marked Indian nationalism. Partha Chatterjee puts forward an argument to explain this phenomenon, which he considers a “fundamental feature of anti-colonial nationalism in Asia and Africa”. According to him, anti-colonial nationalism created its own sphere of sovereignty within the colonial society where the ‘material’ was a domain of the ‘outsider’. In this domain western superiority was acknowledged and its accomplishments had to be studied and replicated. The ‘spiritual’, on the other hand, was an ‘inner’ domain bearing the essential marks of a colonised society. It was essential as a part of the search for national identity to preserve this spirituality and to keep the West out of it.

Sircar’s career, although conforming to Chatterjee’s logic of Eastern spiritual essentialism, is problematic regarding the question of sovereignty. Sircar stressed the peculiarity of Indian spirituality but in doing so he did not deny the West its spirituality either. His project was to revive that spirituality which was lost to the West or Western science. To that extent the East appeared to have been endowed with certain advantages

153 Chatterjee, Nationalist Thought, p. 67.
154 Kumar, Science and the Raj, p. 195.
155 Annual Report, 1903, p. 2.
156 Chatterjee, Nation and Its Fragments: Colonial and Post-Colonial Histories, OUP, Delhi, 1994,
as it unlike the West was yet to lose its spiritual self. For Sircar, the spiritual domain was neither exclusive nor private to the East. Sircar's spirituality shared and acknowledged the visions of Christian cosmology. His association with Lafont and his rejection of positivism confirms this project of a joint vision. Moreover his discourse on Darwin showed that he was prepared to launch his debate at a public sphere with representatives of both the West and East. On the other hand, Sircar acknowledged at the public level the need to expunge the non-progressive elements from Hinduism to adjust its world view with the requirements of a rational world order. It was through these negotiations that Sircar hoped to revive a universal spirituality in both East and West.

Conclusion

Science for Sircar, was a moral force. The study of its material and the spiritual aspects would reveal the Supreme Mind to human beings. The West was way ahead in this pursuit as it had developed the material study of the same. What it now had to do was to revive its spiritual side. The East on the other hand was in a worse situation. While it had failed to develop the material culture of science, it had even lost its true spirituality because of contemporary decadent Hinduism. The task for the IACS here was thus two fold-to inculcate materialistic research and at the same time orient it towards spiritual pursuits. And this the Indians had to perform themselves, as only that would ensure that they became responsible, self-reliant individuals. This was the sum of Sircar's nationalism.

Sircar through his nationalism sought to redefine western science and attempted to introduce new values to its form in 19th century India. It was significant as the earliest attempt to re-spiritualise science in colonial India, by an individual who retained his absolute faith in science. Sircar's first attempt was to re-instil the sapientia in the scientia and the second to preach it to the Indians. This was Sircar's 'nationalist science'. But what was the content of this redefinition of science? To begin with, Sircar's popular discourse had marked a clear hierarchy between Western and Eastern knowledge where the former was identified as the mature and the latter as adolescent. Secondly, Sircar did not produce a political or cultural critique of colonialism. His critique of the West was
essentially towards the erosion of its spirituality particularly in its science. This was, however, done by a re-articulation of the same values of early modern European natural philosophy. The similarities of his thought to the ideas of Lafont illustrate the point. He shared Lafont’s famous notion of “from Nature’s God to the God of Nature”. Both their ideas were mooted in that earlier project of the realisation of the ‘supreme mind’. Sircar’s critique of Darwin could be located within the same context. It proposed nothing novel to the West, which had learnt to marginalise Christian cosmology from science. To that extent, the questions Sircar raised appeared archaic and obsolete to 19th century western science. It came at a time when 'science' had comprehensively eclipsed natural philosophy. The marginalisation was to such an extent that despite such philosophical differences the science practised by the Jesuit missionaries had the same cognitive content and symbolic language of the 'materialist' science. The formal structures of an alternative search were not designed. Sircar’s IACS too suffered from a similar lacunae and thus in the subsequent years of Indian nationalist involvement with science these crucial areas of Sircar’s project were easily forgotten.

Moreover Sircar’s monotheism like Rammohan’s, was actually a modern development reflecting the impacts of Christianity on Hinduism. For Sircar, contemporary Hinduism diverted the mind from God’s work due to ritual and priesthood. An interesting way to situate Sircar’s spirituality would be by analysing his interaction with the mystic saint Ramkrishna. Sircar treated Ramkrishna for throat cancer towards the end of his life. The saint, an illiterate worshipper of Kali, who lived and preached in a mystic tantric world, exposed Sircar to complex tantric ideas. Dr. Sircar acted as a friend a companion and as a professional doctor. He would come to treat Ramkrishna, ask him a few questions, and then stay for hours to talk to the saint and argue with the devotees about their belief, about the merits of western science and physiology, and about the meaning of Ramkrishna’s trance (Samadhi). But Sircar rejected Ramkrishna’s tantric religion. For Sircar it represented decadent Hinduism, although he respected the Saint for his wit and wisdom. He stated that bhava and samadhi were manifestations of mental perversion. He took particular objection to the sanctification of Ramkrishna by his disciples. According to him, religion had to appeal to reason. Science and religion were the two strands of the same rationalist pursuit of understanding nature. One appealed to the material world and the other to the spiritual. Ramkrishna’s religion was of course woven around the concept of love towards and
worship of Kali the Goddess of \textit{shakti}. To Ramkrishna and his followers, Sircar represented the western rationalist man, who had taken the attacks of the Christian missionaries on Hinduism seriously.\textsuperscript{157} Ramkrishna's disciples believed that Sircar was a man who believed in God, but did not honour the scriptures, the Gods and Goddesses, or the strange powers that the sages were said to possess. They thought that the doctor "could not understand such events" as he was "so influenced by western education."	extsuperscript{158} Sircar remained a friend to them, but a critical non-believer. Within his rigid definition of Hindu spiritualism, men like Ramkrishna and his followers had become unacceptable. Thus although Sircar had attempted to restore science to its earlier amorphous character by blurring the boundaries between science and religion, it was his definition of the two domains that restricted his project. Within his nationalist discourse European epistemology was ultimately entrusted with the dominant, paternal role which had defined both the material and spiritual domains. Thus while the popular arena, in the process of appropriating science, had questioned some of its central themes it had also, ironically, served to confirm it finally.

But it was for this complex mix of ideas that Sircar remains an important part of Indian nationalist discourse. Although one of the earliest Indian nationalist enthusiast of science and nationalism, Sircar does not fit into the modern Indian secular tradition, which Nandy calls "official secularism".\textsuperscript{159} In fact Nandy's categorisations of public/private and secular/religious dos not apply to Sircar.\textsuperscript{160} This is because Sircar had rejected the dichotomy between the secular and the religious and in doing so avoided the trap of the 'private' and 'public'. Sircar, therefore, could simultaneously establish the first Indian science association, remain a worshipper of rational values in his private and public life and yet find a friend in a missionary to critique Darwin in a public lecture or reject Comte's positivism. It were these elements that made his project particularly protean.

\textsuperscript{158} Ibid, p. 256.