Stereotyping Mahatma Gandhi as a saintly, spiritual person opposed to modern civilizational norms has inhibited a proper appreciation of his views on science and scientists. His other major contemporary, Tagore, criticised his views on Bihar’s earthquake, likening it with the sin of untouchability, as unscientific. Aldous Huxley branded Gandhi’s ideas of returning to nature as anti-science. Even Nehru observed ‘It may not be a correct attitude; its logic may be faulty.’ Meghnad Saha and many scientists felt that some of his ideas are retrograde and, according to Saha, had as little regard for Gandhi’s economic theories as the Russians had for Tolstoy. S. Gopal records how the young Radhakrishnan, after his first meeting with Gandhi, came back with the impression that he had a medieval attitude of mind. Unfortunately, this image of Gandhi has stuck in public psyche.

Recent writings by serious thinkers like Ashis Nandy, Akeel Bilgrami, Bhikhu Parekh and scholars like Pankaj S. Joshi and C. Shambu Prasad, however, provide a more nuanced picture. In fact, Gandhi has said and written so much that to isolate a remark from its context and situating his ideas outside the framework of his integral philosophy of life can result in serious distortions of his views. One should also take into account that he often used to speak humorously or in a tongue-in-cheek manner and the fact that his ideas on science and technology also got crystallised with the passage of time.

One may start defining science as ‘neither moral nor immoral but revelatory’ and the scientific method since the time of Francis Bacon as the one that stresses on gathering data (observation), analysing them systematically and performing experiments to arrive at nature’s truth (inference) in an organised manner. This way science advances incrementally approximating towards truth. Science thus cannot claim absolutism in any sphere and the scientists try incessantly, with humility and being aware of the limitations of our sensory organs and of the instruments, to ‘discover’ the laws of nature [and hence the mind of God, as per Stephen Hawking]. Technologists, based on such discoveries, attempt to ‘invent’ things primarily for human use.

Analysing Gandhi’s ideas in this context, one observes he has used the terms ‘science’ and ‘experiment’ extensively. He has expressed high regards for J.C. Bose and P.C. Ray saying ‘They cultivated it (science) for the sake of it… their researches have been devoted in order to enable us to come nearer to our maker.’ His reverence for Madam Curie as ‘a sachchi tapaswini’ (a true saint) and for astronomers, when he used to observe the stars using the two large-sized telescopes at the Yerwada central prison, his love for Geometry as a subject and the like clearly establish that he was not against science or the scientific spirit. N. Rathnasree quotes Gandhi as saying ‘astronomy has always interested me. Now it has become a passion with me. Every free minute I get, I devote myself to it. It is a wonderful subject…’ While paying tribute to the spirit of research that fires the modern scientist, he commented ‘… I have nothing but praise for the zeal, industry and sacrifice that have animated the modern scientist in the pursuit after truth.’

But his support for science and technology, which formed the foundation of the modern industrial civilisation, was not ‘unmixed’. Two of his comments can be considered here: the advance of science had added ‘not an inch to the moral stature of Europe.’ and, ‘Modern civilisation, far from having done the greatest good for humanity - had forgotten that its greatest achievements are weapons of mass destruction… the frightful disputes between capital and

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labour, and the wanton and diabolical cruelty inflicted on innocent, dumb, living animals in the name of science…” Gandhi, therefore, was critical of the direction science has often taken and of the violent methods it sometimes applies. Gandhian views thus require to be analysed through the prism of his convictions - truth, non-violence, as also ‘means justifying the ends’. His life-long reverence for every form of life, not merely human, informed much of his thinking.

Meghnad Saha, averse to charkha and khaddar, reflected the views of many progressive men of his time and did not subscribe to the idea that better living conditions ‘could be created by discarding modern scientific technique and reverting back to the spinning wheel, the loin cloth and the bullock cart’, Gandhi was obviously critical of the colonial concept of modernity. According to Nandy, Gandhi meant different things to different people and was opposed to ‘technologism’, among others, dominating our lives. Bilgrami, alluding to how science ‘got aligned with commercial or mercantile interests and the propertied class’ leading to a predatory attitude towards nature, said ‘Gandhi did not oppose science or even technology blindly. Rather, he wanted it to be in the control of the ordinary people, not the corporate elite and the governments…’ Science for whom and for what purpose seemed to have stirred Gandhi’s ideas a great deal. One can, therefore, appreciate why Gandhi and Acharya P. C. Ray had such mutual affinity.

Pleading for education through vernaculars, he commented ‘… the discoveries of a Bose or a Ray would have been household treasures as are the Ramayana and the Mahabharata.’ In another context, ‘Look at Professor Bose or Professor Ray and their brilliant researches. Is it not a shame that their researches are not the common property of the masses?’ Gandhi was driving home a very clear vision. His appreciation of the great scientists of his time like Madam Curie and Einstein, a Bose or Ray or Raman, as seekers of truth, was unalloyed.

Coming to some applied uses and methods of science, Gandhi’s castigation of the nuclear bomb as the most diabolical use of science and his aversion to ‘vivisection’ as an accepted method of modern medical research should also be contextualised. Though Gandhi was appreciative of the major discoveries and inventions of modern medicine, he opposed vivisection as the blackest crime ‘that man is at present committing against God and His fair creation. We should be able to refuse to live if the price of living be the torture of sentient beings’. This unusually strong statement from Gandhi can perhaps be understood in the context of his conviction that such violent and unethical ‘means’ cannot result in noble ‘ends’.

Criticising practitioners of indigenous medicine, Gandhi once said they had brought the system into disrepute, having not carried out arduous investigation and research necessary for the enrichment of their discipline. He also commented that in the indigenous systems there is nothing as efficacious as ‘Quinine for Malaria or iodine for simple pains or Condy’s fluid as a disinfectant.’ This clearly shows that Gandhi was not a blind follower of tradition and respecter of ancient texts just for their own sake. This attitude echoes what Tagore wrote ‘…Where the clear stream of reason has not lost its way/Into the dreary desert sand of dead habit…’

The uniqueness of Gandhi lies, among other things, in his attempts to apply the principles of truth and non-violence to practice in a nation-wide experiment. In some cases, he succeeded; in many others, he did not. He followed his ideas, which many modern thinkers consider as truly original. Gandhi’s tongue-in-cheek comment about the Singer sewing machine as ‘one of the few useful things ever invented’, his induction of the three ‘knights’ of Indian science, J.C. Bose, P.C. Ray and C.V. Raman for expert advice on village industries, his earnestness to improve the machinery and tools needed for spinning by announcing a cash prize for that purpose and his stress that science should be popularised through mother tongues - have all to be seen in the light of Gandhi’s integral philosophy.

Gandhi has been worshipped but largely ignored in official policy making in the fields of science, technology and industrialisation. Emotional outpourings, like describing him as the greatest Indian after Buddha or so, do not deepen or widen our understanding of Gandhi. It is about time we read more of him. Only then a clearer image of this down-to-earth man - not against science or scientists - would emerge.

Notes


3. Most other references are available on public domain.