

SOME REFLECTIONS FROM THE WORKS OF
VERNADSKY (1863-1945)

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(Received 16 October 1986)

A resurgence of interest in Academician Vladimir Ivanovich Vernadsky's works is clear today in the Soviet Union. Publication in recent years of his writings over many decades in the first half of this century enabled this Indian geologist to scan Vernadsky's deep interest in the march of Indian science over centuries to his day, as well as his original assessment of the initial period in the history of geology. His contributions on 'noosphere' in these days of 'ecological crisis' are quite well known¹ compared with the above facets of his thinking as a very conscious historian of science and society. No wonder so is his diary entry² on 17.11.1905 : 'Who may be projected as the Presidential candidate from Social Democrats ?—Lenin ?'

Already in 1920s³ he cited J. C. Bose, who 'attempted to solve philosophical problems with the help of the scientific method' like G. T. Fechner tried less rigorously in the last century. Earlier, Vernadsky considered⁴ Fechner's idea 'scientifically barren for the time being'. He pointed out that while considering the 'material-energetic essence' of the non-living they left the biogeochemistry of the living substance untouched. Later he criticised⁵ the Bose Institute program of studying 'the phenomena of life' in place of 'the phenomena of living natural bodies, the living substance'.

In late 1930s Vernadsky indicated the 'great role of the Indian astrophysicist Saha'⁶ in stressing ionisation. He acquainted himself with Ramakrishna and Vivekananda through Rolland's works and with Radhakrishnan's exposition of Indian philosophy. On 15th November 1936 he wrote⁷ to Lichkov 'I am very strongly moved by the Indian philosophy and the logic of descriptive natural science'. On this basis he had great expectations from Indian scientists of the succeeding generations, armed with a synthesis⁸ of 'ancient philosophy and modern science'. With this perspective only he was a keen commentator on the research programme of the Bose Institute in Calcutta. He maintained all the time⁹ that 'Indian⁹ logic went much deeper than that of Aristotle'. What was achieved upto Ramanujan, in his opinion, by creative thought in India could be

matched by the West only at the end of the 18th century. Let us recall, he started in 1904 with an analysis of Kant.¹⁰ Later, analysing Goethe¹¹ Vernadsky turned to R̥gvedic hymns 'permeated by scientific and philosophical generalisations'. He considered that Upaniṣads may be treated¹² as 'intuition and constructs connected with scientific empirical conclusions'. He even traced (p. 47) the 'birth of geological work of scientific thought' to North India of 7th-8th centuries. Vernadsky considered the quest of Aurobindo Ghosh (p. 111f.n.) on intuition as legitimate from the point of view of modern science. He pointed out¹³ the 'illusion' of the West that scientific facts and not the social environment form the core of modern science. So he expected 'the weightage of India' to increase faster in the scientific pursuit of the near future.

In his famous article of 1932 on 'The Problem of Time in Modern Science'¹⁴ published in French¹⁵ as well, Vernadsky dwelt on the 'correct notion on duration' in the Indian culture-area, where a deep working of the philosophical idea (p. 35) 'silenced' the scientific creativity. Later, he noted¹⁶ that the idea of an infinite universe had already a hold on the Indian thinkers much before Copernicus' *De Revolutionibus*. According to Vernadsky (p. 24), for scientists of India the idea of beginning of natural phenomena does not seem mandatory—for them the idea of a geological eternity is more comprehensible. Around the same time Vernadsky was obsessed¹⁷ with Hutton's Principle of Eternity in geology, noting its Indian roots.

'The figure of Hutton grows in our esteem day by day' Vernadsky wrote¹⁸ in early 1930s. Even earlier references to works of Hutton¹⁹ in preference to those of Lyell²⁰ are characteristic of him, while even today Soviet geologists are hardly acquainted with the former. An early exception is Belousov²¹ to whom Vernadsky turned,²² at the same time mentioning Lyell's omission of references to Hutton after the first editions of his *Principles* in 1832 on p. 72. A contemporary of Lyell, Fitton, remarked²³ 'Lyell does not do justice to his predecessor Hutton'. Later, Walther and others too subscribed to this view of Lyell 'passing in total silence a conscious borrowing of ideas from predecessors'.²⁴ Upto 8.10.1933 Vernadsky admitted²⁵ his inability to consult Hutton in original and focussed on the problem of transmission of ideas in this context. He held²⁶ that Hutton was unknown to Goethe and Germany of his day due to a 'book famine'²⁷ very well illustrated during war even in this century. It is not fully clear if Vernadsky finally succeeded in reading Hutton in original at all, as his last comments²⁸ betray an unfamiliarity with the latter's stipulation 'with reference to human observation' for the time-worn enunciation 'no vestige of a beginning, no prospect of an end.' Vernadsky wanted to supplement this with 'within geologic time'.

Lastly, his classical regard for honesty and rigour,²⁹ his search for the first source and esteem for India does not seem to be shared by the present generation of Earth

scientists in India, as else it would be inexplicable why 'J. Kiev' or 'Bronnaire' figures in the single-page (p. 5) history of geology in a current Indian textbook produced by a reputed publishing house with state subsidy! That author's nodding acquaintance with Russian seems to indicate an odd transliteration from 'G. Cuvier' or 'A. Brogniart' producing the above artefact. Surely, Vernadsky is given by us a raw deal through such cavalier handling of the history of his science.

ACKNOWLEDGEMENT

The author sincerely acknowledges the help from Dr. O. Nikolaeva of Vernadsky Institute, Moscow in making this study possible.

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