

J. B. Auden – A Centenary Tribute. B. P. Radhakrishna, Memoir 56, Geological Society of India, PB 1922, Gavipuram P.O., Bangalore 560 019. 2003. 332 pp. Price: Rs 450; US\$ 45.

Memoir 56 of the Geological Society of India, can be split into two parts for the purpose of review: (1) reprinted articles of J. B. Auden (JBA) and (2) contributions by (i) B. P. Radhakrishna (BPR) and (ii) Anita Money, eldest daughter of JBA.

JBA's articles deal with (i) Age of Himalayan granites, (ii) Vindhayan sedimentation, (iii) Krol Belt, (iv) Traverses in the Himalaya, (v) Structure in Garhwal, (vi) Multipurpose projects, (vii) Seismicity and (viii) Plate tectonics. The first five articles are benchmark publications in Indian geology, while the last three, though equally important, did not receive due publicity.

BPR has reviewed the contributions of JBA so critically, exhaustively and meticulously that it leaves little scope for another review (pp. 1–44). He has highlighted JBA's contributions, quoted profusely from various sources and provided an erudite commentary, which demonstrates that many of the views of JBA were prophetic and that several present-day concepts are logical extensions of those views. He has also mentioned where JBA was not on sound footing.

I cite some of BPR's comments, which focus on JBA's contribution to geological science: 'Auden was convinced that the crystalline rocks of the Peninsula were involved in the Himalaya... In order to stress this point he coined the word Peninsular Himalaya' (p. 5) (= Lesser/Lower Himalaya). Extension of the peninsular rocks in the Lower Himalaya has been amply proved by later geological and geophysical explorations. Despite discovery of the Cambrian and Permian fossils and revision of ages of pre-Tertiary sequences, the Lower Himalaya remains a geological terrain distinct from the Tethyan part, justifying the term Peninsular Himalaya.

JBA's most admirable attribute, besides meticulous mapping and accurate field observations, was his unique quality to keep facts and fiction (read interpretation) separate, be it mapping, traverses, engineering geology investigations or philosophical discourse on plate tecton-

ics. It is for this reason that none of JBA's work has faded. With advancement of knowledge the concepts changed, yet JBA's factual narration not only survived but also provided sound foundation for newer interpretations. JBA's view on (i) equivalence of the Chandpur and the Simla 'Slate' and remark that they were deposited at different places (p. 229), (ii) the Mandhali and the Blaini being different (p. 149), (iii) the Bijni 'nappe' being of local origin (p. 236), and (iv) Palaeozoic (pre-Carboniferous) age for the Chamba, Chor and Lansdowne granites (p. 60) have been amply substantiated by later work.

Even the most ardent admirers of plate tectonics shall be forced to appreciate JBA's objections to plate tectonic reconstructions (pp. 289–332). His views provoked fresh thinking and led to more refined models.

These aspects have been succinctly summed up by various editorial comments provided in this book at the beginning of JBA's articles.

At the outbreak of Second World War, JBA had to abandon the mapping of the Himalaya. The loss to Himalayan geology became a gain for the newly created engineering geology and groundwater division to which JBA provided a sound edifice.

Emphasizing JBA's dedication to geology BPR writes (p. 7), 'Auden's devotion to duty is unmatched in the entire history of the Survey. He had surrendered European furlough leave on several occasions in order to traverse high Himalaya of Baltistan, Garhwal and Sikkim with his own high-altitude equipment and at his own cost in travel expenses, field guides and manual transport.' Even if a small percentage of geologists imbibed half of such dedication, it shall transform the quality of geological output of this country.

Regarding geology education in India, JBA wrote (p. 16), 'There are not many professors in this country who really undertake any sustained field work with a view to the detailed study of even a portion of a single 1/4" topographical sheet.... Instead there is a tendency to undertake a multitude of small investigations, involving minor field collection...'

'For the normal geological student who is going to enter the Geological Survey of India or the geological staff of a com-

pany, it is vital that there is change of emphasis on the part of the university teaching.' This advice is still applicable to the majority of universities. In fact, the decline in the quality of contributions of the Geological Survey of India and the research laboratories is due to poor teaching in the universities.

BPR refers to the quality of humility in JBA (p. 6). The following shall demonstrate this virtue. B. N. Raina, while mapping in the area north of the Gambhar, suggested the Simla 'Slate' and the Infra-Krol to be one and the same formation, overlain unconformably by the Nummulitics and that the Krol thrusts did not exist – a total antithesis of JBA's work on the Krol Belt. This report was referred by Krishnan to JBA, who wrote, 'No geologist's work is sacrosanct, and certainly I have no objection to Mr Raina's re-interpretation, should this be found to be correct, and my original interpretation to be wrong. The question of course revolves on which is correct...'

'... Let Mr Raina continue to question the correlation and tectonics of his predecessors, but let him be prepared to criticize his own views and not be too dogmatic'.

Anita Money (pp. 49–54) furnishes glimpses of social life of JBA in India and UK, and travails of an active field geologist and the loneliness of his wife. JBA's many-faceted personality has been summed up by his daughter Rita (p. 11): 'A dedicated scientist, a writer of distinction and lover of fine arts including painting, music and literature.' JBA was a legend who has left behind a lore in Indian geology.

Since its inception, the Geological Society of India has been doing yeoman service to geology, especially by publishing memoirs, textbooks, etc. Memoir 56 is yet another feather in its cap. The Society deserves credit for making available many valuable 'out-of-print' contributions of JBA along with beautifully printed maps. Without hesitation I can recommend that this moderately priced book should adorn all libraries and be read by every student of geology.

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