COMMENT

I am a little late in reacting to your interesting article entitled, *'Gold in Laterites'* in March 1989 issue of the Journal. I have some background in the study of the incidence of gold in laterites in the northern part of Kerala.

In a few localities in the Malappuram district, where charnockites are traversed by magnetite-quartzite (magnetite-quartz granulite) beds, extensive old workings for gold are located relatively in residual profiles (laterites) over the magnetite-quartzite bands. The workings are in the form of trenches, pits and underground excavations, linear in fashion, confined to the narrow profiles over the magnetite-quartzite bands. The nature of the workings suggest that they were not just exploratory openings, but were meant for winning the yellow metal by the ancients. My reading of the situation is that gold is incidental in residual profiles derived from magnetite-quartzite bands which are *silicified.*

As regards the concentration of gold, it was earlier considered that gold, because of its higher specific gravity, tended to gravitate down laterite profiles and get concentrated above the compact lithomarge zone below. The current view is that gold gets involved in the geochemical cycle, dissolved and carried down, where it recrystallises. The finding of nuggets and crystals of gold in laterite profiles in Australia lends credence to the involvement of gold in the geochemical cycle. Metal detectors have been used in winning gold nuggets!

I am one with you in your view that a new thrust in exploration strategy, based on developments elsewhere, is warranted.

K. S. SUBRAMANIAN

Book Reviews

RECORDS OF THE GEOLOGICAL SURVEY OF INDIA. Vol. 122, pt. 7. Extended Abstracts of Progress Reports, 1987-88. Govt. of India, 1989.

The Geological Survey of India, we are glad to note, has decided on presenting comprehensive but synoptic overviews of work carried out in different regions of the Indian union promptly and expeditiously. The present report (Recs. Geol. Surv. Ind. v. 122, Pt. 7) records the progress in the western region (Rajasthan and Gujarat) during the year 1986-87. Such prompt publication of results of work is to be greatly welcomed. Unfortunately, this summary is in the form of a Progress Report rather than as a scientific document recording advances in our knowledge. While it is likely to be of value to those who are actively connected with geological mapping of specific tracts of the region, its utility to those outside this inner official circle is greatly reduced. Annual reports should, in our opinion, be drafted for a larger audience and should highlight the main advances in our knowledge about the geology of the region as a whole. Mere listing a series of investigations one after another is just not enough. There are many unsolved problems, controversial issues and gaps in our knowledge. It is necessary to inform, in jargon-free style,

where we stand in respect of each of these controversial issues. Important mineral finds during the year should similarly be highlighted. These should catch the eye and not lie deeply hidden somewhere in the report requiring considerable effort to fish them out.

The Western region of the Geological Survey of India is an active regions in the country, where spectacular progress, both in the academic aspects of geology as well as in the field of mineral investigation, have been achieved in recent years. The region has also the distinction of bringing its annual report within a year of the close of the season. An attractive geological map in colour adorns the cover page. There are several line drawings and maps which add to the utility of the publication. We welcome the publication and congratulate the officers of the region for the excellent tempo of progress maintained. We look forward to receiving many more valuable reports and maps of this interesting and mineral-rich region, in quick succession.

B. P. RADHAKRISHNA

ROLE OF EARTH SCIENCES IN ENVIRONMENT. K. C. Sahu (Ed.). Indian Institute of Technology (1988), pp. 1-305.

This is a volume containing the papers presented at the National Symposium on 'Role of Earth Science in Environment' sponsored by a large number of earth science organizations in the country and held at the Indian Institute of Technology, Bombay, between 24-26 December 1987. The three main aspects covered are: (1) Environmental impact of Mineral Exploration, (2) Problem of urbanization and (3) Water pollution. The aspects covered are of vital importance. The organization of the seminar was a timely and worthwhile exercise.

Awareness of keeping the environment clean and improving the quality of life is yet to dawn on us. Although as a nation, we are habitually a clean people taking a daily bath and keeping the interior of our houses neat and tidy, the same sense of cleanliness does not appear to have extended outside our houses. Individual cleanliness and collective dirtiness has characterized our lives. Our obligations to society are rated to be very low. Villages continue to remain as dung heaps. Towns are no better. They are becoming dirtier and dirtier every day. Affluence with its craze for consuming things is ending up with only effluents. Overflowing drains, unbearable stench, streets full of garbage, are the common lot of a town dweller. What is the solution to this growing menace?

How are we to protect the health and environment at reasonable cost without at the same time slowing down the process of industrialization which has the potential of providing gainful employment and job security to a large number of our countrymen?

This is the major problem which the country is facing today. Geoscientists are no doubt in a minority but have the major responsibility of identifying resources for development. Their responsibility should not end there, but should extend to finding ways and means of reducing pollution. The papers gathered together in this volume serve to give an idea of the menacing extent of the problem and the mammoth proportion of the task lying before us.

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