4 The geographic location as well as correct stratigraphic level of *Distichoplax biserialis* reported by different authors from Andaman Islands, Nerinea beds of Pondicherry, Virdhachalam areas of Tamil Nadu should have been given properly

5 The description about *Distichoplax raoi*, *Jania occidentalis* and *Mesophyllum meghalayensis* are exactly matching with the description given by Pal and Dutta (1979) The record of the occurrence of *Sistichoplax raoi* in Lower Eocene Laki Beds of Punjab Salt Range (Verma, 1960) and that of *Jania occidentalis* recorded from Late Palaeocene limestone of middle Andaman Island (Kundal and Wajjarwadkar, 2000) are not cited in the paper Similarly, the reports of *Lithoporella melobesioides* by Bannerji et al (1990), Kundal and Sanganwar (1998) are not cited in the text

6 Orientation of photomicrograph of *Amphiroa Lamououx* 1812 would have been in such a way where growth of tires of cells should be shown in upward direction (i e exactly reverse of the present position)

[The authors' reply to these comments have not been received – Ed]

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A NEOPROTEROZOIC GEOMAGNETIC FIELD REVERSAL FROM THE KURNOOL GROUP, INDIA: IMPLICATIONS FOR STRATIGRAPHIC CORRELATION AND FORMATION OF GONDWANA by M R Goutham, K. Raghubabu, C V R K Prasad, K V Subbarao and V Damodara Reddy, Jour Geol. Soc India, 2006, v.67(2), pp 221-233

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The paper by Goutham et al (2006) is a significant contribution in the magnetostratigraphy of the Purana (meaning old) sedimentary basins of the Indian Peninsula It provides an additional geomagnetic field reversal in the Banaganapalli Quartzite of Kurnool Group of the Cuddapah Basin, which the authors have correlated with a similar reversal found earlier by Pooranchandra Rao et al (1997) in the Baghain Sandstone of Kaimur Group of the Upper Vindhyan They consider these reversals very useful in constraining the stratigraphic correlation of the two distant Purana basins Significantly, the recent biostratigraphic study (Gururaja et al 2000) has put the Kurnool Group into the Lower Cambrian (Tommotian), which is presently quite meaningful as the Upper Vindhyan (Kaimur, Rewa, Bhander Groups) has also been recently assigned a pre-trilobite Early Cambrian age (Azmi 1998, 1999, Azmi et al 2003, 2006 in press, Joshi, 2004, 2005) Therefore, the biostratigraphic and palaeomagnetic studies seem to go hand in hand, corroborating Krishnan's (1982) view of correlating Kurnools with the Upper Vindhyans However, considering the recent geochronological ages (see references in Gautam et al 2006) suggesting very long Proterozoic span of deposition for the Cuddapah-Kurnool and Vindhyan successions, covering from the mid-Paleoproterozoic to almost the end of Neoproterozoic (~2000-550 Ma), these authors faced a

perplexing situation as the Cuddapah-Kurnool and Vindhyan Geomagnetic Polarity Time Scales (CKGPTS and VGPTS) did not match at all with the Siberian Geomagnetic Polarity Time Scale (SGPTS), which, according to the authors, is the best available GPTS for the Riphean-early Vendian (1650-~600 Ma) in the world They have noted that the CKGPTS and VGPTS have only a few reversals (two and four reversals respectively) in comparison to twelve in the SGPTS (see their Fig 7, but as many as sixteen reversals as shown in Khramov, 1987) So the authors of the paper were categorical in concluding (p 230) that correlation of the VGPTS and CKGPTS with the SGPTS (Proterozoic) is "not possible" Although they attempted to explain this glaring difference due to very fast rate of sedimentation, they could not reconcile with the available radiometric ages that suggest for such prolong Proterozoic sedimentation in these peninsular basins Then the authors, as an alternative, indicated preference for using the biostratigraphic markers as the fossil evidence 'cannot be disputed' However, it is not clear that the authors are referring to which biostratigraphic markers that can explain the rapid deposition in the Cuddapah and Vindhyan Basins As to our present understanding there are no biostratigraphic markers, neither in the Cuddapah-Kurnool nor in the Vindhyan succession, which could suggest for rapid deposition to accommodate these sediments in a relatively much shorter span, except that of the recent biostratigraphic data from the Vindhyan Basin (Azmi 1998, 1999, Azmi et al 2003, Azmi et al 2006 in press, Joshi, 2004, 2005) that suggested deposition of the entire Vindhyan succession within a short span of latest Proterozoic to Early Cambrian (Marinoan glaciation to the pre-trilobite Early Cambrian, ~635-525 Ma) This inference also corroborates the view of West (1981) which suggests only 120 million years duration for the deposition of the entire Vindhyan Supergroup

Considering the available paleomagnetic data from the Vindhyan succession (VGPTS, in Goutham et al 2006, Fig 7), it is of great significance to note that the 'Gangau Tilloid' and the Rohtas Subgroup of the Semri Group (Lower Vindhyan) fall in the reversed geomagnetic polarities, which can be well correlated with the established reversed polarities during the Marinoan/Varanger Glaciation (635 Ma) and at the Precambrian-Cambrian Boundary (542 Ma), respectively (Khramov, 1987, Gradstein et al 2004, Kilner et al 2005) Therefore, it may be worth trying a detailed correlation of the VGPTS and CKGPTS with the global reference GPTSs for the Vendian – Early Cambrian period instead of the long span of Proterozoic, which may help in resolving the age and correlation problem of the Purana Basin successions Nonetheless, one point is now quite apparent that neither the P - boundary index biota of the Rohtas Formation (Azmi 1998, 1999, Azmi et al 2003, Azmi et al 2006 in press, Joshi, 2004, 2005) nor the available palaeomagnetic records would support the radiometric ages (see references in Goutham et al 2006, Ray, 2006) that suggest for such a prolong Proterozoic deposition of the Vindhyan Supergroup of central India, beginning from the late Paleoproterozoic to almost the end of Neoproterozoic (~1800-550 Ma) Recently, yet another independent study on the microbiota suggesting minimum ~750 Ma age for the Rohtas Formation (Prasad et al , 2005) also refutes ~1600 Ma radiometric age assignment to this formation (Ray et al 2003, Sarangi et al 2004) We consider that the paper by Goutham et al (2006) is an eye-opening contribution that has distinctly brought out a glaring mismatch of the palaeomagnetic stratigraphy with the radiochronology of the Vindhyan and Cuddapah Basin successions

[The authors' reply to these comments have not been received – Ed]

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NOTES

THE IMPORTANCE OF CONTEMPORARY GEOLOGICAL SCIENCES

We extract below the speech by Chinese Premier Wen Jiabao, himself a geologist, delivered at the Great Hall of the People, Beijing, China on 19th June 2007 (extracted from Episodes, v 30, no 2, pp 81-82)

There are two sayings, which can probably be regarded as truths.

One is "So long as the Earth on which we live exists, geological sciences will not only exist but unceasingly develop"

The other is "Geological sciences and geological structures do not end at national boundaries Working on the same planet, geologists need to communicate and share knowledge with each other, and to draw on each other's experiences".

* * * *

With the development of human economic society, the relationship between geology and humankind is becoming increasingly close This is demonstrated chiefly by the human-nature relationship. As people, we can know nature correctly and live in harmony with it In the past, the integral character of geology was displayed mainly by the combination of geology with younger sciences such as geophysics and geochemistry, and with technical tools such as remote sensing, drilling and testing Today, these combinations seem highly inadequate We need to integrate geology with studies of life, Earth's environments, the Solar System, and all of space sciences All life including humans, Earth and its environments, and celestial bodies combine to form one entirety

We said in the past that geology had to study both the micro- and macro-world, from outward appearance to inner essence. But these studies dealt only with the Earth itself Now research areas of geological sciences extend from sub-microscopic particles to the macroscopic Universe The scope of geology is not at all narrowed but vastly widened

The intimate connection of the geosciences with the