tions on Automatic Control. Until I returned to India and started publishing in it with an Indian affiliation, I believe there was not a full paper from an author in India for over ten years! So let us not bemoan that all of our 'brightest' are no longer entering traditional fields of research. Thank God, they are able to find alternate and fulfilling careers at last!

The article is riddled with inaccuracies. A. M. Naik, CEO of Larsen & Toubro, is quoted as saying that 'Around 95% of the students passing out of engineering colleges head either to the US or to Europe or any other part of the world'. Naik, if he really said it, ought to have done his homework carefully. Around 400,000 engineering graduates are produced by India every year. The number of H1-B visas this year is 65,000 and it never crossed 195,000 even at the peak. The number of F-1 visas issued by the US consulate is around 35,000 per year. In no way do all these numbers, even if they are added up willy nilly, come close to 95% of the engineering graduates. I can go on, but that would be pointless. (I might add in passing that when the US was issuing 195,000 H1-B visas per year, a large number of the beneficiaries were graduates from the various training institutes such as NIIT and Aptech, and not from the traditional engineering programmes.)

In the final analysis, the situation can be summed up very simply. The old arrangement whereby the number of engineering seats was restricted, ensured that youngsters studied, for example, civil engineering even if they had no interest in it, just because there were not enough seats in sunrise disciplines. The licence permit-quota raj ensured that non-competitive industries stayed in business long after they deserved to go out of it. Today, all these are things of the past. Only industries (and R&D institutions) that adapt to the new realities will flourish.

1. Prathap, G., *Curr. Sci.*, 2005, **89**, 1063–1064.

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Impact of tsunami on meiofauna of Marina Beach, Chennai, India

The correspondence by Altaff *et al.*[1] has confused my understanding about the physico-chemical characteristics of coastal waters. I have the following comments.

The units for temperature (both air and water), dissolved oxygen (DO), salinity and Eh have not been mentioned neither in the table nor in the text.

Generally, DO is expressed in mg/l. The DO values reported by Altaff *et al.* ranged from 1.86 to 3.72 mg/l, which is extremely low. Normally, in a coastal milieu the DO values range between 5 and 7 mg/l if there are no external factors influencing them other than the photosynthetic activity and DO exchange between atmosphere and water. The values reported by Altaff *et al.* give an impression that either something is totally wrong with the method followed or the values were really low and needed further investigations to fathom the cause. As it is well known, when the DO values are less than 4 mg/l, there is bound to be danger to marine organisms, particularly to the fish population. The very low values are possible only when substantial organic pollution exists at the sampling location. It could also be possible when the plankton population in the coastal waters increases substantially, leading to a bloom situation. In either case (industrial pollution or blooming of plankton), the DO is reduced due to its consumption in the process of oxidation of polluted organic matter or oxidation of dead plankton.

In case the authors have expressed the values in ml/l, the situation is not significantly different as the values when converted from ml/l to mg/l, will result in a range from 2.65 to 5.3 mg/l, wherein all values except two (Table 1) fall below 4 mg/l.

Therefore, it is incorrect to say that 'though there are minor variations in the temperature, DO, salinity and Eh prior to and after the tsunami, these appear to be of normal occurrence rather than due to the impact of the tsunami. Nevertheless, higher oxygen content during the post-tsunami period might be due to higher wave action facilitating more dissolution of atmospheric oxygen into coastal sea water'. In fact, the DO values as reported by Altaff *et al.* during pre- and post-tsunami period are very low and thus needed a thorough scientific investigation, as their repercussions were very high at that point of time. The possible reasons for very low values during post-tsunami period (assuming that estimated DO values are correct) could be due to the fact that the large amount of organic matter that has been brought from the bottom of the sea to the surface, as evident from the large amount of silt deposited in the tsunami flooded area, would have consumed DO and thus brought it down to very low values. However, it is not possible to provide any plausible reason for the low DO values observed by the authors during the pre-tsunami period.

Table 1. Dissolved oxygen content of Marina Beach sea water during pre- and post-tsunami period

Period	DO (ml/l)	DO (mg/l)
November 2004	1.86	2.65
December	2.27	3.24
Day 1	2.48	3.54
Day 2	2.69	3.84
Day 3	2.48	3.54
Day 4	2.89	4.1
Day 5	2.07	2.96
Day 6	2.69	3.84
Day 7	2.48	3.54
Day 13	2.69	3.84
Day 24	3.72	5.3

With regard to salinity values, they ranged from 25.86 to 32.14‰ (standard notation used for salinity expression) with all values except one falling within 30.53‰. These values are expected during December/January at Chennai. These relatively low values are always associated with precipitation from northeast monsoon. The authors have not mentioned about the rainfall values during the study period. Moreover, it is incorrect to say that 'physico-chemical parameters as well as

sand grain composition were restored to the typical beach values', as typical beach salinity and DO values are in the range 34 to 35‰ and 6 to 7 mg/l. Therefore, re-colonization of meiofauna cannot be co-related to physico-chemical parameters, as values of DO and salinity have not reached typical coastal water values.

Thus, possible errors in estimation of DO and subsequent wrong interpretation have been reported by the authors.

1. Altaff, K. *et al.*, *Curr. Sci.*, 2005, **89**, 34–38.

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Response:

We regret that we have not mentioned the unit of DO; it is mg/l. We would like to state that the DO values mentioned by us, prior to and after the tsunami are the true state of this parameter to the best of our knowledge, in the intertidal zone of Marina Beach. The Marina Beach receives large quantum of untreated domestic sewage and industrial effluents through the Coovum River. Probably, this might be the reason for low DO content. We had not discussed these aspects as the correspondence dealt with the impact of tsunami on meiofauna. Further, our interpretations are restricted to the conditions on the Marina Beach.

Further, we would like to point out that we have not studied the fish populations in this region. Nevertheless, the meiofauna shows rich diversity and density with the DO level mentioned by us. With regard to silt deposition, we have provided detailed data on sand grain analysis, from which silt level can be inferred and scientific interpretation can be suggested.

Thus we hope there is no confusion or inappropriateness with regard to our data or interpretations.

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Does homeopathic treatment work?

A recent research paper in the British medical journal, *The Lancet* (2005, **366**, 726) has raised serious doubts about the homeopathic system of medicine. The study claims that there is no understandable biological mechanism underlying this system. The authors say that homeopathic medicines have simple placebo effect only. This paper has caused grave resentment amongst the homeopathic practitioners, and according to media reports, some of their associations intend to move to the courts of law. They maintain that this study is essentially a well-planned move on the part of the manufacturers of modern medicines to defame homeopathy and to strengthen their own position.

Homeopathic system is based on the belief that 'like cures like'. One of the most interesting aspects of homeopathy is that the efficacy of a drug increases with dilution. This is something completely inconsistent with our scientific understanding of biochemical reactions. Therefore, from a scientific point of view, this system cannot be accepted and supported. But it is difficult to ignore that homeopathy has gained noticeable popularity amongst a significant number of patients who maintain that they have benefitted a lot from it. That homeopathic drugs are far less costly than modern medicines is their indisputable plus point.

A question that deserves an answer is which of the two is more important: to have an academic understanding of the mechanism of how a system of treating ailments works, or the simple fact that people feel assured of being cured by and are generally satisfied with a given system. The first would undoubtedly draw the attention of a scientist, but a patient only expects that the system works. These days yoga and meditation are also gaining popularity, even though it is not clear how they really work. Perhaps 'mind over matter' works in many cases, which perhaps is outside the realm of the present-day science as we know it.

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Can Habur limestone curdle milk? – a myth or reality

Ranawat's[1] endeavour to suggest solutions to geo-myths is worth appreciating. The scientific community should come forward to eradicate myths spread in the society. If we make efforts to unveil the truth behind such myths, it is a wonderful service to the society. But if our endeavour is incomplete and conclusions are not based on proper scientific investigations, then it may mislead the society.

Habur limestone of Lower Cretaceous age in Jaisalmer district, western Rajasthan has enough porosity between the fossil fragments to hold curd-forming microorganisms if soaked in curd and used repeatedly for curdling process. But a fresh piece of Habur limestone should not cause curdling of milk, if curdling is due