Pokhran II *is* subject to discussion

Current Science must be complimented for its courage in providing a forum for debate on sensitive and far-reaching issues such as India going nuclear. This is indicative of the country's democratic fabric and also underlines the social obligations of the scientific community. It shows we are a mature society that is willing to take stock. Several views have appeared on the pros and cons of Pokhran II. The technical details of the studies associated with the explosions have been sufficiently documented to present to the global scientific community the state-of-the-art in this country as well as the willingness of our scientists to share their findings.

I was somewhat taken aback by both the substance and the tone of V. V. S. Sarma's counterpoint (*Curr. Sci.*, 1999, **77**, 7–8). Sadly, Sarma's description of S. R. Valluri's viewpoint (*Curr. Sci.*, 1999, **76**, 1181–1183) as 'illogical, incoherent and incorrect' appears to be misplaced to the extent that it may actually apply to his own 'counterpoint'.

Sarma appears to have little regard for the capacity of the scientific community for introspection, which by definition must be detached. If Sarma believes 'most of these scientists have their own political biases', he may actually be implying one in his own position. Euphoria is always initial and always reflexive. Every Indian (presumably including Valluri) was justifiably proud of the achievement of our scientists. What may have been misplaced was the jingoism, which worried many in and out of the country.

Sarma claims that Pokhran II 'gives a new equilibrium position in the world, where India's concerns carry a greater weight'. Granted this is true, it would follow that scientific activity *does* have profound implications. It would logically follow that the scientific community ought to consider its role in creating weapons of mass destruction. Sarma is absolutely right when he says that 'a country of our size should not be allowed to be bullied by the virtual super-power'. But he may be absolutely wrong to think that the solution lies in weaponization –of any kind. If the US appears to suck up to the Chinese, it is because of the market potential. Quite simply, success on the economic front would be essential not only for the country, but also for Pokhran III. If we can make our country economically strong, a seat on the Security Council would follow naturally. The erstwhile Soviet Union proved that the pursuit of military strength at the cost of economic well-being is a recipe for disaster. Being home to the majestic Bengal tiger, we surely do not wish to remain a paper tiger.

Sarma correctly points out our failure when we abandoned Tibet. But this point has been made out of context to the issue being discussed. Even granted it is acceptable, he appears to be questioning the Nehru government's foreign policy – something he later says scientists must not get involved with. It may appear childish to Sarma to compare the costs of Navodaya schools and atomic weapons. Perhaps we should ask our children or that vast majority of our countrymen who cannot read this correspondence. The general public may not be upset about the SPG protection given to politicians, but the associated public nuisance certainly does not evoke much sympathy.

Sarma appears to be confused about decision making on Pokhran II. Most political analysts think (and poll statistics indicate) that in successive elections, the people have voted parties *out* of power, rather than *into* power. Under the circumstances, it would be far fetched to imagine that the people's mandate was involved.

Sarma states that Valluri's observation that we started the nuclear race in South Asia represents 'a dangerous doctrine'. The calendar would suggest that Valluri was merely making a chronological observation. Tom Lehrer, an American satirist (and mathematics professor) had this to sing about the 'US doctrine' in the late sixties:

First we got the Bomb and that was good,
'Cause 'we love peace and motherhood'.
Then Russia got the Bomb but that's OK,
'Cause the balance of power's maintained that way.

France got the Bomb, but don't you grieve,
They're on our side (I believe),
China got the Bomb, but have no fears,
They can't wipe us out for at least five years!

Indonesia claim that they
Are gonna get one any day.
South Africa wants two that's right!
One for the black and one for the white

Egypt's gonna get one too
Just to use on You know who!
So Israel's getting tense
Wants one in self defence

Luxembourg is next to go
And who knows, maybe Monaco!
We'll try to stay serene and calm
When Alabama gets the Bomb!

Who's next? Who's next? Who's next?

Sarma's suggestion that scientists should refrain from airing their views on matters of public concern indicates an inherent lack of faith in our democratic set-up. In spite of our failings and weaknesses, we have demonstrated to the world that we are a diverse and vibrant democracy. Any attempt to snuff out a dissenting viewpoint would indicate weakness, rather than strength. Debate must be encouraged in the hope that people who eventually make decisions are able to weigh the pros and cons.

Indeed, foreign policy is best left to the specialists. However, the 'specialists' must reflect the concerns and aspirations of the people at large. The scientific community is not a bunch of robos keyed to perform pre-programmed functions without question, without discussion and without a conscience. The scientific community also pays its taxes and has to bring up its children, much like our other countrymen. We are entitled to express our opinions which in no way reflect on our patriotism or our integrity. If this were not true, we would not have to subscribe to *Current Science* – 'Animal Farm' and '1984' would do.

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What bugs the credibility of our awards?

The response of Vidyasagar[1] to the editorial on 'Promoting young scientists'[2] brings out a few significant mechanistic details on the award giving process in the international context. As an experienced committee member of award giving bodies also in India, he emphatically assures us that 'the level of intellectual honesty . . . in Indian award giving committees is in no way inferior to . . . (that) seen in the rest of the world', and fervently appeals to put an end to the conspiratorial theories. Though his opinion carries considerable weight and conviction, it is unlikely to cut ice in the Indian context for the following reason.

His assurance of the honesty of decisions in the final committee may not be in doubt and in fact may even be generally true of all such ultimate committees; but there is hardly anything in his response to inspire confidence that only the deserving cases, chosen by any given criterion, have been put up to them for selection. Notwithstanding his misplaced emphasis on apprehensions of possible litigations which amounts to assuming a sort of childish gullibility of Indian scientists, more significant even here is the *criterion of quality* compared to any other factor, the violation of which would arouse the sharpest resentment –and understandably so. Let us get that straightened out first. This is really the crux of the problem because the awardees usually do their work in more or less tightly bound teams; their contributions, therefore, are transparent to most members. Moreover, the selection of individuals at any of the multiple levels before the name of a contestant appears in the list forwarded to the final award giving committee may not always appear fair to those who witness the processes of elimination. It is in these transactions that the poisonous fangs of politicking and manipulations actually manifest, in one or more of those levels whose proceedings are relatively free from public scrutiny but accessible directly to some as a member of a committee, or indirectly through acquaintance with the committee members or the approving authorities.

It is essential that the fairness be assured at *every level*, not only in the final committees. Admittedly, a blanket guarantee of absolute fairness cannot be given in any scientific community because of the unavoidable human failings in judgements. It is, however, possible to establish the confidence of the community that these human failings are accidental and not influenced by extraneous considerations. This can be ensured only if more of us resist the unfair decisions in committees and not look the other way to protect our selfish interests which may appear *obviously* unethical if the hidden or unrecorded reasons for doing so were made public.

As a deterrent to such unethical decisions, not necessarily confined only to the award giving process, it should be useful to make public such motives in the larger interest of maintaining the quality of the institutions, even if personal risks of career advancements are entailed. Mediocrity frequently asserts itself by transmitting disinformation in chorus, usually in private, to powers that matter. This is more likely to happen in relatively larger institutions where the executive heads may not have an easy and dependable means, or the time to personally get to the roots of the problems perpetuated by brute force of unenlightened attitudes from many, thereby affecting long-term performance of the institutions. It also militates against deriving benefits from the sincere and thoughtful suggestions of concerned sensitive members disagreeing with the majority opinion. Therefore, awardees from larger institutions, at times, may actually be less deserving than some left behind by such unintentional aberrations though, at other occasions, these could very well be intentional.

It is almost certain that most of the members of the final committee would normally have no idea about the elimination of better candidates, if any, at earlier levels from where the conspiratorial stories could also originate with some measure of legitimacy. Surely, members of such apex committees cannot be blamed for this ignorance on most occasions, because, it may not be humanly possible to keep track of what went on in earlier stages. Though Vidyasagar is silent on this issue, it is unlikely that he is unaware of such possible lapses. Clearly, therefore, unless *many of us resist the unfairness in our own immediate microworlds* and also succeed in maintaining the ethical standards within reasonable limits against pressures to violate them which would naturally come from the beneficiaries of the currently eroded ethical codes that feed on and sustain mediocrity, the ultimate decision even if intrinsically fair will remain vulnerable to attacks, as though on a faceless enemy, by conspiratorial theories. This enemy, though faceless, is real enough to selectively strangulate excellence and, it is easy to see, this enemy thrives only on our own loyalty, at times perhaps unwittingly dispensed, towards its nefarious ends!

J. B. S. Haldane in his efforts to invigorate Indian science, was quick to see our cultural weakness in pursuit of science. Though not made in the specific context of the value of awards but on our incompetence in general nearly half a century ago, his observation is just as relevant today. In a very perceptive essay, 'What ails Indian science' reproduced in the 25 July issue of *Current Science*, he states[3]:

'The root cause of all this incompetence and worse is not far to seek. A large number of Indian scientists have no pride in their profession, though they are proud of their salaries and positions. The opposite issue is common in Europe, as it was in ancient India'.

Has anything really changed for the better in our attitude towards the profession in the meanwhile so as to expect that an award will not be considered a target for its glamour alone, like position and salary, to justify its proliferation?

1. Vidyasagar, M., *Curr. Sci.*, 1999, **76**, 1413–1415.
2. Balaram, P., *ibid*, 1999, **76**, 1059–1060.
3. Haldane, J. B. S., *ibid*, 1999, **77**, 305–307.

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Indian science needs young blood

Much before India wrested its freedom, C. V. Raman observed: 'Most of the great discoveries in science have been made by young people. It is not the experience or wisdom that old age brings but the freshness of outlook, the indomitable desire to achieve, which is the natural characteristic of youth that makes discoveries possible.' Decades have passed ever since he made this observation but neither have we had a Nobel Laureate in sciences after him nor have we made an honest effort to at least read into the essence of his observation. With the scientists in the country at an average age of 45 plus, as of today, can we hope of pathbreaking research in our laboratories? With senior scientists outnumbering the young, has not the scientists' hierarchy gone topsy-turvy? With no young scientists in the mainstream now, will not Indian science find the going to be tough for want of creativity and freshness?

As of today, when the system largely seems to be guided by economic expediency rather than scientific spirit, the excitement of doing science is eroding fast. Under such circumstances, increasing disenchantment among the younger generation towards a career in scientific research, also redolent from now a hugely popular and oft-quoted study by Sushil Kumar *et al.* (*Curr. Sci*., 1998, **74**, 20–24), hardly merits explanation. Among others, J. V. Narlikar has notably scripted his concern over the lingering velleity and apathy of young blood opting for a career in science.

Towards this cause, the scheme to 'catch-them-young' mooted by the Government with CSIR as the nodal agency for dispensing scholarships to young science graduates, is highly commendable. But will these meritorious youth prefer to pursue scientific research at a time when economic fundamentalism is ruling the world with dictatorial arrogance? Further, in the absence of career security and commensurate remuneration in this profession, the youth may find other professions more lucrative and nothing can contain their cross-over.

Towards the advent of the next millennium, time is ripe to realize that curiosity-driven research cannot be slighted in favour of demand-driven research as it is the former which fuels the latter though in a slightly long run. The present situation warrants nothing short of a concrete action plan to rope in young people bubbling with creative thoughts and fresh ideas. They ought to be considered for suitable packages and incentives which can promote amongst them the tendency to remain dedicated to their discipline and excel further therein. But for such a policy crystallizing at the earliest, it is really doubtful that ongoing research in our greying laboratories will bear fruits proportionate to the requirements of the society in the days to come. Indian science is actually thirsting for young blood and divorcing ourselves from this reality will only blur our 'Vision 2001' or 'Vision India 2020'.

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Phase transition in a scientist's life

The editorial in the July issue of *Current Science* (1999, **77**, 205–206) addresses the question of supporting retired scientists. One cannot help feeling that the usually forthright editor has shied away from some vital issues. Each one of us has his/her own experience with retired scientists, and this letter conveys the conclusions I have drawn from mine.

The editorial starts with very special cases where a person is really doing outstanding work and some special arrangement is needed to ensure that superannuation does not come in the way. Such cases when the quality of the person and the work are beyond doubt should be easy to deal with since they are rare and the signal is much larger than the noise. The definition of special is like that of above average – everyone cannot be above average. One could peg 'special' at the top few per cent for example. But the reality is that we are concerned with a much larger fraction of people and how they could best be utilized in our system.

Looking at the wider scenario, the experiment of a scientist continuing to work after retirement has been successful when: (i) The host institution is not one where he ('or she' is omitted from now on) recently held a high post, and better still is one he had little connection with earlier. (ii) The assignment is purely academic/scientific and does not involve any form of decision making or authority. (iii) The scientist is the kind who could do things for himself and hence is not totally dependent on younger people for knowing about the literature, calculations, or experiments. (iv) The kind of work and the spirit in which it is carried out ensure that there is no conflict of interest with the younger people in the institution.

Under these conditions, one has seen people immersed in their work, respected and consulted by their colleagues, giving expertise, enthusiasm and a good example to the younger generation, and genuinely happy. The relationship has its parallels with grandparents in some families who actually have more time for important things than the busy, hassled parents.

These conditions are not fulfilled in many of the cases one is familiar with. More often than not, a person 'continues' in the same place. There is then a genuine risk of interference in the affairs of the host institution, of joining or even creating a clique within it. There can be diversion of precious resources such as office and lab space and even manpower and funds. There is certainly an element of

tragedy in seeing someone who once had a prominent role struggling to continue in it. But as the legend of Yayati (and even more its reworking into modern drama by Karnad) reminds us, the tragedy can recoil on others as well.

We are talking of different phases of one's scientific life and there has to be at least a loosely defined phase transition. This may be placed somewhere between the ages of 60 and 65 for administrative and economic purposes. But the real transition is when one is struggling to keep pace with younger colleagues and with the development of the subject. It comes at different times to different people and can be postponed by energy, experience, enthusiasm, and sheer ability. Its external manifestation can also be delayed by a few years after its internal onset.

One can worry, as Balaram's editorial does, about those cases when it comes after the administrative deadline. But let us not forget that in most cases the transition comes far earlier, and we should all think about how to handle that, in others and in ourselves.

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A few words of appreciation for editorials

At the outset, I must put in these small words of appreciation before they get 'dissipated' again. I have been wanting to write this letter of appreciation for over a year now, but it always gets drowned in the innumerable mundane things one does (including writing research papers). These words (which come straight from the heart and are not meant to flatter) are for the editorial column in *Current Science*. Its amazing consistency (there has not been a single issue without the column) has made me pick up *Current Science* the moment it lands on my table. I can make one honest confession here. I invariably read the 'Editorial' first, the letters next and then the research papers. Over the years the quality of papers has become 'run of the mill', with the emphasis so much on methodology, and procedures. So, my preference has not changed. The credit for that goes to the Editor. I was particularly fired at last to, put down these words of appreciation, after I read the latest one 'A profusion of academies' (*Curr. Sci.*, 1999, **77**, 5–6). I remember mentioning this to several colleagues in many academic meetings and seminars. A colleague of mine who is a fellow of the Indian Academy of Sciences (IAS), once patiently explained to me how the IAS (Bangalore) was 'different' from the National Academy of Sciences (Allahabad). I asked him how it was different and he said, it was 'different' because it was 'accepted' that the IAS (Bangalore) was higher up in the 'hierarchy of professional membership' than NAS (Allahabad), which in turn was probably 'on par', with INSA, Delhi. The personal egos of two 'larger than life' personalities (as the editor subtly put it), dictated that two separate entities be born in the mid-30s. But, C.V. Raman and Meghnad Saha are no more. Does anybody now have the audacity to suggest in the annual meeting of the academies (before or after the sumptuous lunch and the evening 'Nastha') that a merger of the two is still possible? He will probably have to insure himself first.

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Why should the pollinators be conserved?

Flowers are the most precious and beautiful gift of nature. When they bloom in different colours, they provide a picturesque landscape to the earth's ecosystem. Can anyone imagine the earth without vividly coloured flowers? Yes, this could happen if the devastation being caused by human-engineered activities continues to eliminate the pollinators. The latter have played a great role in the evolution of different morphs and colours of the flowers[1–3]. The conservation of this great biodiversity, therefore, depends upon the conservation of pollinators.

During the course of evolution of angiosperms (the flowering plants), they developed a genetically strong breeding barrier – the self-incompatibility[2]. Due to this barrier, a flower cannot utilize its own pollen or pollen from the same clone/ramet/genet for the fertilization of its ovules (i.e. selfing is not possible). Therefore, the conspecific pollen has to be brought from the other flower(s) or flowers of a different clone/ramet/genet. This is called cross-pollination. Entomophily (i.e. pollination by insects) was the first to evolve. It started with unspecialized pollinators like beetles (cantharophily) to end with very highly specialized pollinators like bees (melittophily). Present day self-pollination and other kinds of biotic and abiotic pollination are all manifestations of secondary derivatives of entomophily, albeit subsequently specializations did evolve in other kinds of zoophily (pollination by animals) too, for example, ornithophily (bird pollination), chiropterophily (bat pollination), psychophily (butterfly pollination), sphingophily (moth pollination), etc. Due to these specializations, strong mutualistic

relations exist between the pollinators and the plants. The elimination of one class of pollinators would, therefore, curtail the reproduction of different kinds of plants and thus open a path to their extinction. Erosion of habitat of the pollinators, use of several poisonous chemicals and addition of pollutants in the environment of the pollinators have caused their large-scale demise[4]. This has threatened the reproductive success of a wide array of plant species over the globe. As per the latest survey, over one thousand species of bees are on the verge of extinction. If this continues, there is every likelihood that this is going to markedly reduce not only the melittofaunal diversity, but also the coloured floral diversity of the biosphere. Therefore, conservation of pollinators would mean conservation of angiosperm diversity of the earth. This is not the only reason for the conservation of the pollinators. Their loss also affects the yield of several cross-pollinated crop plants[5]. In the absence of managed pollination, at several places the world over, seed growers have to rely on wild pollinators for the pollination of their crops. Therefore, there is an urgent need to conserve the pollinators through the conservation of their habitats and ensured safety against pollutants and hazardous chemicals.

1. Leppik, E. E., *Floral Evolution in Relation to Pollination Ecology*, Today and Tomorrow's Printers and Publishers, New Delhi, 1977, p. 164.
2. Faegri, K. and van der Pijl, L., *The Principles of Pollination Ecology*, Pergamon Press, Oxford, 1979, p. 244.
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4. Kevan, P. G. and Laberge, W. E., Proceedings of the IV International Symposium on Pollination, Maryland, 1979, pp. 489–508.
5. Kevan, P. G., *J. Agric. Econ.*, 1977, **25**, 61–64.

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Healing plants – Do they heal?

With herbal medicines gaining popularity, the profusion of articles and comments about them[1,2] seldom address the crux of the matter – Do herbal medicines work? In our country, the use of medicinal plants is well entrenched and is a part of our culture and heritage. There are extensive works on the description of these plants, their supposed medicinal qualities and detailed pharmacopoeias of herbal remedies. All this still does not detract from the fundamental question that authors of this subject rarely ask: How do we know that they work?

Modern medicine has its origins in traditional medical knowledge, from which it evolved to such an extent that they are now divorced from and often in conflict with each other. This is because modern scientific medicine is underpinned by a sound base in the relatively new fields (historically speaking) of anatomy and physiology, and the rigorous pursuit of truth using logical deduction and experimental proof. Traditional systems of medicine, where herbal treatments are used, have failed to do either, perhaps because they will wither and die if exposed to the harsh light of truth. For purposes of this discussion, all systems of medicine, whether traditional or relatively modern, that fall outside scientific medicine, can be taken as constituting a group that does not follow scientific principles or are actually opposed to it. Thus, the criticism of herbal medicine pertaining to its lack of rational basis applies to its fellow travellers equally. That some of the remedies that they
use contain pharmacologically active substances does not diminish their irrationality.

For a remedy to be deemed effective, it has to be compared to a placebo to see whether it is more effective than the placebo treatment. In practice, these clinical studies are underpinned by careful statistical design and analysis, epitomized by the randomized double blind placebo-controlled study. Patients are randomly allocated to either treatment or placebo groups, treated with the drug under investigation or placebo, respectively, and the outcome compared. Neither the investigator nor the patient knows who is on the effective drug or placebo. Randomization avoids bias in patient selection and ensures that the two groups are comparable, and blinding prevents the manipulation of outcome and foils the many prejudices that may sway the result. Without such methodological rigour, even treatments, which we assume to be beneficial based on good physiological or biochemical reasons may turn out to be ineffective or harmful, a consequence of the complexity of biological systems and the myriad interaction between the drug, labyrinthine biochemical pathways and organ systems that we cannot currently predict. The double blind placebo-controlled study is a sort of baptism by fire, and a new drug or any other form of treatment that survives it is deemed effective. How many herbal medicines have been subject to such studies? Indeed, how many forms of treatment with herbal medicines have a sound base in modern biology? Let us, therefore, talk not of the lack of side effect of these drugs but the lack of effect. If it is without any effect, it will not have side effects either! Indeed, even the lack of side effects cannot be taken for granted without a placebo-controlled study.

The fact that herbal medicines are rooted in history, bolstered by mythology and nostalgia, are cheap, popular and widely available are immaterial if their efficacy is not known. Of course, most diseases (especially minor infections) are self limiting and any form of treatment, including placebos will appear effective. In this way, the use of herbal medicines can be justified. Indeed, the same can be said of scientific medicine, where most minor ailments are treated with drugs to control symptoms and by non-specific placebos. However, the efficacy of many forms of treatment (for acute life threatening and chronic debilitating or life threatening conditions) are well established

by clinical trials, though many are still based on logical deduction without sufficient evidence of efficacy established by clinical trials. This weakness is well recognized but these treatments are at least based on scientific knowledge of biological systems, which cannot be said of the traditional systems of medicine. Hence, herbal treatments,

like any other therapy, should be subject to double blind placebo-controlled studies to detect both effect and side effect. Until we have such information, all arguments regarding its efficacy, side effect, low cost, etc. are irrelevant.

An ardent nationalist may promote these remedies, whether they are good or bad, because they are Indian. He will be doing a disservice to the nation by championing treatments which may be ineffective or harmful or both, wasting our resources on an illusion and denying efficacious and possibly cheaper therapies. 'Eye of newt and toe of frog, Wool of bat and tongue of dog, Adder's fork and blind-worm's sting, Lizards leg and owlet's wing, For a charm of powerful trouble, Like a hell-broth boil and bubble' – part of the formula for a potion prescribed to the troubled Macbeth, but it is no longer popular among the British despite its roots in (literary) tradition. The ingredients are devilishly difficult to get hold of in any quantity, the method of preparation imprecise, and most of all, there are no double blind placebo-controlled studies showing its effectiveness (say as an anti-anxiety elixir). Neither should we hang on to culturally endorsed remedies, at least to treat real diseases. One of the reasons driving the current interest in herbal medicines may be its recent popularity in the West, along with all things that are 'Eastern' such as yoga, acupuncture and mysticism, and magnetotheraphy, numerology, tarot reading, etc. We, of course, have a penchant for Western approval in every sphere of life. The affluent West can afford these charming peccadilloes when the foundation of their society, including the healing sciences, rests on the cornerstone of rigorous logic. With little funds for such foibles, we have to be more prudent. We should use any form of treatment that works – if we can show to our satisfaction that it does indeed work. Western approval is not necessary. A true patriot will only promote those treatments (or any other activity) that is logically sound and empirically useful, regardless of its place of origin. For we must remember that nature cannot be fooled and *sathyameva jayathae*.

1. Valiathan, M. S., *Curr. Sci.*, 1998, **75**, 1122–1127.
2. Chattopadhyay, M. K., *Curr. Sci*., 1999, **76**, 1415.

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Hypothyroidism

This is regarding the article entitled 'Study of prevalence of hypothyroidism in women of reproductive age in Meghalaya, North-Eastern India' (*Curr. Sci*., 1998, **75**, 1390–1393). I have a few queries regarding the same.

(1) What is the population from which the sample was drawn? We can then comment on the prevalence of hypothyroidism. Was it from a hospital, or specialty clinic, or was it from the general population. If it was from the general population, how were these women selected? What sampling method was used? If they were from a hospital or clinic, why did the women come there? Were they healthy or did they have any particular illness for which they consulted a doctor? (2) The range of serum T_4 in non-pregnant women at the upper end (216.6 ng/ml) crossed the upper limit of their normals (120 ng/ml). In non-pregnant women, a truly elevated serum T_4 level suggests thyroxicosis. Were the women (or woman?) with high T_4 clinically toxic? Details of the population attain importance to answer questions such as these. (3) It is well known that pregnancy results in increased total serum T_4 levels due to estrogen-induced elevation of thyroid binding globulin levels. How was the diagnosis of hypothyroidism made in this group? What was the TSH level in the lone woman diagnosed as hypothyroid? (4) Thyroid deficiency may be very common in the north-east. But there is no objective evidence in this presentation to say that it is so.

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Response:

We thank G. R. Sridhar for reading our paper on the prevalence of hypothyroidism in women of reproductive age in Meghalaya. We wish to state that (1) the samples were randomly selected from a general population of about 3 lakhs and the individuals were visibly healthy, (2) no apparent symptoms of thyrotoxicosis were observed in the women with high total T_4 levels (free T_4 levels were not monitored), and (3) the level of total T_4 (29.44 ng/ml) was considered as an indicator of hypothyroidism in the pregnant women where TSH level was found to be 0.3 μIU/ml. It is important to mention that in areas of less severe iodine deficiency, endemic goitre is associated with normal TSH concentrations (Ingbar, S. H., in *William's Textbook of Endocrinology* (eds Wilson, J. D. and Foster, D. W.), W.B. Saunders Company, London, 7th edition, 1985, pp. 682–815). Our data indicate prevalence of hypothyroidism in women of Meghalaya beyond any doubt. However, as mentioned in the concluding paragraph of the paper, the prevalence of hypothyroidism in the general population of the State with reference to age, sex, food habits, ethnic origin, economic status, etc. remains to be analysed.

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