

of any material thing out of nothing. They thus define the 'natural', and the 'possible'. Town planners, mathematicians, metallurgists and architects of ancient India understood and practised this grammar as well.

Confusion and conflict arise when, for example, the symbolism of a myth or an event in an epic, which is perfectly admissible in its own context and narrative, is attempted to be in line with, and 'explained' using the grammar of science; or when what is symbolic is interpreted

to be literally true. Such an attempt to 'explain' Lord Ganesa's head through the method of science demeans His Divinity, reducing Him to a mere mortal.

Myths and symbols are meant not always to be explained by science; to do so would be an unacceptable trivialization. On the other hand, they may actually inspire science towards inventions and innovations. Each has its own value, and should be respected in its own right. There need be no 'correspondence principle' between the two. Without symbol-

ism and myths, it would be a duller world. Without science and technology, it would be a poorer world. Let us be enriched by both. But, let them not intrude on one another. As they say, good fences make good neighbours.

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The annual science farce

The 2015 Indian Science Congress is perhaps one of the most criticized activity and has raised questions about the relevance of this annual event. There was a time when scientific disciplines did not have their own associations and the Science Congress gave them a platform to meet and discuss their work and plan for the future. This objective has been lost and the platform is now used for political purposes. Jawaharlal Nehru was a man with a scientific temper and believed that science and technology are keys to India's development. Within his limits, he gave directions to the scientists and placed targets for them to achieve. Thanks to his vision, space science, atomic science and agricultural science

developed adequately. Unfortunately, after Nehru, the Prime Ministers who have graced the inaugural occasion have given little direction to the scientists. The 2015 Congress saw fun made of serious science by mixing scientific fiction with science by some scientists as well as politicians. Science fiction has a place but not in the Science Congress. The imaginative abilities have created mythology and descriptions of a man with an elephant head or a cow head and flying across planets, are all much appreciated. It is likely that some of these imaginary ideas have helped modern scientists to think and perform experiment. The imaginary descriptions of Julius Verne perhaps helped space explorations.

Hence science fiction has a place and helps modern scientists to think further before they perform experiments. However, to claim that we knew all this before the birth of modern space science or biotechnology, is absurd. If the Science Congress is to devote its time on such absurd discussions, it is better that the farce is stopped and each scientific discipline is asked to conduct its own meetings and discuss work instead of shaming Indian science and scientists before the world community.

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The missing 'crown' of India

The recent incident (14 November 2014) of showing a wrong map of India to the delegates, including the Indian Prime Minister during his visit to the Queensland University in Brisbane, Australia ahead of the G20 Summit that was reported by the media, has brought to the fore the discrepancies in the map of India available in the free GIS domain which had been ignored for the last several years.

The rapid growth of geographic information system (GIS) together with remote sensing (RS) has revolutionized many branches of science and humanities. They have become important tools

not only in the scientific and academic domain, but have increasingly attracted the government agencies and departments and the business community. At the heart of all these modern tools is still the good old survey map – now in its digital avatar (format).

Everybody who works with GIS and RS tools needs to start with maps, usually a political map of the area of interest along with topographic, road, drainage, habitation maps, etc. The GIS community does not create its own political maps, but depends upon survey organizations of a country, which are often Government agencies. Access to maps

prepared by these survey organizations is not easy (at least in India) – users not only have to pay, but do the necessary paperwork and await clearance to obtain them. If approved by the authorities, data is received. A fair amount of running around is needed to get data, which at times is only available in analogue format. This data is not usable directly – it needs to be digitized into computer-usable form. All these result in loss of time and effort that should have gone towards the real work. If, unfortunately, the area of interest is near the international boundary or sensitive installations, then getting data is much more difficult.

In the recent times, a few sources of free map data have emerged such as Natural Earth¹, DIVA GIS² and OpenStreetMap³, which in contrast to Government sources, provide data to users which can be easily downloaded from the respective websites from the comfort of one's home or office with virtually no paper work and no running around and that too free of cost. Another advantage is that it is available in digital, GIS software-compatible format and can be used directly after downloading. It therefore is not surprising that the GIS community (in India and abroad) has welcomed these free sources of readymade maps with open arms and has been resorting to using it on a large scale, ignoring their shortcomings on the accuracy front⁴⁻⁸.

However, there is a problem with many, if not all these free maps, which have been made available for free to the GIS community, especially with regard to India. These maps show Indian territorial boundary according to the line of actual control, which is not consistent with the territorial boundary that was agreed to and drawn up in the Survey of India maps when the country became independent. It is also not consistent with the official position of the Indian Government. The map shown to the Indian delegates in Australia probably had been taken from one of the free sites mentioned above.

Besides the free data providers, several Government agencies also use 'incorrect maps' such as USDA Geospatial Data Gateway⁹ and EOLi-sa¹⁰ and organizations

such as ESRI¹¹, Greenpeace¹² and World Agroforestry Centre¹³. The spokesperson for the Ministry of External Affairs, Government of India is reported to have lodged a 'strong protest' in Australia. The Government of India needs to carry this forward and engage with other governments also involved in similar usage of wrong Indian maps. Authors such as Valdiya¹⁴ and Rajendran¹⁵ have also written about it in *Current Science*.

This problem needs to be urgently and proactively addressed by the Indian Government and its various agencies. The Indian Government probably needs to address this important issue with a three-pronged approach (rather than 'lodging a strong protest mode'): (i) It needs to provide the 'correct' map to the user community free of charge and easily downloadable in various formats compatible with GIS software, either on its own website or websites created for the purpose to wean away the current users of free data. (ii) It needs to establish contact with the free digital data providers and 'request' the maps to be 'updated' with the 'correct' map. It would be better still, if the Government of India provides better, more accurate maps to replace those that are available now. But this would require a huge shift in the archaic policies of the government (despite the New Map Policy 2005). (iii) It needs to start a dialogue with governments of other countries to 'correct' their maps.

This may help in protecting the long-term territorial interests of the country.

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