Desperately seeking a regret letter

In our country, if one applies for a job or admission to an institution of higher learning and if one is lucky, he/she will get a call letter for interview. If not, one must just keep waiting for days, months and years. If one is called for an interview, and again if one is lucky, he/she will get the appointment/admission letter, congratulatory letter and what not. If not, he/she is simply left to keep guessing. This is really a trying period for the aspirants. The unlucky ones are compelled to hum the lines from a popular song of the pop group 'ABBA'.

'The winner takes it all
Why should I complain.'

All the universities, many central bodies like UGC, CSIR, ASRB (Agricultural Scientists Recruitment Board) and perhaps many of the private companies are plagued by this syndrome – not to send a regret letter. Universities are notorious in this aspect. I seldom came across a university, which is in the habit of sending an acknowledgement letter, leave aside a regret letter for unsuccessful applicants. ASRB does send a letter of acknowledgement, that is, if the applicant is lucky.

Scientific journals are exceptions in this regard to a certain extent. But many a times, they too are gripped by the national disease – of not sending an acknowledgement letter.

I only wish that all the employers note this point and honour the sentiments of job aspirants. When the prestigious bodies ask for application fees, they may include the cost of the regret letter too. Better still they may ask the aspirant to include a prepaid post card, so that the unlucky ones receive a regret letter and then go in search of new pastures elsewhere.

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Science is alive and kicking, but has not sci-fi fantasy done better?

'In the early morning hours of 30 June 1908, anyone happening to glance into the southeastern Siberian sky may have seen a fireball streaking through the atmosphere. That object, whatever it was, approaching from an azimuth of 115° and descending at an entry angle of 30 to 35° above the horizon, continued along a northwestward trajectory until it seemed about to disappear over the horizon. It would have seemed to shatter in a rapid series of cataclysmic explosions lasting about half a second over a distance of 15 to 20 km. According to calculations, the object shattered at an altitude of 7.6 km and became the first such cosmic visitor to strike the earth in the lifetime of civilized man.' That statement, culled from the flood of information found in the 'Tunguska' sites on the Internet, clearly presumes that what happened was an extraterrestrial 'object' crashing on the earth. Its weight has been estimated at about 100,000 tons and the force of its explosion at 40 megatons (of TNT), 2000 times that of the fission bomb dropped over Hiroshima. By comparison, the explosive force of the 50,000-year-old asteroid strike that created the Arizona 'Meteor Crater' has been estimated at 3.5 megatons. (Incidentally, has anybody estimated the explosive force associated with the formation of the Lonar Crater Lake in Maharashtra? What is the age of that event?)

Russian (formerly Soviet) expeditions mapped the area around the site only long after the 'Tunguska event'. Centered at 101E by 62N, near the Tunguska River 92 km north of Vanavara, a trading post for timbermen and fur-trappers, it is said to be not difficult to identify even now, after more than ninety years. The power of the blast felled trees outward in a radial pattern over an area of some 2000 km^2. The supposition seems always to have been that the event was a meteorite strike – 'pieces of the meteorite must lie embedded somewhere within the several oval areas near the epicentre'. But magnetic probes and drilling over the years have failed to detect any metal, just as has been the case with the site of the Arizona meteor fall.

Recently, an Italian group looked for 'cosmic matter' embedded in the resin of the fallen trees. Preliminary findings of material, thought associated with certain asteroids, revived the asteroid theory. Since no crater nor large asteroid fragments were ever found, a suggestion that only a part of the asteroid had been pulverized, with a much larger fragment having skipped-off intact in a new direction out of the atmosphere, has found favour. As for a 'comet theory', the 1908 peat layer has high concentrations of a number of volatiles that also occur in the upper atmosphere and are presumed to be of cometary origin (from 'dirty ice' comets?).

A number of science-fiction accounts are said to have 'degraded' the event into fantasy. Fancifully enough, some have suggested what struck the earth was a black hole. Others have wondered if it was (wasn't) a piece of anti-matter. A Japanese UFOlogist group is convinced that the event was an explosion of the nuclear power plant of an errant vehicle belonging to extraterrestrials! Needless to add, most scientists, disagree and point to a comet or an asteroid being the cosmic culprit.

The reader can see that scientific evidence gathered so far for the strike of an extraterrestrial object has remained sketchy, some critics even holding that the entire history of nearly five decades of fieldwork represents little more than a chain of mistakes. At best, whatever evidence there is, invites challenge. W. Kundt has mounted such a challenge (see *Curr. Sci.*, 2001, **81**, 399–407. Citations to asteroid/meteoroid/comet theories can be found in this reference). He has suggested 'more than seventeen reasons why the fiery Siberian event was *not* caused by the "infall" of a stony asteroid, nor of an (icy) comet' but rather by 'the volcanic ejection of some 10 Mt of natural gas which ignited by self-generated lightning'. He has even presented estimates of the mass and kinetic energy of the vented gas, the size (and geometry) of the vent(s), outflow time-scale, supersonic and subsonic ranges of escape velocity, termination of the buoyant escape towards the exosphere, and so on. Snowflakes, newly precipitated at very high altitude, were conceived as reflecting sunlight that reached the night-side of the earth and caused nights to be brightly lit following the event, reminiding people of similar nights after Mount Krakatoa blew its top off about a decade before. Kundt has conjectured that the event may well have led to present-day production of kimberlite, which can form a diamond-bearing matrix (a mica-peridotite named after Kimberley, South Africa, the source of de Beers diamonds). No reports have appeared, however, of diamonds having been found in the vicinity of the event site. And, Kundt did not cover in his 'explanations' what some expeditions (many now international) have claimed – certain biological consequences like accelerated growth of biomass, genetic variations in certain local ant species, in the seeds and needle clusters of a species of pine, etc.

As I said earlier, considered opinion has been that sci-fi accounts have degraded the event to absurd fantasy, but a short story I remember having read many years (decades!) ago would seem to have combined, in any uncanny manner, the normally accepted extraterrestrial impact and Kundt's diamond-formation theories, and sort of bridging the gap between the 'in-fall' and 'outgas' scenarios. The title of the story was *A Large Diamond* and its plot went something like this: the hero was an adventurous Briton who travels alone, hacking his way through miles of rolling *taiga* country (beautiful, they say!), crossing rivers and streams, and plodding through bogs and swamps. Enduring summer temperatures reaching the upper thirties (°C, of course!) and, worst of all, breaking through 'walls' of mosquitoes, he reaches the edge of a brightly sunlit ice-field and sits on a flat area of ice to take a rest. Absently, he opens a pen-knife and tries to scratch the bright surface of ice he is sitting on and realizes that it was… .

No, I shall not be fair to the reader and I shall reveal how much more our hero 'realizes' a comet or meteorite has struck a coalfield and the heat and pressure creates a huge diamond. On his return to England to announce his claim over what he has discovered, he learns that an earthquake had struck the Siberian region and the giant diamond he found has vanished into a cavity, presumably cracked open by the impact.

Because of its genre, it appeared to me that the author of *A Large Diamond* could be none other than H. G. Wells who, I presumed, was following-up on a story written earlier. Wells' *The Diamond Maker*, was published in the 1890s, much before the Tunguska event, but not long after Moissan had made diamonds (microscopic ones!) by dissolving graphite in molten iron under high pressure and removing the iron from the frozen ingots with acid.

I have just found out from Robert Mitchell of the University Library, University of Arizona, that author of *A Large Diamond* was not Wells but Lord Dunsany, famous in the early part of the last century for his fantasy stories. It was originally included among *The Travel Tales of Mr. Joseph Jorkens* published in 1931 by G. P. Putnam and Sons (London and New York), some two decades after the Tunguska event. It has appeared in many other anthologies as well.

I thought it would be quite easy to get hold of an anthology with Dunsany's stories. Such anthologies are very popular with the membership of recreation clubs, mostly made up of professionally-trained (therefore, English-knowing) Indians, and very likely to be found in the 'reading room' of these clubs. But my efforts, limited as they were, did not meet with success.

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Faculty are responsible for politicization of academics

The letters published in *Current Science* by Rao[1] and others[2] show that teachers are alive to the declining respectability and credibility of the university system, but there should be no room for pessimism although we may not be able to correctly diagnose the ills and suggest remedial measures. Presently there is lot to be gained from them and little that the incumbents have to or can contribute to the universities, and such people are restless to rise to the above posts.

Rao[1] has enumerated several factors that have led to inferior appointments, and academic mismanagement and dishonesty in the universities, but he seems to have underplayed the role of faculty in all this affair. How do the politicians know about the vacancies for the faculty positions? Who informs them about national and international fellowships, research grants and other funds? It is the teachers who do so and invite interference from politicians and the government. The most important reason for ills in the university system is the fact