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## **The mountains of ESP**

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The tale is told of two mountains. On the first mountain lived all the teachers of English. They had done at least a bachelors degree in language, literature, history, and civilisation. They were very well educated, and they prided themselves on being broad minded, compassionate, and cultivated.

On the other mountain lived those who loved science, engineering, and mathematics. They too were very well educated and they prided themselves for their depth of knowledge, their ability to discover and invent, to solve problems of health, and generally make life easier for everyone.

Those who lived on the first mountain, the humanities mountain, looked down on the uncivilised uncouth hyper-specialised illiterate narrow cold and inhuman scientists. And so it was, that in government, the higher administration jobs usually went to those with the superior degrees in the humanities, thus proving their superiority.

Those who lived on the second mountain, science mountain, looked down on the time-wasting soft uneducated innumerate useless luxurious parasites. Scientists regularly became knowledgeable in the Humanities. It was common enough for scientists to be expert musicians for instance, but whoever heard of a musician who became an expert in mathematics just for the fun of it? Scientists prided themselves that they - if they had time - could study any humanities subject, for humanities were intrinsically easier than sciences - but never the other way round.

It is true, that humanities mountain people feared those who lived on science mountain. They felt that scientists deliberately kept their distance by using needlessly huge words - jargon - so that lesser humanities mortals would not understand. [This is of course a complete misrepresentation of the role of technical language. Scientists use big words because they are convenient timesavers compacting whole areas of knowledge and the implications into one term, which can then in the same sentence be applied to another set of ideas as summarised in another term. Now if you are ignorant enough to not know the knowledge behind these terms, then no wonder they appear to be jargon.] But that is reality - big words offend simpler mortals from humanities mountain - and make humanities people very fearful to leave humanities mountain and venture over to the mountain of science.

Then came the reality of employment - or lack of it. In general, humanities is a luxury profession feeding on the wealth created by scientists engineers and business people. While scientists generally had full employment, humanities mountain had workers to spare. World developments also meant that scientists whose first language was not English were clamoring

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to learn English. Because scientists were in short supply, very few of them became teachers of English. A perfect case of humanities needing employment and scientists needing to hire teachers. But how could they? These Humanities people did not understand those on Science Mountain. Yet they were asked to teach the English relevant to Science - not the English of Dickens and Orwell. How can this clash of cultures be resolved?

And how can Humanities people venture on to Science mountain? Scientists are savages - they will not be welcoming!

Listen those of you who have grown up on Humanities Mountain. I come from Science Mountain. I once lived there. I feel at home on Science Mountain and even today I am very attracted to Science. But for most of my adult life I have lived on Humanities Mountain. I am bilingual and bicultural. Come ye fearful from Humanities, let me lead you to my mountain - Science Mountain. Let me show you how beautiful science is. These so called savages are highly advanced and very human. Let me introduce you to the main landmarks of Science. Let me show you what Science and Humanities have in common. You must put fear aside, and you must be willing to enjoy a challenge. I assure you the rewards far exceed passing frustrations and pain.

[With apologies to Hutchinson T & Waters A 1987, *English for Specific Purposes: a learning centred approach*. CUP. They have an introduction using similar imagery. The introduction above works best in class if I sketch two mountains, and maybe put on a voice that mimics that of Churchill when I introduce myself. I might also go on to comment that in Britain this cultural gap between Science and Humanities is felt.]

## Part 2

My sensitivities to the two cultures have existed ever since I was a teenager. As noted in the language learning autobiography [www.scientificlanguage.com/adult11a/lifelong.pdf](http://www.scientificlanguage.com/adult11a/lifelong.pdf) I was put off literature by its subjectivity and attracted to science by the wonder, the complexity and the fun. At University I found it rather ironic that the administrators - presumably from Humanities mountain - insisted that all science students do two hours 'General Studies' covering something in the Arts, in order to broaden our minds. My University at the time was a Sciences only University (even music and languages were B.Sc not BA) so I have no idea what they would have done for Humanities students. But I still wonder how broader an education I could have had, studying Human Biology, where I could go in one lesson from the latest advances in detecting drug abuse in athletes, to the next lesson which was on Social Anthropology.

Recently I came across support from these views from Paul E Gross and Norman Levitt, *Higher Superstition: the academic left and its quarrel with Science*. The John Hopkins University Press, updated 1998. On page 243 they write:

On the whole, scientists are deeply cultured people, in the best and most honorable sense. ... The range of knowledge of music, art, history, philosophy, and literature to be found in a random sample of scientists is, we know from long experience, extensive, and in some fortunate venues enormous. Most of this learning has been

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acquired, of necessity, at odd moments here and there - not through formal or systematic study. As humanists scientists are autodidacts.

They go on to assert that if for some reason the humanities department at MIT (a high status University in America) were to resign or otherwise disappear, “the science faculty could, at need and with enough released time, patch together a humanities curriculum, to be taught by the scientists themselves”. Gross and Levitt admit the program would have its holes, but it could be done. “What the opposite situation -- a walkout by the scientists -- would produce, as the humanities department tried to cope with the demand for science education, we leave to the reader’s imagination.”

It was only recently, when searching on the two cultures (science versus arts culture) that I came across CP Snow and his lecture *The two cultures and the scientific revolution* given in 1959 at Cambridge, and the reply to it by Leavis. I think Snow was making some valid points. When Snow said that ignorance of Newton’s Second Law, or inability to define basic concepts such as mass and acceleration, was inexcusable in an educated person, I agree with him. Snow said it would be equally inexcusable for an educated British person to not have read some Shakespeare or Dickens. I agree. I agree because all this forms part of a basic secondary school curriculum - as basic as handling simple algebra. Snow is talking about pre-16 year old science, and in my case it is actually pre-14 year old (and yes, I had read Shakespeare and Dickens before age 14 as well).

I would also add that anyone who cannot read music, and anyone who does not know at least one foreign language reasonably well could also be considered uneducated. I live in a country where three languages is normal, and five is nothing unusual. These are basic secondary school skills. Why British students rarely learn well a second language I have written about in an essay under the provocative section [www.scientificlanguage.com/provocative/french.pdf](http://www.scientificlanguage.com/provocative/french.pdf)

If you want to enlarge a little what should be included in school basics, I find it appalling that basic ideas such as the distinction between a Church, Denomination, and a Sect are not well known. The distinction is important, because sects get a bad press. So in parts of France for instance, Protestants can be regarded as a ‘sect’ forgetting that the Queen of England is Protestant and by no means sectarian. Maybe the problem is that in some countries such as America and France, Religion is excluded from the curriculum. Whatever the political reasons, it is educational nonsense. Religion is as much a part of life as is Biology History or Literature. Any educated person should know the basic beliefs and practices of the major world religions, along with the main points of the major philosophies in the world. This is not difficult to teach because the content is small and not complicated. A basic and fair grasp of religions and philosophies must form the basis for mutual understanding and respect in the world, and to exclude it means that people will learn it elsewhere - probably from sensational journalism.

Humanities people often excuse their ignorance of science because of the jargon and technical complexity of science. I find this excuse to be facetious, irritating and laughable. There is now a wealth of good quality easy explanations of science. No one expects the non-expert to

read the technical press. There are plenty of credible quality sources of information, both in print and on the internet, which makes science authoritatively intelligible to ordinary people.

There are even websites where the same subject is written about at two levels: a professional level and a level for the general public. One example of professional and popular level material on the same site, both of which are reputable, see: [www.patient.co.uk](http://www.patient.co.uk). Sometimes in the technical press a 'plain language summary' is provided, as for instance in the Cochrane Systematic Reviews of medical questions.

Nowadays, science can be as accessible as the Arts, therefore there is no excuse for the hesitations of the Arts only people.

My experience of both mountains - Humanities and Science - is that Humanities really lacks the beauty, the complexity and the immensity of Science. I also dislike the subjectivity that I found so often in the formal study of literature which meant that one opinion was objectively as good as another. No wonder then that Scientists, while knowing and appreciating the Humanities, are not greatly attracted to them and can look down on the poor souls who can only live on Humanities mountain.