

New paradigms



I once had a discussion with one of our salesmen that went like this “You technical types, you use fancy words just to look clever, the word paradigm for example what exactly is that supposed to mean?”, “it means a way of seeing the world, a theoretical model of how things fit together, a whole way of describing things”, “well why did you have to use a new word for that couldn’t you have just explained it every time?”, “but the word paradigm is both shorter and more precise”. I walked away bemoaning the lack of education of our sales staff and no doubt the salesman felt he had confirmed that technical people just employ jargon to exclude those “outside the circle”.

The creation of new topics is often accompanied by the coining of new words, or, more likely, by new meanings being assigned to old, already existing words. Take the word “complex” for example, in everyday language this means complicated, but within the study of “Chaotic Systems” it has a more specific sense referring to the capacity of simple systems to generate unpredictable behaviour. The need for a succinct way to express that particular concept could only become apparent once non-linear dynamics, fractal attractors and emergent behaviours had been brought together. Every new subject of study has to be perceived as making some important task easier, otherwise no one would ever adopt it. For example for the topic of “Chaotic Systems” the claim is that understanding dynamics is simplified, and so it becomes possible to deal with essential themes such as predicting weather and climate. This simplification never comes without cost, normally there are some new concepts to grasp, new rules of thumb to absorb and new limitations to follow. These all generate new ideas (and make older, less precisely defined concepts redundant) so it is inevitable that the language applied has its own unique features.

Everyone has a unique background, so inevitably there will be topics that you are familiar with which I have never come across. Personally I find that learning when and how to apply new ideas is one of the most enjoyable parts of my job, so when I hear a new word or an old word being used in an unfamiliar way I usually try and ensure I get an explanation (at least eventually). We all know that any presentation should always try to match the viewer’s level of expertise. Everyone has had the experience of being distracted from the task in hand by the introduction of an unfamiliar phrase, but I suspect it is more common to get irritated by having an obvious and well-worn concept described in excruciating detail by a presenter who clearly thinks this is a new notion.

We should always be considerate towards those who are unfamiliar with the specialised words we use. Our level of jargon has to match the audience and we have to avoid terms that are oblique, esoteric or recondite. But often going back to first principles is just too much, sometimes we have to assume that our audience has done the ground work and will understand the specialised words we use, at least that’s the paradigm that I want to follow.