

The Chemistry of Time

By Patrick Lambe

By around 1778 or 1779, the Scottish chemist and entrepreneur James Keir had spent a decade seeking a commercial process for the production of alkalis. Alkalis had been used in the glass industry and in the glazing process for pottery for centuries. However, demand was growing rapidly throughout the 18th century, with a growing market for soap (made by mixing alkalis with oil and then curdling it with salt) and for its use as a bleaching agent in the booming textile industry.

Alkalis had traditionally been produced from an ash of charcoal. As Britain's native forests were depleted, supplies dried up, and ash had to be imported. Then in the 1740s, it was discovered that kelp, a form of seaweed plentiful on the coasts of Scotland and Ireland, also contained alkalis in commercially viable quantities. The barren coastlines were populated with vast numbers of labourers who gathered kelp at low tide, dried them on the rocks, and burned them to extract the alkali. The western coast of Scotland, now so scenic and pretty, formed for fifty years a vast ruined landscape, acrid with smoke and soot, supporting a creeping population of workers, hovering a fraction above starvation.

Alkali production was expensive and ruinous. James Keir, eager to use science as a get rich quick device, had experimented for years on how to extract alkali cheaply and in large quantities from more common chemical ingredients. He became expert in the chemistry of crystallisation, and on the new techniques of percolation. He realised that he stood a good chance of creating alkalis by seeping a weak solution of sulphuric acid through a thick sludge of lime. The acid bonded with the lime, forming crystals of sodium sulphate, leaving the alkalis to run off at the bottom as a clear liquid.

Jenny Uglow, the brilliant historian of the key personalities of Britain's industrial revolution, ascribes Keir's eventual success, where others had failed, to a combination of empirical research and *patience*. The reaction that produces the alkali is immensely slow. If you don't have the patience to hang around, you'll give up before the reaction is complete. As Keir's daughter put it, her father had called in "the aid of a chemical agent (for which he always expressed the greatest respect, and the functions of which in natural operations were, he thought, greatly underrated) *Time*." (Jenny Uglow, *The Lunar Men*).

Keir's trust in the additional chemical ingredient of time, paid off. By the end of the 1780s he was a soap millionaire. His company, Tipton, still makes soap today.

If the chemistry of time was greatly underrated in Keir's day, it is even more so today. We live in an age of plug and play, instant gratification. In some cases, this rewards us. Instant meals and fast food have their uses and their seasons. Shortening production cycles, and just-in-time procurement create vast efficiencies in production processes (although the US dock strike illustrated some of the deep risks JIT exposes us to). Instant messaging collapses distance and time, and gives us fully articulated, responsive, almost

intimate moment to moment connections to our friends, family, colleagues and business partners.

But some processes require the chemistry of time to work their way to fruition – and knowledge management is one of them.

The provocative physicist Richard Feynmann once wrote an essay entitled ‘Cargo cult science’ (Richard Feynmann, *Surely You’re Joking Mr Feynmann?*). In it, he describes a Pacific island which had been used by the American forces as a staging post during the second world war. The islanders associated the airstrip and its accoutrements with foreign beings arriving from the skies carrying goods, food and clothing. So after the Americans had been gone for some time, they decided to recreate the conditions that would be right for these precious cargos to return.

They cleared a long strip of land, and marked it out as they remembered it. They appointed a guardian and gave him a headdress with twigs in the top and coverings for the ears to recreate the groundcrew who guided the plane to its hangar. And then they waited.

Feynmann’s point was that reproducing the form of the phenomenon does not address the economic or political mechanisms that make real airplanes and their cargos fly in that direction and land on that island. Simply reproducing the form of a science does not address the underlying drivers and principles of that science. Simply buying a knowledge management system and assembling the ingredients derived from the latest recipe books does not make knowledge or information really flow.

In late 2002 I read a tender document for a knowledge management consulting project with an educational institution in Singapore. It was to be a twelve week project, and it had the best ingredients: an information audit, taxonomy development based on information use, and the formation of communities of practice across the organization. This latter feature was the scary one, for reasons that will become apparent. All the rest was perfectly reasonable, and at face value, the inclusion of communities of practice in the project ought to have demonstrated an admirable recognition of the soft side of knowledge management.

It was the twelve weeks that gave the first clue to a fundamentally cargo cult approach to this project. Twelve weeks is perfectly reasonable for a knowledge audit and taxonomy building exercise in a mid-sized organization. Communities of practice are a different matter. If they don’t already exist, they can take years to nurture and develop, and even then, many of them fail to flourish.

It was the sense that communities of practice were to be defined rather than uncovered that gave the second clue to a plug and play approach to an intrinsically organic, *slow*, process. The final depressing nail in the coffin came towards the end of the tender document, where prospective bidders were sternly admonished not to distract existing staff and students from their normal duties in the course of this consultancy.

Even a knowledge mapping project requires substantial interviews with key information users, creators and movers across the organization. Most information users are extremely unaware of the information and documents they swim in. You have to sit with them at their desk to see what is most important to them. You probably need to see 15-20% of the people at least. Beyond knowledge mapping, creating a community of practice without diverting anybody's time from their normal work is a complete fantasy in itself, and a fantasy squared if you set a timeframe of twelve weeks for the venture.

Time turns out to be one of the most critical ingredients in a knowledge management process. You need to allocate a number of people's time to a KM project to make it effective, otherwise it doesn't mesh with the way they really work.

Lest I appear over-critical of the Singaporean tender, let me take a swipe at a job description for a Director, Knowledge Management for a British based, global charitable organization. The post was extremely highly paid, but the KM team terribly small. It reported to the Communications Director, three levels below the head of the organization. The organization is large, divisionalised, extremely political and prone to competitive duplication, silos and infighting. And the KM Director post has no structural connection with the IT, HRD, training, information services or any other major function. It is structurally de-linked from everything else that normally happens in this organization to move knowledge around.

Not to worry, the job description says. A knowledge management system has already been bought. An intranet and an expertise database are being built. Policies have been set. We sigh. Knowledge management will not happen on any scale commensurate to the investment in this organization, if it happens at all. The KM witch doctor sits on the make-believe runway, waiting for the make-believe planes to arrive with their cargos of knowledge. Nothing is connected to anything else.

Finally, as in Keir's percolation and crystallisation process for the extraction of alkalis, "soft" knowledge management involving the growth of communities of practice, rapid transfer of tacit knowledge, more efficient knowledge and information habits, all *take time*. They require the slow growth of trust combined with incremental appreciation of how knowledge and information can be better deployed.

Quick wins are fine to aim for, but serve a mostly political purpose, to gain support and maintain momentum and buy-in from above as well as below. But the real value in KM is rarely in the quick wins. The real value of a KM project lies in the slow, patient, determined, consistent application of good knowledge practices, the slow, patient, determined, consistent growth of new habits (how often do we grow new habits overnight?) and positive knowledge cultures (when was the last time you changed a culture at the flick of a switch?).

Knowledge management requires the investment of time. Time from your senior managers – not just because you need their support, but also because they are key

knowledge agents. Time from the pivotal information players across your organization, first to map what happens, then to make them aware of the properties of the knowledge and information that they use and move every day, finally to equip them with the skills to use that knowledge with greater virtuosity. And time to wait for the results as these new practices, habits and cultures slowly percolate and evolve into lasting value for the firm.

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