Simple Science and People Energy and Entropy

For some time I have been exploring basic simple thinking concepts using TRIZ. One arena for thinking is at the molecular level, trying to find the deep 'laws' of life itself.

Can we compare "I want to …. (anything from set up a business to plan a holiday)"

To:

"I want to do something to a molecule"?

One viewpoint we can take is thinking about how many things we can do with a molecule. The list, fortunately, does not have to be long.

One can push or one can pull, one can change its shape, shake or spin it or attach and detach things to the molecule.

Actually the ***push*** and ***pull*** are the key ones as the rest are what happens when one pushes or pulls in different ways.

We can ask ourselves, what function is being carried out each time a molecule collides with another molecule? Molecules mostly bounce of each other then we can see this as a push function, not pull. Some molecules will pull a bit (like in a viscous liquid).

One big difference between push and pull is that it is hard to control direction with push, in fact most of the time as you are likely to be pushing not at the centre of mass you will create a more disordered direction of the molecule.

If they are pushing each other around, as in a playground, then there will not be an aligning of movement but a misalignment.

Another difference is that if you push you can push very hard, but if you pull the pull can only be as strong as the link.

But I do not want to explore the physics here. I want to see how this approach might be applied to the more general issues of running a business, or my life.

If I put a team together then I can do thing which might be seen to create more push action or pull action. If I set up a hierarchy of power, with clear roles for leaders who direct operations, then I have lot of push going on, and people of course might like that as it supplies a lot of energy into the system. But people might not like it as they will feel pushed around, and the result of that kind of team behaviour is that unless you put a lot of energy into controlling the directions of actions and functions you will find it rapidly becomes anarchic and disordered.

When running Innovation sessions some of the groundrules usually applied are to do with self empowerment, owning ones own views, sharing time, listening for ideas and such like. These are pull governed operations. Each member of the group is hopefully willing to explore territory as a variety of journeys into different places, pulled by

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ideas, images and such like. Initially this appears very chaotic, but after a while what happens is that the group begins to align itself along pathways that are emerging from the mixture of concepts that have been floating around. Eventually, given time, and with destructive pushing disallowed, the group becomes orderly. I am sure there are many who have been in such sessions and sometimes the process seems almost magical!

So, the message to business from exploring simple thinking about molecules is that if you want functional alignment and do not want to use up lots of energy controlling direction with all the risks applied to that, then a leadership which is about creating the pull from great ideas is going to be better than a leadership of authority telling people what to do. This analysis suggests that empowerment is good, that owning ones own job, responsibility and such like is the way to go. The time frame will be slower at first, as you need to create the pull, you need to build the connections so that pull can happen. But when it starts it will be much more efficient, which has got to be a good thing!

I hope this makes sense, but I am happy to engage in correspondence to explore these ideas further.

For the technically minded:

My summer reading this year included Alan Lightman's book, Great Ideas in Physics, and one of the ideas he explores is the 2nd law of thermodynamics. Now I have never much liked that as a law, for it seems arguable, with steps in the logic sometimes missing. I think of it as good guidance, a good check to see if you are heading in a direction which might be found to be dubious, but no more than that.

So I thought I would use simple thinking to explore why the 2nd law, that 'entropy' always increases in a closed system, might be true.

One aspect of the law applies to mixing gases. If we let two gases mix which are at different temperatures then after a while all the gas is pretty much at the same temperature. Lightman explains it with statistics, which is OK but not so clear an explanation as I would like.

If we want to break this 2nd law of thermodynamics then we have to find ways of aligning molecules, and to do this we need to pull.

As stated earlier, pushing is usually much more powerful than pulling, for with pulling you can only pull as much as your attachment allows. So if you have high energy actions of gases then you will get pushing and the 2nd law will apply.

But in time we may be able to use any simple thinking to balance out the power and function of push more than pull, and get molecules to line up and become more ordered. Can you think of ways to do this?

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