

LECTURE NOTES FOR ”COACHING SELF-ORGANISING TEAMS”

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1. INTRODUCTION

In order to solve many of the problems organisations have, people need to behave differently. How can we get them to do this? Large-scale interventions and centralized mechanisms.

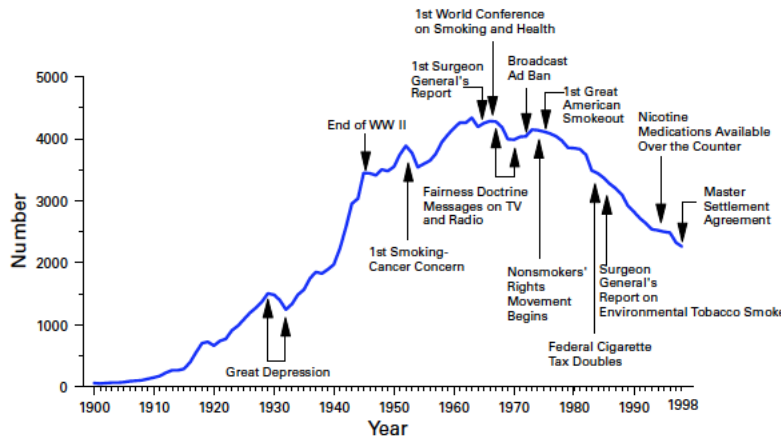
Laws and rules

Material Incentives (tax cuts, bonuses)

Education & Information Campaigns

The problems with these approaches: Costly, cumbersome, engineered by a political or organisational process which is always inefficient and is often ineffective.

FIGURE 1. Annual adult per capita cigarette consumption and major smoking and health events — United States, 1900–1998



Sources: United States Department of Agriculture; 1986 Surgeon General's Report.

FIGURE 1. Trends in cigarette smoking (from [4])

The graph above (Fig. 1) shows the change in attitude of Americans towards smoking cigarettes throughout the 20th century.

Notable are two things: First, the fall-off rate is remarkable. Secondly, the steepness of the onset, connected to 2 world wars. Marketing targeted WW2 troops.

What did it take to get rid of smoking? Major public health campaigns, broadcast bans, passive smoking awareness combined with laws against smoking in public places.

This is the traditional view of how to change behaviour. For every success, however, there have been many failures. The Agile community, though has been lagging along, years behind current research, and continues to propagate such failure-ridden methods. For example, Ken Schwaber teaches in his Scrum courses that a person coming late to a Scrum meeting should pay a fine of one Euro. In their research experiment in 2000, however, Gneezy and Rustichini [8] proved that this is an ineffective strategy, since it changes what is essentially a moral obligation into a financial transaction that has a set price on it.

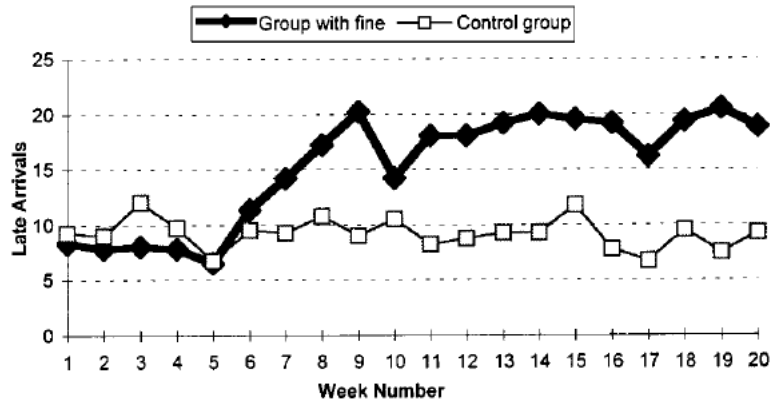


FIGURE 2. Number of parents picking their children up late (from [8])

As mentioned above, for every success there have been many failures. These failures have increased interest in psychology as a means of influencing behaviour. See popularity of Gladwells *Tipping Point* [7].

Merely by manipulating the size of a group, we can dramatically improve its receptivity to new ideas. By tinkering with the presentation of information, we can significantly improve its stickiness. Simply by finding and reaching those few special people who hold so much social power, we can shape the course of social epidemics.

Nudge, from Thaler and Sunstein [22], is aimed at designing interventions to change behaviour. Requires tweeks and nudges, intelligently placed. But how do we know which levers are the most effective to pull? How can we design micro-level interventions, targeting the context of peoples everyday lives, interventions which are decentralized, low-cost, minimalist? Social complexity science and social psychology provide us with tools to do this.

2. BASIC HYPOTHESES

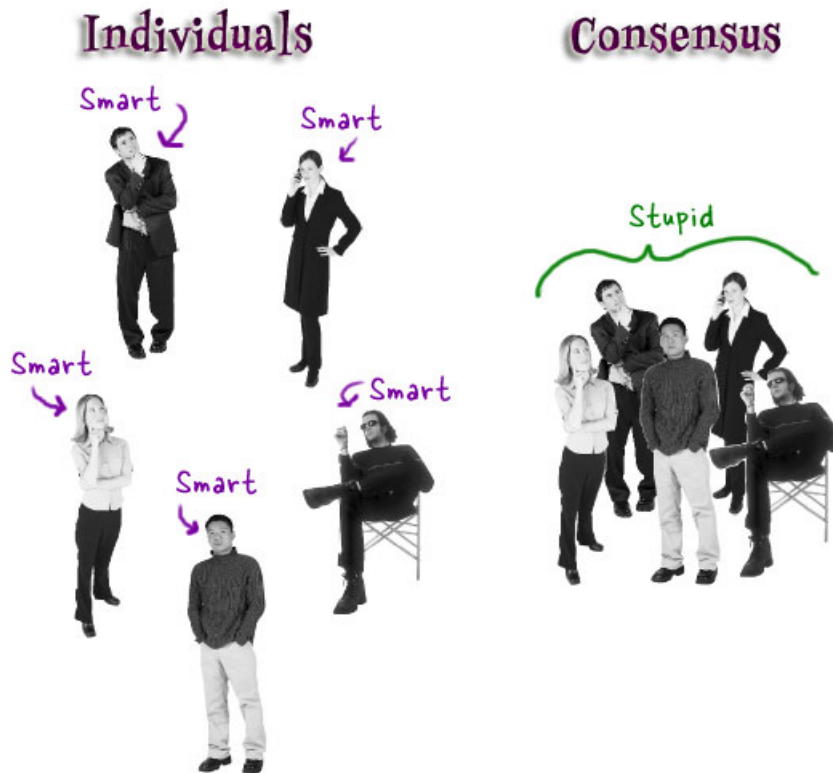


FIGURE 3. Individuals and groups [19]

Hypothesis 1. *Great people don't automatically make great teams*

Proof. Just look at all-star sports teams. (Fig. 3)

Corollary 1.1. *The best way to help people self-organise is to LEAVE THEM ALONE!* [17]

Hypothesis 2. *People don't change if they don't have to*

Proof. Satir said it best, "people prefer the certainty of misery over the misery of uncertainty" [18].

Hypothesis 3. *Self-organisation in a social context requires intent and willingness to participate*

Corollary 3.1. *Biological and mathematical models of complexity are not sufficient to model the behaviour of people*

Corollary 3.2. *Complex adaptive systems theory does not suffice to explain social complex systems*

Corollary 3.3. *We are not ants (Dave Snowden) [20]*

- (1) We don't think rationally. Our brains are optimised to make decisions subconsciously using a first-fit pattern-matching algorithm based on past experience, and to rationalise the decision past factum according to the dominant discourse of the context we are in. [10]
- (2) We impute intention
- (3) We have multiple identities
- (4) We gossip
- (5) We have "free will"

Hypothesis 4. *the Lewin equation [14]*

Behaviour is a function of a person and his environment (Fig. 4)

$$B = f(P, E)$$

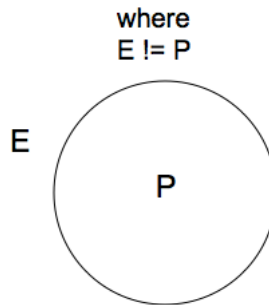


FIGURE 4. The Lewin Equation

Hypothesis 5. *the "self" in a social self-organising system is not the team*

Hypothesis 6. *a "self"-organising system defines roles to be played, regardless of the agents*

Hypothesis 7. *system roles are transferred to the available agents*

Hypothesis 8. *The system also defines "ghost roles" (Fig. 5)*

Hypothesis 9. *We really don't want teams to self-organise, we want to direct them*

Corollary 9.1. *We want team members to take responsibility [2]*



"I'm right there in the room, and no one even acknowledges me."

FIGURE 5. A well-known ghost role

- (1) Responsibility
- (2) Obligation
- (3) Shame
- (4) Justify
- (5) Blame
- (6) Denial

Hypothesis 10. *Coaching self-organising teams = directing emergent behaviour patterns*

Hypothesis 11. *Core group theory [11]*

If an organisation is dysfunctional, it is normally presumed to be the result of bad management. What if management is doing exactly what it should? What would that be?

The top priority of any organisation is to fulfil the needs and desires of a core group in the organisation. Everything else is secondary.

Hypothesis 12. *Core group theory also applies to teams*

The top priority of any self-organising team is to fulfil the system-defined roles. Everything else is secondary.

Hypothesis 13. *Self-organisation does not require a shared vision or common goal*

Hypothesis 14. *Self-organisation is a dissipative process*

The general definition of self-organisation:

Self-organization is (the emergence of) a dissipative non-equilibrium order at macroscopic level, because of collective, nonlinear interactions between multiple microscopic components. This order is induced by interplay between intrinsic and extrinsic factors, and decays upon removal of the energy source. In this context, microscopic and macroscopic are relative.

Halley & Winkler, Consistent concepts of self-organization and self-assembly, (Complexity, Vol. 14, No.2) [9]

Hypothesis 15. *Self-organisation requires an input of energy. For a group to self-organise into a team, enough energy must be present that the members cannot maintain entrained behaviour patterns.*

Problems with understanding self-organising systems:

- (1) we can't see the "system"
- (2) we confuse the symptoms of artefacts of self-organisation with self-organisation itself
- (3) we confuse micro- and macro-level behaviour
- (4) we confuse the parameters and the prerequisites of self-organisation
- (5) we use the wrong models
- (6) we ignore retrospective coherence

The levels of heat:

- (1) Burning - food is tastes burnt, teams fall apart
- (2) Cooking - flavours in food are well integrated, teams adapt to new ideas
- (3) Stagnating - bacteria grows in food, teams stagnate and start to stop using tools
- (4) Congealing - teams are starting to lose their flexibility and lock in their habits
- (5) Solid/Frozen - bureaucracy has set in, there are forms to fill out and sign offs everywhere.

Hypothesis 16. *Even though a Scrum team will only commit to what they know they can complete, heat will cause a psychological reaction and make them work differently.*

3. THE HEAT MODELS

FIGURE 6. $PV = nRT$

Model 1: the gas equation

$$PV = nRT$$

Pressure - number of tasks

Volume - amount of time

n - number of team members

R - constant (ignore)

T - temperature

Model 2: the Flow model [5]

Model 3: the ABIDE model [13]:

Attractors: Bonuses, Other rewards, Free Lunches

Boundaries: Change/Remove Barriers between dev and test

Identities: Roles invite to switch roles or at least role play other

Diversity or Dissent: change the make up of the team, bring in some one with a different background of the team i.e. a .NET developer to Java team.

Environment: remove cube walls, add burn down charts, add monitors everywhere displaying information, even just rearrange the existing seating plan

The optimal team size depends on the domain.

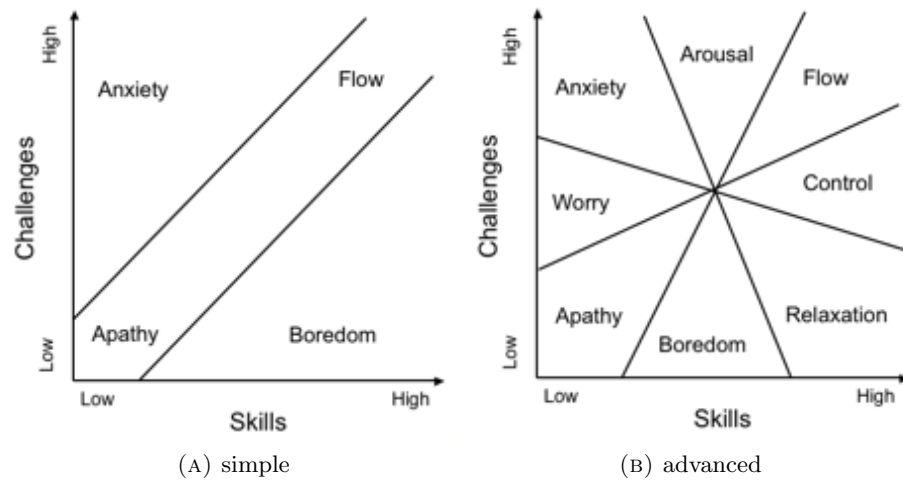


FIGURE 7. Variations of the Flow model

5 - Five is linked to the natural limits on short-term memory.

15 - Fifteen comes from anthropology and relates to natural levels of deep trust.

150 - Dunbar's number, in effect the number of identities that you can maintain in your head with some degree of acquaintance [6].

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