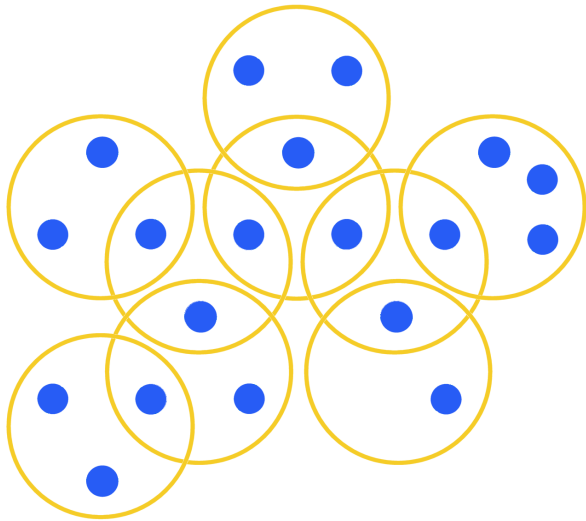


Treems



**Factories and offices
for the 21st century**

Peter Fox

MSBC : TR-B-10
Copyright Peter Fox 2009
First published 2009
Minor edit and reformat 24th February 2017
Produced 26 October 2017 (12:55PM)
treems@vulpeculox.net

Peter Fox

Since 1980 an independent hands-on systems consultant working in all aspects of what used to be called Office Automation. This book is the result of frustration with the lack of available management technology to make use of the opportunities remote electronic working should be providing for creating interesting new collaborative ventures.



Essential management structure redesign required

It's obvious when explained, and simple to understand, so how very odd that we're ten years into the twenty-first century without anyone cottoning-on to the organisation and methods needed for remote electronic working.

This is the first description of how to successfully manage organisations where the participants never meet. Group cohesion and individual motivation to fulfil a single purpose require a re-think of organisational structure and processes if the limitations of remote working are to be dealt with. Huge new economic opportunities (for enterprises and individuals) become available by advancing beyond social networking to *productive* networking.

This book develops a design based on simple principles which are mostly 'obvious when put like that'. It starts by looking at what issues we need to address - the human ones, then builds a blueprint for organisational structure and methods - Treems. More detailed discussions follow dealing with areas requiring special attention and further investigation.

A major conclusion is that we already have all the necessary electronic communications available cheaply off-the-shelf - it's the 'management technology' we use to build our organisations that's new.

The next step is starting some prototype project organisations to gain practical experience with a variety of organisation sizes and purposes. The significant economic impact, as a means of mobilising and improving latent skills, creating new enterprises and removing the need for people to travel to work indicates the need for a properly scoped and funded research effort.

Contents

1	Welcome	5
2	Understanding the difficulties	7
3	Introduction to Treems	13
4	Three branches	17
5	Management layer	21
6	Managing by wire	36
7	Hierarchy of trust and responsibility	61
8	Induction	63
9	Online stereotypes	66
10	Social and economic opportunities	72
11	Getting started with prototypes	79
12	Glossary	84
13	Appendix : Tutoring and guiding	86
14	Appendix : Potential prototype projects	89
15	Conclusion	98

Abbreviations

ftf	Face to face world/situation
rew	Remote electronic world/situation

1 Welcome

Imagine a thriving town where there are cafés, libraries, bookshops, post offices, travel agents, shops of all sorts, schools, cinemas, colourful and varied street markets and somebody on a soap box at every corner. But there's something very important missing from this scene - factories and offices. Welcome to the internet in 2009.

This book is about what we need to do to create internet factories and offices, the factories and offices of the 21st century. These are productive operations where people *never meet face-to-face*. They could be for-profit or not. They could simply be for the benefit of a community of members or an on-line sweat-shop. The common theme is that there are many people all working to a single plan. At present we have social networking which is roughly five years old but apart from some ad-hoc affairs we don't have properly designed networks for people to *get things done together*. It's like having the factory canteen without the factory or the chats round the water cooler without the office.

Already we have seen noble collaborative efforts. In particular in the Free Open Source Software movement where volunteer programmers combine their contributions and work out the bugs, create internationalized versions and achieve a great deal more together than they could as individuals. However the people taking part are volunteers and fairly unusual, being technically adept sociophiles who are highly self-motivated from the start. Even so, for every success there have been very many failures. Although it is probably the first thing people think of, remote collaboration to produce an end result doesn't have to be limited to volunteer non-profit organisations.

As we will see, there are a lot of reasons why it isn't a good idea simply to try to replicate a traditional organisational structure for remote working. If it was then there would be lots of it about already. This doesn't mean that an existing face-to-face organisation can't make good use of existing internet technologies, but that up until now the management technology to do the *whole thing* hasn't existed.

Once the basics of the social psychology of work are understood then designing an organisational structure and networking rules

accordingly is not very difficult. There's a lot here that is 'obvious when you think about it' - although it may be unusual and require a little readjustment of traditional management attitudes. One really useful aspect is that the same structure (although with variations on the theme) is suitable for *all* remotely managed productive organisations.

When participation in a virtual organisation for productive and economic gain is simply a matter of being 'on the Net' there are far fewer barriers for those that don't have their sort of work nearby or can only work a bit at a time or are only needed on an occasional basis. It also turns out that the way a virtual factory works is ideal for 'seeing if you like it, starting at the bottom and working your way up'. This means new opportunities for organisations - who get a larger choice of staff and a convenient skill development process; and individuals - who find it easier to get started in a suitable niche and develop their specialist skills and knowledge from there.

I've looked at a number of different issues that I think are particularly significant but as of February 2009 nobody has yet built a factory or office on these lines. In any event I hope you will find the obviousness of many aspects encourage you to *get together to get things done*. (Or should that be "stay apart to get things done"?)

How do we organise a collection of people who *never meet face to face* to cooperate on a project or service?

In the next chapter we'll look at why remote working causes problems and from that develop a set of design principles.

2 Understanding the difficulties

Understanding how humans work together...

...so we know the issues when they work apart.

Humans have been working in groups since before they were human. It is a natural, ingrained and useful activity whether organising flint tool production or landing a man on the moon, raising a family or running a school, brewing beer or selling books, managing the affairs of the parish or providing a lifeboat service. All of us use a sophisticated range of inputs to drive the social psychology circuits built-in to our brains. The big, big, big, did I say it was big?, issue is that this group-working mechanism is based on face-to-face (ftf) contact. How people dress, speak, their completely sub-conscious and subtle body language, even their smell, are vitally important clues we use to build the rapport and trust necessary for sharing effort and rewards.

Just consider the difference between *somebody you know* and a stranger asking for the loan of a pound. OK then how do you 'know somebody'? More specifically in this context: How do you 'know somebody' over the internet? We need to answer this question because the effort and trust we will be investing in remote groups will be far in excess of just a pound.

For now we'll just observe:

- Getting to know people without meeting them is difficult
- Joint efforts require trust in your colleagues
- A reliable reference is a good enough initial basis for trust, but to work closely with somebody we usually need to know their character.

And conclude:

- As getting to know people remotely is difficult we'll try to minimise the number of people individuals have to deal with.
- Anything we can do to make getting to know your immediate colleagues easier will be very useful.

Belonging to a successful group, or simply a happy one, gives us a feeling of pride and well-being. This satisfaction drives our sacrifices made to make the group better.¹ If we are to harness goodwill and motivation at a distance then we need to understand the social psychology of organisations. When you're in a real-world office people can see when you're tense, confused, bored or angry and they modify their interaction accordingly. Even when these symptoms are detectable over the internet there is often insufficient definition, insufficient context or insufficient interaction. These problems can cause more difficulties. For example suppose I say to you as a matter of fact "It's a shame project X is late" but you take it as a matter of personal criticism. Face to face we can sort out that misunderstanding in a few seconds but doing it on-line would be a nightmare exchange of emails that wasted a lot of time rebuilding a relationship that wasn't really broken in the first place with poor tools to do it with. Avoiding a response is even worse: Dissatisfaction for whatever reason needs some efficient channel of expression and resolution as left to fester it will become a serious handicap. Also we shouldn't forget the little bits of praise, and actions of respect and permissions-to-be-flexible that happen throughout the day in well run face-to-face groups. We're going to be hard pressed to carry those important subtleties across into internet-world. We could improve the communications technology or find electronic substitutes for "come and join us at our coffee table" and "Help yourself to some cakes I've brought"² and '[unsaid but understood] Of course you can leave early - we're lucky to have such a hard worker'.

¹ Even people who get satisfaction from being a nuisance want to be in groups just to be recognised. This issue is discussed later.

² This can get out of hand! We're not trying to re-invent the social network.

For now we'll just observe:

- For groups to work smoothly there must be
 - good shared understanding
 - good interpersonal communications
 - good recognition of people's general and of the moment characters
- The internet is a poor substitute for face to face communications when it comes to these necessities.
- Mis-understanding and having to guess at the subtleties of group policy, character and significance of actions and events is bound to happen even if we try to guard against it.
- Small dissatisfactions make big differences.

And conclude:

- (Again) As getting to know people remotely is difficult we'll try to minimise the number of people individuals have to deal with.
- (Again) Anything we can do to make getting to know your immediate colleagues will be very useful.
- Anything we can do to improve the definition, context and interactivity of 'conversations' between colleagues will be very useful. We should aim to convey shades of expression and of-the-moment attitudes.
- When dissatisfaction occurs we need to
 - find out about it very quickly
 - channel it away or around the group (initially) to avoid a cascade of bad patching of relationships or blunt policy alterations.
- The vitally important 'feel-good glue' for groups, based on lots of little interactions, often carried out without conscious effort, is a tall order for a mechanistic and relatively low-bandwidth internet with limited flexibility of forums, restricted expressiveness and few (if any) casual opportunities for comment. Work is required.

Belonging to a group is the powerful social force that motivates people to join in with what the group is trying to do rather than press-on with their own thing. This is of course exactly what we need when we can't physically bully them and they can sneak off without it being obvious to everyone and the boss. It is practically impossible to measure 'competent effort' on a daily basis and certainly counter-productive. Instead in the ftf world we keep an eye

on what our colleagues and subordinates are doing in a general way - as they do with us. In rew we are much more reliant on trust and good-will on a daily basis - although long-term results may be worth checking. This boils down to how usefully somebody works not how long.

The other source of encouragement and spur to commitment is achieving some result that is important to the individual participants.³ In ftf situations a team leader will try to find opportunities to recognise progress and the value of contributions made by individuals towards it. These can vary from "Well done. Let's knock-off now. It was really fortunate you stayed on this afternoon to get it working" to Employee-of-the-year awards. Something we need to bear in mind in the remote situation is that individuals, in their isolation, will tend to have their personal agenda more prominent in their mind than the group one. When you've got a headache or distraction at home it is much easier to 'suffer from it' than on a factory floor. Also as well as having more opportunity to reflect on private issues there is reduced scope for resolution based on talking them through with co-workers or friends made through the wider work community.

For now we'll just observe:

- With at best intermittent supervision and occasional accountability we have to rely on self-motivation.
- The pressure to produce results needs to be matched by the pride in achieving them.
- Dissatisfactions with work (and personal problems) can fester more easily in a private environment.
- Remoteness can lead to isolation and vulnerability.

³As I'm checking this draft it is just gone 4am. Why am I doing this? I haven't got a deadline, I'm not accountable to anyone... ..Because, as is always the answer for anything anybody choses to do - "I have nothing better to do".

And conclude:

- There may be some people who are not suited to isolation and self-motivation. Others may need close monitoring methods.⁴
- Substitutes for traditional methods of praise and acknowledgement need to be found to boost confidence and pride.
- Anything we can do to improve togetherness, making friends and sympathetic listening is a good thing.
- (Again) When dissatisfaction occurs we need to
 - find out about it very quickly
 - channel it away or around the group (initially) to avoid a cascade of bad patching of relationships or blunt policy alterations.

Everyday instructions and questions are more difficult without ftf interaction. For example the foreman might be passing and say "I'd like you to move those boxes to the paint shop" and you might reply "OK - Now or sometime this afternoon?" That only takes a couple of seconds and can make a big difference to the efficiency of the organisation as a whole and your workflow in particular. So we need either clearly specified instructions and opportunity to accept them as 'understood' or full understanding of the context. In the example above if you knew what the boxes were for and what the paintshop was up to or why the space currently being occupied by the boxes was needed you could use your own judgement. (Or even have seen the need to move them coming and planned your afternoon accordingly.)

Supposing in the above example you had foreseen the need to move those boxes and thought about the options. You could have mentioned it to the foreman in the form of 'problem - solution' and with any luck the foreman says "Good idea - Yes let's get those boxes out of the way first". Work progresses efficiently and everybody is pleased with themselves and their mutual understanding . . .

. . . But what if the foreman has ignored your suggestions and there is a right muddle brewing with double the work in the offing? In the ftf situation you can moan to your mates, have a quiet "excuse me" with

⁴ Although activity measuring tools are normally a mistake.

the works manager and crew a "told you so" when the chickens come home to roost. There are plenty of poor foremen about, but also there may be good reasons why your plan is not the best in the overall scheme but nobody has explained. Grumble and get on with it is what happens in a physical factory but become really pissed-off and uncooperative is the remote worker's likely response.

It is easier for important gaps in people's knowledge to lurk or develop unnoticed when working remotely. In some situations it might be necessary to have formal procedures for assessing technical skills which would simply be observed ftf or not occur because it is easier to ask for guidance face-to-face. When the 'managers' don't know what's going on on the shop floor (this happens often enough in real factories - the opportunities for on-line attenuation of knowledge are much greater) there needs to be an 'upwards education process'.

For now we'll just observe:

- Knowing what the task is with reasonable precision and enough background to fill in the gaps is vital.
- The internet is at a disadvantage when compared with face-to-face.
- Those giving instructions may not be in the best position to plan work...
- ...connecting with those that are improves everybody's efficiency and satisfaction.
- Disagreements on how to carry out work need to be resolved. This is more important in a remote situation where it is easier for people to sulk.
- There is more potential for managers to lose touch with what's happening at lower levels when working remotely.

And conclude

- We need simple 'Specify - Agree - Accept' protocols to initiate tasks...
- ...and prompt 'offer, accept, acknowledge' protocols for the results.
- Precision of specification can be relaxed when the context is mutually understood.
- (Again) When dissatisfaction occurs we need to
 - find out about it very quickly
 - channel it away or around the group (initially) to avoid a cascade of bad patching of relationships or blunt policy alterations.
- Knowledge, suggestions and warnings can 'bubble-up'...
...but when that doesn't work or isn't suitable then there needs to be alternative methods to deal with policy issues.

3 Introduction to Treems

When deciding upon an organisational structure for groups that never meet face to face we need to take into account the social psychology of group working under conditions of restricted communications.

- The crucial objectives are team loyalty and efficient group interaction.
- The crucial restriction is the difficulty in getting to know people at a distance.

Immediately we can see that a large group, in the style of a committee where everyone has their say, is not going to be very effective because the participants can't get to know each other properly in order to allocate and monitor tasks together in the way that a small group could. Also, by the nature of committees, an individual's goals tend to be removed from the group's as a whole which weakens loyalty and determined effort.

At present there are two variations of this 'flat' scheme being used over the Internet:

- Traditional 'everyone have their say' media such as forums, Usenet, and ad-hoc volunteer efforts.

- 'Net meetings' based on ftf organisational structures and principles

These are good for opinions and suggestions but hopeless for good decision-making and team-building.

Treems

Ask any teacher or coach what is the ideal number of people to put together to work on an exercise and you will always get the answer "Three". What happens if we use this as the basis for our new organisation structure?

- Members have only two close colleagues to get to know.
- Whatever members do will never be insignificant.
- A member's goals will be recognised and understood by the team...
- ...and the team's goals will be clear to the members - who develop them.

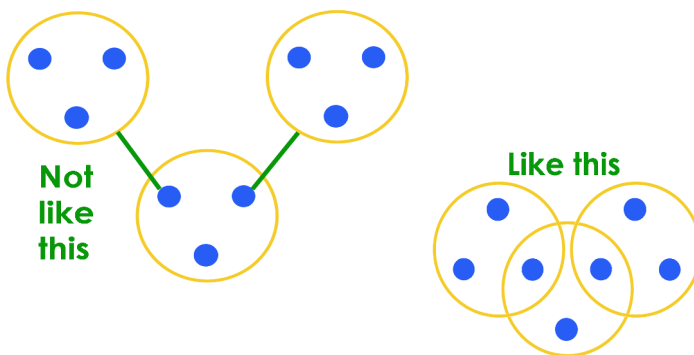
These develop team loyalty from member to team and team to member.

So far we have a tight-knit group that understands what it is trying to do and is able to share out tasks effectively by knowing what each person can contribute. The effects of group psychology are working strongly in our favour.

Continuing by combining these groups of three into a tree structure:

- A team of three reports to a leader who is one-of-three at the next higher level. The corollary is that each person in a team might have up to two subordinates.
- The goals, functions and responsibilities of the whole organisation are divided then divided again and so on for each level.

At the 'leaf' level a person would need to know their colleague and team leader (Total 2). At higher levels a person would need to know their two colleagues and their subordinate team as a boss. (Total 4).



It should be obvious that we're building a close-knit family where 'who does what' is going to be clear; but more importantly 'what we're about' and 'what part I play' is absolutely clear to the members. These are the ingredients for responsibility and loyalty and the rich soil in which individuals can grow to reach their potential - with more group benefits.

To summarise:

A tree of teams of three (treems) is a logical result of recognising the difficulty of getting to know colleagues in rew. The resulting society deals with other issues that have been worrying networking pioneers - in particular loyalty and effective effort on behalf of the organisation.

Follow-up notes

In the next chapter we will see that any organisation can be split into three 'branches'

- 1 Those that create the product
- 2 Those that support the creators and administer the whole group
- 3 Those that face outwards

This division is an obvious cue for a top-level team.

The theory of organisational psychology is littered with work studies and it is possible to read between the lines to justify some of the above. However it is probably better for each reader to put themselves in the position of leading a rew organisation of a couple

of dozen people and ask whether it would be better to manage by using

- (a) ad-hoc email,
- (b) wiki and forum,
- (c) treems.

(If the purpose of the organisation is to have a mass of silent supporters and a couple of controlling activists then there's no point in (c).)

A tight-knit treem organisation structure is intrinsically resistant to minority-group-hijack; a lot of treems would need their team-ethos overturning and by the nature of an intimate 'band of brothers' they're not likely to be diverted from their original goals in a hurry. Furthermore they have the confidence to collectively stand up to diktat from on-high.

A possible criticism of this structure is the many layers that could develop so making communications difficult. 9 people all doing the same thing would be in three teams with another team of 3 'supervisors' and that team would have a boss. That's three levels (or two interfaces) for 9 'workers'.

- Firstly, there's no rule that says communications can't cross the whole organisation. (Although for formal communications there may need to some protocol.)
- Secondly the people who want instant communications up and down the organisation are higher management who feel they must have their fingers on the pulse and are completely in control by issuing edicts. Hmmm. Treems are about delegation and empowerment. Control is by leadership filtering through the organisation - in all directions : Down, up and around. ("I've been talking to marketing and they say we really need to get our new model out before ... ") This comes easily to people with a purpose, although there are issues about how to find the right person or responsible treem which will be addressed later.

The treems organisational structure is concerned with operation and daily management and localised decision-making. This does not cover all policy matters for which a separate layer of organisation is be required. See chapter 5. For example if an organisation is reaching the end of one project it will be looking ahead for another to get started with. It might be appropriate for all members to make suggestions, then to elect a board to make a shortlist and supervise a

vote of all members. In any event the top-level policy-making process and policy-oversight is unlikely to be founded on treems.

4 Three branches

Different types of personality have different comfort zones in an organisation and different motivational and social factors. This can simply be broken down into three:

Left branch	Middle branch	Right branch
Creating and developing	Servicing the organisation	Outward-facing

Most organisations can be split into these three branches⁵. What's just happened is that we've mapped 'personality' directly onto 'organisation location'. How cool is that!

For example creative people, whether engineers or actors are motivated by challenges that give them an opportunity to stretch their skills. The motivations in the Middle and Right branches are different.

This three-branch model is used at the top level of a treem-based organisation. There are important management and staff development implications - the most obvious one being : "Match people to the branch that suits their nature if you want them to be happy, motivated and productive."

Three branches of an organisation

Let us divide a hypothetical organisation into three segments:

- Left Creating and developing. This is where the 'product' gets made.
- Middle Servicing the organisation. Administration and technical support.

⁵Some 'service' organisations will combine Left and Right branches.

Right Outward-facing. Acquiring business and servicing customers.

The terms 'Left', 'Middle' and 'Right' are used as convenient shorthand.

The reader might want to apply this model to situations they are familiar with and notice how in all cases each branch requires a different outlook. The chef might be a wizard in the kitchen but have the manners of a pig and a reckless attitude to money. The maitre d's finely tuned combination of arrogance and obsequiousness is not so useful for emptying the rubbish. The bookkeeper sticks to a precise routine which doesn't involve late nights or negotiating with suppliers or 'demanding changes'.

It should be obvious that some personalities are going to fit better in one or the three branches than the others. Furthermore we can confidently predict there will be trouble when 'round pegs' are put into 'square holes' and there's no way round this underlying mismatch of approaches when we're limited in options for dealing with it remotely.

The following table shows a further level of detail.

Left branch	Middle branch	Right branch
Creating and developing	Servicing the organisation	Outward-facing
<ul style="list-style-type: none"> • Direction • Production 	<ul style="list-style-type: none"> • General administration • Technical support 	<ul style="list-style-type: none"> • Getting business • Servicing customers

This second level breakdown gives us a better guide to recruiting the right people. For example while everyone in the Right branch will be happy talking to customers, and being on a trade stand, the business-getters will get a buzz from meeting targets and closing sales whereas customer-servicers will get their buzz from helping the customer to achieve the customer's goals. Many people would recognise the following stereotype

Customer : I have a problem with your product

- Servicer : Problem! Lets try and fix it

- Salesman : Opportunity! How can we sell them something different.

The roles in the middle branch can be categorised into those where very specific skills and experience is required - for example change control, software librarian, lawyer; and those of a more general nature - bookkeeping, answering the phone, typing minutes. Clearly this split isn't *particularly* based on personality but specific abilities. We might reasonably expect an accountant to be able to join the organisation and 'get up to speed' almost immediately. However there is a separate classification that we need to be aware of which *is* absolutely based on personality: Degree to which a person takes responsibility and copes with new situations. For simplicity let's call this "confidence". There is nothing wrong with somebody who, by general agreement, does so-much and only so-much and won't go beyond their limits of comfort to take new responsibilities or deal with new situations. There are a lot of people who buckle under the slightest pressure, and especially with remote working they can feel vulnerable through isolation. Generally we don't expect these people to take on technically demanding roles. (To be fair there are some people who's self-confidence blooms when they are in their technical world.)⁶

- The more 'professional' jobs tend to require *general* confidence and responsibility for decisions.
- The more technical jobs tend to require *specific* confidence and responsibility for decisions.

The left branch is home to a diverse range of personalities. The split shown is based on those that have a vision then get things started, and those that turn ideas into finished results. The more authoritarian organisations will have less overlap than a more 'democratic' one. Direction requires a degree of abstract thought and of course leadership, while people who are 'practical' or don't want to get involved with the messy business of management will tend to be ideal for 'working at the bench'.⁷

⁶On the other hand, bureaucracies are infested with people who are allowed to get away with not having to deliver anything specific or of proven value.

⁷The leadership aspects of Direction are related only to the left branch and product development. Overall organisational management and leadership is a separate

matter dealt with in the next chapter.

Conclusion

- Each branch contains people who share a fundamental personality trait. This makes it easier for them to work together and to see themselves as a distinct team and 'special'.
- Each branch has different management issues; in particular recruiting methods and staff development.
- Each branch, and the sub-categorisations have different triggers for motivation and comfort.

5 Management layer

Introduction

Just like any organisation, one based on treems needs processes for management. The unconventional structure and ways of working create a necessity for a well designed management system to suit many small groups each with loyalty to their local objectives and at the same time commitment to the global operation that demands a quid-pro-quo of an input to higher level policy making.

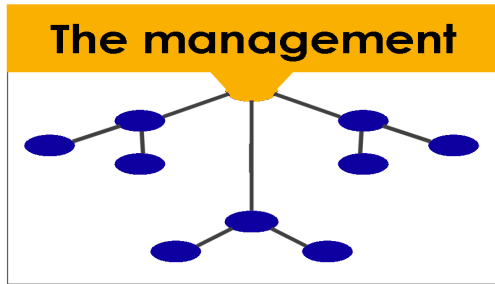
When people work remotely they need coaxing into doing useful things. Bullying is not an option. This is why treems are small - to enable group loyalty to quickly develop. However, even when people are enthusiastically engaged in their immediate group and personal objectives they may still develop dissatisfaction. For example:

- taking responsibility without getting any credit
- understanding how things work without being listened to by everyone else
- personal or policy reasons.

The important thing to recognise is that for the most part dealing with dissatisfaction is something that takes place in a different forum to getting on with the job. In ftf people moan in the pub, get their point across in the works canteen or make a formal complaint about inappropriate behaviour of colleagues to somebody 'outside' in the personnel department. These channels are not available when working remotely.

Management layer

Normally the term "Management layer" is used to describe a bunch of people who sit at the 'top' of an organisational tree. 'The bosses above and the workers underneath.' In a tree-based organisation we have the three branches (qv.) meeting at the top without any 'room' for anything above that. Hmmmm....



Instead it is much better to consider the "Management layer" as superimposed on the organisational structure. The most obvious reason is that many aspects of tree management are not top-down.

Before moving on it should be made clear that a highly-cooperative society shouldn't lead to an anarchic organisation. Also, as memorably illustrated by George Orwell's Animal Farm, there are dangers where 'equals' find themselves exploited and abused.

Management functions

One of the key principles of treems is that they have member-endorsed objectives. That is every member of the team is doing their bit (and possibly helping with the bits of others) to achieve their goals. In a small, close-knit community results are important and bickering is deadly. Within the tiny community of a treem personal abilities and circumstances are recognised and taken into account to adapt the group's resources to the workload.

As mentioned in the introduction above, dissatisfaction or potential causes for dissatisfaction seriously affect an individual's loyalty and productive enthusiasm. If the treem was the only channel for raising issues that cause or could cause dissatisfaction then the treem would be used for general bitching so causing bad feeling and for never-ending policy discussions. This isn't to say that treems shouldn't formulate policy or deal with personality issues - but that they shouldn't be relied on. 'Keeping things positive' is important when, as is the nature of life, a small amount of unpleasantness or uncertainty will swamp a much larger amount of praise and camaraderie and achievement.

Hence the importance, especially where remote working limits alternative channels, of "Bottom-up - or listening to the workers". (See below.)

Naturally all the parts of the organisation need to work together. A process of creating a plan then delegating parts then monitoring achievements requires a 'central plan' which is sliced-up into smaller and smaller segments as the plan spreads down the tree. This isn't earth-shattering or difficult to visualise but there are wrinkles to be taken into consideration in a treem-world.

See "Top down coordination - or here's the plan get on with it" below.

Treems are predicated on small, close-knit groups being able to share responsibilities and monitor their own performance. This is a fine way to work as a team together *provided* the group doesn't lead itself astray by chasing other interesting goals or get bogged down when it needs more resources or fresh methods. In a perfect world each group would be acutely sensitive to deviations from what it is hoping to deliver but more normally there are grey areas, forgotten issues and the temptation to follow lazy habits.

Because intra-group links are very tight (a treem in themselves in fact) *supervised* self-monitoring and reporting can happen

frequently without much overhead. See "Autonomy - or are we doing OK?" below.

The culture, values and general ethos of an organisation are extremely important when you are relying on people's enthusiasm, dedication and loyalty. (As opposed to having to clock-in and face the boss every morning.) One organisation might focus on serving a particular niche and emphasise training staff on each 'development cycle'. Another might concentrate on pushing the boundaries of particular technology in all sorts of application areas. Another might be a 'school for internationalisers' that takes on commissions for third parties. One might be intending to profit from sales of product, another by licencing intellectual property and another not-for-profit. Things like who gets the benefits and what are our core principles, direction and ways of working need to be clearly established as the foundation of the organisation but also malleable as times change and the organisation matures.

Big questions can generate the most hot-air! See "Direction - or what's the super-plan?" below.

Treem-specific management mechanisms overview

A quick look at how the issues alluded to above and discussed in detail below are dealt with.

The Grumbler

Technically this should be called the Grumblee - ie. a person who is grumbled-to. The object is to keep dissatisfaction out of group interactions while still dealing with it. The grumbler(-ee) performs the role of a bilge pump. This role calls for excellent listening skills, diplomacy and the knack of getting people's trust. Their whole-organisation knowledge should either enable them to explain the reason things are as they are, approach the right person or people in the organisation who can deal with the grumble or suggest a course of action.

Moots

A moot (as in moot point) is a policy discussion group.⁸ We want everyday work in treems to go along defined lines that everyone in the group has 'signed-up-to'. Once the group is agreed on say 'objectives for the next two weeks' then normally everyone gets on with it. Dealing with external events is a legitimate cause for a stop and re-think but differences in opinion spell trouble. Moots may be called at any level with any participants, across the whole organisation to 'thrash out' an approach to some troublesome or tricky issue. Within a treem a member might call a moot in response to changed circumstances. Importantly the close connection of treems means that few issues will truly be kept within a single treem.

Constitution

This is the home of the core ethos, rights and responsibilities. It could be looked upon as the soul of the organisation. There is a lot of experimentation and learning to be done in this area - not only are there a host of legal issues but many different types of organisation each with it's own scope of activities, purpose and specific actual and potential situations. Just to take one example: Intellectual property is likely to be important in many organisations. How is it recorded, owned and rewarded - today and in ten years time?

Champions

Each branch needs a champion. Their role is to:

- obtain central resources to allow their branch to fulfil its promises,
- be knowledgeable about all aspects of the branch in order to tune the working including reorganising the arrangement of treems, hiring and firing, rewards, promotion and accolades.
- set the general pace (often steadying the hotheads) and maintain focus on agreed objectives.

Chiefs

While the champion has responsibility for the organisation (that is the means of production) the chiefs have technical responsibility for quality and quantity of results. So for example the finance chief may

⁸ Moot is an old English word for meeting - We still have Moot halls where these took place.

ask the Middle branch champion for an extra member of staff to cope with the work, or the finance chief might ask the chief of sales for more accurate forecasts and the Right branch champion to investigate whether the people in the sales team are suited to the job.

Chiefs drive production.

Champions maintain the means of production.

Treems themselves have formal and informal self-management mechanisms.

Bottom-up

Listening to the workers

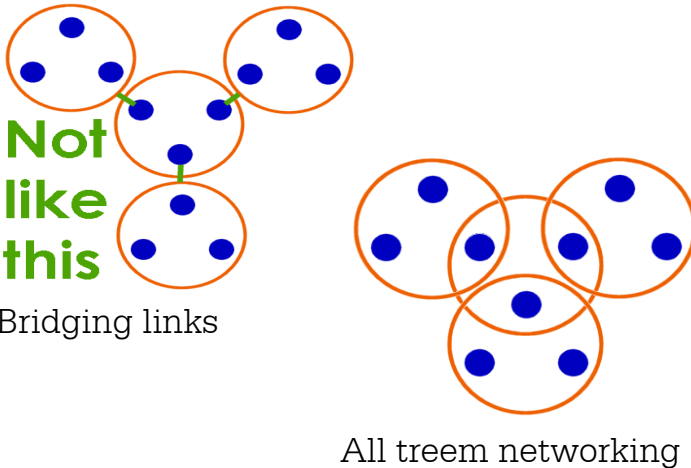
- We've established why this is important from a keeping people happy point of view and implemented a 'Grumbler' to handle concerns of this nature. The Grumbler has to be seen as honest and fair, a good listener and able to differentiate between promising to follow up the issue elsewhere if required and promising to solve the problem in a trice.
- Then there's the important issue of making sure people with specialist knowledge and long experience are able to influence decision-making 'higher up'. There are two channels for this:
- Bubbling up through the treem tree
- Moots.
- Champions should be keeping their finger on how individuals are fitting-in. They should be actively monitoring treems and developing the skills, knowledge and maturity of outlook of the members. In some ways asking people how things are and are they ready for increased responsibility or a different slant on their work should be pre-empting the Grumbler.

Top down coordination

Here's the plan get on with it

Where jobs are episodic and new goals are set from time to time a treem 'receives its orders', digests them, allocates aspects to members and repeats the process if there are any sub-treems. This is a fairly traditional method of plans percolating down the organisation tree. However there are two key aspects which need special attention when working remotely:

- Firstly, because of the narrow bandwidth available for the process of delegation we need to be more careful that all parties understand and agree what's being requested. *This is why everything happens in treems.* There is never a command delegation situation where somebody says "my treem is delegating X to your treem". This is because the links between are not 'bridges' but 'shared people' who are members of both treems at the same time. These people are called "Pins".



- Secondly, there has to be scope for negotiation. Remember that there may be specialists working in an outlier treem that nobody else really understands. For example a test treem needs specifications, harnesses, samples and agreed testing protocols long before products are thrown at them but this might easily happen with unrealistic demands being placed on the test treem because nobody properly understood them when they said they needed certain resources first. (One would have hoped that someone in the neglected test treem would have seen this coming and either raised a Moot or contacted the Grumbler.) Once again the treem structure means negotiation isn't 'us-and-them' but just 'us'.

Routine jobs tend to involve many tiny tasks which will typically *bridge* between treems. For example "here is my weekly timesheet" might bridge from any treem to the accounts treem. It is normal for most of these communications and requests to flow smoothly in the

normal course of events, however this may not always be the case. For example timesheets may be submitted to accounts that are not legible or complete. At this point there is no way for the accounts treem to bang the table and call on the bosses of the offending treems to get their act together. One would hope that in this case reason and a cooperative spirit would prevail, but suppose the accounts department were understaffed and not processing timesheets as quickly as they should - Now actual management action is required to 'do something'. This is where the Chiefs who are involved with the workflow and the Champions who are involved with the resources need to get together.⁹ When the problem-solving has been done and actions decided upon, the results can be passed to the relevant treems for them to take whatever local action is required.

Monitoring

Monitoring by planned reporting and ad-hoc audit is typically arranged to feed situation information 'back up the chain of command'. At first sight this seems simple enough but there are wrinkles.

- As far as a *Chief* is concerned, they want to measure production and get a feel for issues relating to it such as actual and anticipated delays. That's sort-of fine but if they have a sudden urge to find out then who do they call? For example a bottom-layer treem might be responsible for getting the gonkulator ready with a higher-layer treem responsible for using it. A call to the lower level might reveal things are running a week late but a call to the higher level may reveal the fact that they can't use it for another week anyway so the lower treem, although technically late, is using its resources wisely by holding back until the higher team can receive it. On top of the confusion straight and comprehensive answers can cause in this example we also have the possibility of getting partial answers from any one of five individuals because they know a bit but not all the story. The way of dealing with this is to make the link-person between treems (ie the Pin) the one responsible for reporting. This way they are in

⁹ I am not sure if this is really a cause for a Moot – that's more for developing policy than specific problem solving. Perhaps this is simply a boring old management conference.

a position to obtain the facts as part of the lower treem and the context as being part of the higher treem.

- As far as *Champions* are concerned, they want to know how each part of the organisation is coping, whether it is suitably trained and where improvements could be made. This is a more general style of observation with many sources of information. A chief might report generally unsatisfactory performance or the champion might be getting tip-offs from the Grumbler, or a Moot might suggest where and why improvements could be made. Just as the chief engineer of a factory patrols their patch looking for leaks, funny noises, dangerous and inconvenient practice; and just as they dream of the day when a troublesome unit can be replaced by a modern version so a Champion will be coaxing the best out of their human assets.

Autonomy

Are we doing OK?

By far the most important monitoring should be happening by self-regulation within treems. Whilst there will be grey areas surrounding who sets which goals there should be no doubt about who has the responsibility for trying to achieve them. Obviously this depends on having clear goals but these may or may not exist and anyway could conflict with each other. For example suppose a treem is trying to provide 24 hour-a-day cover with limited manpower. Should they arrange shifts amongst themselves to put the least experienced person on during the quietest period? Sounds like a good idea... But there are also drawbacks: Internal (lack of variety means lack of learning opportunities) and external (not much goes wrong at 2am but when it does it can easily escalate).

This means that treems have to be aware of how they are 'performing' at both production and personal goals and internal and external goals. This is part of what being a treem-member is all about: Collective endeavour and responsibility for what is done and how it is done. Some consensual judgement on issues with no definite answer is absolutely essential. Treem members should have as much latitude as possible when deciding how they will approach their tasks. Often they will be the experts - although that doesn't guarantee their methods are the best. (This is something that both

Champions and Chiefs will be interested in supervising: Our example support staff may decide amongst themselves to use the 'watch' system as used on board ship as the shift rota. Possibly Alfred and Bert prefer six days of 7-hour shifts a week while Carol and Doreen do four and a half days each week of 10-hour shifts. This may not be legal or there may be other complications, but we shouldn't expect Alfred, Bert, Carol and Doreen to know that - *not initially.*)

Documents

Treem-based documents are needed to give a backbone for the flesh of team cooperation and camaraderie.

- Treems ought to have their own Quality Goals, basically a manifesto of *what matters and why*, as a framework against which to judge their effectiveness. This is a general policy guide which may not be very dynamic but describes the purpose of the treem and why its work is valuable.
- A live list of tasks or projects where work is episodic. ie Basic project management.
- A diary of work delivered whether as general activity or unit delivery. For example "signed-off Gonkulator (at last)" or "40 timesheets entered and checked (system very slow)". Note the comments in brackets. These are hints for supervising chiefs or champions. Such hints are useful when working remotely as there aren't the opportunities for casual chat that exist in a face-to-face world.
- A notes, questions and answers, apologies and status forum for general small bits of information *within* the treem. eg. "I shall be on holiday until the 12th" or "Any ideas how to configure the router to add the new server?" Remember that remote workers will often be separated in time as well as space.

(We can also imagine many treems developing their own knowledge base and procedure guides but that's more general 'section' self-documentation applicable to any group in any organisation.)

Targets and yardsticks

Targets misused are horribly distorting, divisive and abused. However used in the right way for the right things they help everybody pace themselves and focus on concrete results. Also they inform the cooperation between treems - for example "You can have it first thing on Friday".

There are various ways a treem can measure itself. By esteem and fun they have together or more prosaically 'job satisfaction' is a valid quality goal but difficult to measure. Production related targets of a statistical nature (78% success rate) are better referred to as *yardsticks*. Obviously better than hoped-for is something that people can be pleased with. A *milestone* or target-event is a better time-related term. I expect most readers will have come across situations where something was shipped out 'on time' but still full of defects that would cost a great deal more later, but as the 'on-time' bit was definite and the 'undiscovered faults' that everyone knew were lurking or couldn't be measured the rubbish went out of the door to a chorus of "well done". Dealing with this well know issue in treem-structured organisation is tricky because a treem may have very determined views on what it has committed to do. This could lead to a refusal to release some component until the bugs had been properly dealt with causing embarrassing delay elsewhere. When a treem has invested a lot of effort into doing something really well they don't take kindly to somebody telling them "Oh that'll do". (On the other hand some line has to be drawn otherwise perfectionists would never release their work.)

This is where the difficult to quantify issues need to be dealt with as early on as possible. Helpfully the treem structure connected by shared people means that differing views on what's right aren't going to be very different *up and down* the tree. However *across* the tree, where say the right branch are desperate to show some samples but the left branch doesn't think it has anything good enough yet (both sides being fiercely loyal to their point of view) can exhibit a huge gulf in expectation and understanding. Fortunately most of these major differences in outlook can be anticipated by experienced management. Their job is to set a target-event that could cause a dispute as key objectives so that the treems affected can work out how to do that thing and commit to it so that the strains that arise when the cruel real world impinges on floods of good ideas are *kept within treems rather than set up between them*. In treem-world "Don't complain at us we gave you what you asked for! - If that

wasn't what you wanted then who's fault is that?" is the right way of dealing with mismatched expectations. A job of work was specified and accepted (target) and the target was met. Hoorah! Alternatively the thing produced might be twice the weight and cost as originally specified. "Sorry we're not accepting that! - Why did you let things get out of hand if you couldn't control these parameters?" The lesson from these examples is that cross-tree commitments need to be specified as in a contract. Up and down commitments are more likely to have a closely connected chain of people who shouldn't be letting serious discrepancies arise between the higher and lower treems.

Managing risk in a treem

Treems are very small which can make them vulnerable. In the last paragraph we had the example of a treem that had over-optimistically estimated its abilities to produce something to weight and cost specifications. There are plenty of huge organisations that make similar mistakes but one hopes that enough people recognise the problems before they get out of hand.¹⁰ When things go wrong in a treem there are two choices - either a small guilty conspiracy to pretend nothing is wrong or to 'fess-up'. The advantage that a treem has over say a large design office is that everybody should be intimately aware of the issues and spot potential problems at an early stage. Many potential problems can be solved using the treem's own resources (including its sub-treems) and dealing with the issue becomes a success to be proud of. However there are times when either the issue is a definite show-stopper or attempts to deal with the problem aren't successful. How is a small band of keen, hard-working, individuals going to deal with matters that are beyond their ability to solve? Badly I would say. . .

We can easily see how small groups may simply not have the necessary breadth of background or resources to do the job. "We keep being hampered by defective hardware" or "why didn't somebody tell us that this problem had already been solved - we were thinking 'physics' when we should have been thinking 'chemistry'".

¹⁰ One *hopes* so but is often sadly disappointed that nobody with influence blows the whistle on the Emperor's new clothes.

All-in-all, whilst treems may be good for knowing about a problem they may be far from ideal when it comes to solving them.

This leads us to some conclusions:

- Minimising potential problems by using a conservative approach and taking small steps towards increasing the treem's abilities and responsibilities.
- This philosophy of gentle advancement needs to be part of the organisation's ethos.
- The appropriate Champion may need to curb initial enthusiasm in order to avoid tears later.
- One resource in ever-short supply and easy to underestimate is time. The conservative principle should explicitly apply here. Spare time can always be put to good use in a cooperative environment.
- Every treem needs to learn how to evaluate risks and be happy to refuse the job or demand that risk-cushioning support will be available if needed.
- Early reporting on the 'stitch-in-time-saves-nine' principle.
- In 'Documents' above we introduced a diary with comments in brackets. It is this sort of early warning - factual concerns and early signs of worry - that can be surfaced by percolation up the treem tree or spotted by the Champion or responsible Chief.
- Treems in trouble need an external influence to remove the pressure from them whether they ask for help or not. Nothing is gained, and a lot is lost, by letting isolated individuals lose sleep over 'their' problems. If there is something they can do about it then show them how to do it - if not then take it away from them.
- Who does this? It depends on the situation. It might be Mootworthy. It is fair to say that if the next-higher treem can't crack the issue the Chief and Champion should get involved.

Direction

What's the super-plan?

Leadership

Youthful organisations have a habit of crumbling into factions and going-off at tangents. Established organisations settle down to early retirement. *Leadership* is required to counter these tendencies.

Treems are very much about leadership and followship. Many people will be both leaders and followers. Being the nominal leader of three or four people is much easier than five or ten.

Leadership comes from people knowing what they want to do and being able to convince colleagues and others how your plan makes sense. A treem leading its child treems and so on. But what happens at the top? Where does the topmost treem get its 'knowing what to do' from?

- Experience
- 'Instructions from the board'

Board? What board?

Policy discussion and decision making

A Moot is where policy issues are discussed. The exact constitution of each moot depends on circumstances. Some moots might be one-off dealing with specific matters while others may exist as long-lived committees.

In *any* scheme of governance there are always the two overlapping concerns: Deciding on policy and implementing it. For an organisation that operates remotely we need ways to encourage people to 'belong'. They should already feel a strong sense of belonging to their treems but a large organisation can seem remote, or worse 'an annoyance for the treem - nobody understands us.' Having a 'democratic' constitution may not be quite so important as having a say in certain limited areas of policy that matter, and are different, to each individual. This is where 'moot of the month - this month's subject is ... all welcome' or similar focussed moots can generate useful strategies. Remember that there is a lot of expertise and experience contained in the whole workforce and that asset should be exploited.

There is an important difference between 'deciding on a policy' and 'deciding how to implement a policy'. For example "improve training" is a policy with many options for implementation which need deciding upon. In general I would expect each moot to decide which of these roles it was going to take as the participants, preparation and scope will all be different.

At the highest level we might see an oversight moot meeting regularly but delegating most of the practical implementation details to the top-level treem of Chiefs. We can also see how the Champions would also need to be involved.

Conclusion

Any organisation that works remotely needs to pay special attention to the way in which individuals interact. *Champions* are responsible for building and maintaining the network of happy workers. Champions should be specialists in their particular branch which implies there should be three of them. Chiefs are responsible for getting results of suitable quality and quantity. The "Chief of sales" is leader of the sales-force responsible for making sales. (Whereas the Right-branch Champion is responsible for recruiting and training the sales force.)

Two mechanisms, the Grumbler and Moots, are provided for people to express their dissatisfaction and policy ideas without getting in the way of getting the daily job done. Worries about work can be exposed at an early stage through the diary.

Steps are taken to minimise the occurrence and consequences of a treem failing to deliver what it 'contracted to'. This is important because treems are so small they have little resilience and may be very limited for experience and ideas.

Close connections between treems up and down the structure mean that there are unlikely to be serious fractures in the understanding of who is doing what and the context in which local decisions are made. However this doesn't apply across the organisation where agreed specifications and shared policies are required. As well as obvious clarity this means that failures can be isolated within one or both contracting treems so something can be done about it.

Overall direction needs to derive from some policy-making oversight group. Policy implementation may be done via an executive committee or immediately by the top-level treem.

6 Managing by wire

This chapter looks at how new organisations have to try harder in certain aspects in order to address the difficulties caused by lack of face-to-face contact.

Let's start by looking at how groups in general work:

- All groups need management
 - A group of more than a small handful needs structured management
 - Management in the sense of *directing operations* is top-down...
 - ...But people who work together need to manage in the sense of *coordinate their activities* by mutual understanding or possibly 'rules'.
 - Management in the sense of *dealing with issues* is a matter of finding a suitable place in the organisation to make a decision - possibly using some protocol.
 - Top-level managers may have to report to others including group members.
 - Some degree of responsibility, trust and understanding is required between group members.
 - Reliability and quality of work require discipline and monitoring.
 - Performance requires the right skills and knowledge, having suitable tools and being able to call for assistance or clarification when problems arise
 - Normally tasks need to be shared to greater or lesser extent.
- To be able to 'trade' competencies and resources amongst members needs an appreciation of roles and abilities.
- Individuals need to manage in the sense of *coping with* their contacts with the rest of the group.
 - No group can afford freeloaders or delayers. Some degree of active participation is expected! It often happens that when people decide to join they have a different expectation of their commitment from the group as a whole.
 - Groups need collective goals which individuals need to 'buy into'.
 - Social effects can make a big difference to the operation of a group. Some individuals may stand-out as leaders, disrupters, role-models, mentors or weasels by the way in which they

interact with the group. Their personalities and interaction-style affect the way in which the group reacts to their actions.

- Authority is a tricky issue. Who is empowered to 'speak for the group' in any situation is not usually precisely clear. Responsible attitudes to delegation and acceptance of authority and a chain are required. Authority includes access rights to information, resources, confidential information and so on.

There are some issues that may affect some groups:

- Where payment is involved
- using a basis of work done can lead to quality sacrificed at the expense of quality. Also a lot of creative work is only vaguely specified with unknowns and 'good ideas' and experiments required to complete. This can cause problems (between parties) when early estimates of effort need to be revised.
- using time spent or some flat rate depends a lot on trust and offers opportunities for abuse. There's no guarantee of quality or quantity (There may be nothing tangible to measure anyway such as 'being on-call from 10pm to 2am'.)
- Where private resources are used for the group's benefit. The 'rules' for allowable and acceptable expenses need to be understood by all parties.
- The ownership and proper use of assets, both tangible and intangible, both group and individual, needs to be understood in some cases with specific 'rules' but mostly with an 'accepted-use' culture.
- There may be collective decision-making at the group or sub-group levels. As well as ensuring that all the appropriate people have appropriate access to the process there might also be issues of 'fairness'.
- Mutual groups (clubs, societies, campaigns etc.) rely on large amounts of goodwill, handed-down experience and close involvement of a few main partners.
- Federated groups (local branches of national organisations for example) have issues with governance. When is a branch autonomous and when does it have to comply with head-office diktat? (It is interesting to observe the differences between local branches in ftf. This is beyond the scope of this article, but we need to note the large degree of variation between groups set up the same way and with the same objectives.)

Before we look at rew in particular we should remind ourselves about the differences between ftf and purely electronic interaction. Here we're into the realm of psychology where fortunately most of us are able to recall or imagine applicable situations. The traditional internet technologies are being enhanced with experiments and publicly available offerings. We'll look at this aspect in more detail later, but for now I'll only refer to generic common tools.

Message will be used to mean a one-way communication whereas *interaction* will be used for near real-time 'conversation'. 'Team' or 'group' will be used in the vaguest - all encompassing terms possible. They could refer to immediate colleagues or the whole organisation or both at the same time.

Identity

'You know Mary and she knows you'

Ftf names are tags for 'people we know when we see them'. We don't need to know their name to recognise them again, the tag is just a helpful label for finding them in a phone book or identifying them to somebody else and a matter of politeness when addressing the person directly. Often in rew the *only* thing we know about somebody is this name. As most people value the contents of the bottle more than the label, so straight away we have a situation where rew is missing an essential facet of ftf. Rew user names are Worse - what does a bottle labeled 'splotto' contain - we haven't a clue - we don't know whether we should be putting it on our lunch or in the washing machine. In ftf "Norma" tells us more than "NJONES" or "little bear". Also, why would somebody we're supposed to be trusting be giving us a false name?

- A picture may help us with stereotyping (qv.)
- We are used to seeing moving pictures and recorded speech in broadcast messages. The recognition factor can be enhanced by mannerisms and styles of presentation.
- Interaction with speech as on the telephone doesn't tell us a great deal about the identity of the person on the other end but it does tell us a bit about their characteristics, how they interact, what sort of effort they're prepared to put into the conversation and how good they are at communicating.

- Interaction with live pictures and speech 'make the other person more real'. A video-phone assures us that we are being attended to, whether they are reacting thoughtfully, sullenly or simply waiting politely for you to finish.

An exercise for the reader : List what you might discover about a book author from (a) Name, (b) Photo and cover blurb, (c) Radio interview, (d) TV interview in studio, (e) TV interview in a location of their choice (f) a phone call (g) attending a literary festival (h) reading their books.

Identification

(with the group)

Becoming a valued member of a team is something that takes time, but an interim substitute (good for other things as well) is pride in being a member. Everyone has "my tribe is the best" built-in. (Many have "my tribe needs me" as well.) In ftf tribal bonds are built just by being together, doing things together, suffering the same bullying from the boss and doing little things to help each other out.

Repetition builds confidence. Distinguishing dress, behaviour or shared folklore enhance the specialness and cultural preciousness of the tribe. All this builds an incredibly important quality, even more so in rew, of loyalty.

Once again rew is at a major disadvantage as the scope for tribe-building activities is severely limited. Giving everybody a tee-shirt or club tie doesn't work because there's nobody to see you wearing it and nobody who'll recognise what it is if you walk out in the street. In rew there's only one person who'll recognise your special badge of belonging and that's you.

However it is possible in rew to display some cult-cred to your fellows and that's by lacing your messages with 'team-talk' and style.

Perhaps emails start having numbered paragraphs, or get peppered with TLAs. That's rather subtle though and tends to be used to tweak 'gravitas level'. Much better is a preamble of 're-knowing'.

"Hello Peter, Paul and Mary. I heard from Janet the other day to tell me that she and John are having a lovely time in the Dordogne. Now about the..." is the best we can do with a message and we soon run out of real titbits. An interaction on the phone can be much richer.

"You sound like you've got a bit of a cold there Robert" while vision

add more opportunities from "I like your hair" to "Goodness it looks like a gale outside where you are".

Remember, as the objective is that important thing called loyalty, we need to work at this and build a culture of communication that has plenty of 're-knowing' in it. A team that spends time trying to out-do each other with stick-on moustaches over the video-phone will be a more cohesive social unit than one with corporate mouse-mats and prizes for working long hours. In an age where the appeal of magic-wand technical solutions obscures the deeper requirement for social interchange.

To be successful in the rew we must build a culture of communication that has plenty of 're-knowing' in it.

- Video interaction gives many more opportunities for 're-knowing' than the phone. Email can degenerate into pass-it-on 'funny' attachments which are not really specific to this team. Blogs and micro-blogging are probably not very useful here either.¹¹
- Finding out who laughs at the same jokes as you do or what jokes the members like is a good touchstone. In rew messages are far inferior to communications. We really need to see the facial reactions to *share* the joke.

An exercise for the reader: (a) Compare how "It's my birthday today" or "Sorry if I'm distracted today - It's first night of our pantomime tonight." would/could operate in ftf and various rew media. What's the effort and effect? (b) How is a ftf meeting where everybody sits with their backs to each other different from a normal ftf meeting?¹²

¹¹"Stop blathering-on and do some real work!"

¹²Try it!

Stereotyping

This is something we do all the time when first meeting people or hearing stories about them. It may be a lazy shortcut but it is programmed into us. As well as human qualities such as body shape and stature, age and facial interest we make instant judgements about rank.

So does this serve any useful purpose in ftf or rew? I suggest that the *traits* mentioned above are not of much importance in rew but first impressions and convenient generic ways to classify people in a large group are. Instead of instantly pre-judging someone by their physical appearance we look at their on-line presence. The second reason given, that of having *something* to go on when approaching strangers in the organisation poses a problem: What characteristics are generic enough but useful without being too complicated. For example something along the lines of age/experience/time served would help you avoid asking a trainee in the accounts department a rather complicated question. (In ftf it is a lot easier to wander into a department and say "who should I ask about such and such" than in rew.)

An exercise for the reader : (a) list traits that might possibly useful as a shorthand for qualifications, experience, rank, role and so on. (b) What sort of scale or options are applicable (c) How does this work out in practice to groups that you know. (d) Are there common traits that would translate from say the canoe club to the board of directors of a company?

- Suppose we have a handful of universal traits, we now have the task of representing them in an instantly recognisable form. For example we might have a picture with size representing experience and shape representing management position and colour using R-G-B for Productive, Administrative and Outward facing proportions of somebody's role. So a trainee programmer-cum-tech support person would be a "small-red/blue-blob" while the new sales director would be a "small-blue-star". Well, you get the idea. Straight away when looking at the sales director we know she hasn't been in the job very long. We also know, because her star is pure blue that she's not involved in anything productive or administrative. On the other hand her deputy might be an administrator with lots of technical knowledge who has been around for a long time -

"Big silver square". Now by looking at the stereotypes we can pick either the person who knows how to get something shipped quickly or the person who can soft-soap the customer to explain the delay. In fact we wouldn't have this information from stereotype but we may have picked it up by meeting them in the canteen or gossip amongst the secretaries.

Establishing rank

Something else we do a lot when working with others is checking rank, and advertising our own credentials when possible. It's really useful to be able to accept a new task from a superior but brush-off someone with no authority who wants you to drop everything just for them. This works best when there is some flexibility and flexibility comes from knowledge and trust. In reality it can be difficult to get to know and trust people you work with so perhaps the certainties or illusion of authority given by clear designations of rank could be useful.

I would rather not use rank because rank is based on the power to give orders which is vastly attenuated in reality. Although stinging rebukes and threats can be made by email or over the phone if they encourage resentment the whole basis of reality collapses as it depends on loyal service. Sullen obedience might work in fact but in reality it turns to sabotage.

Instead let's focus on loyalty and use 'loyalty to ...' as our guide. This has wide implications not least because 'loyalty to my own agenda' is a powerful guide as to what to do. (Part of belonging to the tribe is adapting one's own views to conform with the group's needs.) We are now in a position to assess requests for *the group's* resources (which includes yourself). This works exactly in reverse: When I ask you to write 200 words for the newsletter I'm not really asking it as a personal favour (although that's how it is often seen especially in fact) but 'on behalf of the propaganda section' - and unspoken but understood - 'which is a big group because what we do is so valuable to the whole organisation so just get on with it and there won't be any trouble'. Now you might not be best pleased about my demand for newsletter copy but it isn't *you* that's in the firing line but *your group* and your group can't very well go off in a huff. But they can negotiate or refuse group-to-group. In practice this might mean your boss says "Look I know you're busy but just rattle off something and

I'll finish it off'. Now you're performing a useful service for your group, and my group and the whole organisation.

Group size is important. At the highest level the overall aims of the organisation should be clear and at the lowest level there are an individual's reasons for working. In between there may be a number of levels of loyalty and official hierarchy of command but the further away from an individual these bosses are the more what they demand has to be taken with some scepticism. In ftf it is fairly easy for higher-up bosses to become known and trusted (or not) to the lowest worker if they so wish. In rew this is much more difficult.

- A model for rew groups is to keep the number of immediate colleagues to a workable minimum. A small group is easier to lead and more of a family unit. Importantly every person keeps in close contact with only a few people, as opposed to being in superficial contact with lots. There are still cross-organisation contacts where 'trades' are done, but communication with, and loyalty to, your mates is the first priority. Now each individual is a significant part of a well focussed team.
- Groups can be larger too. If someone is at say the 2nd level down from the top then they would naturally expect to boss 'their' 3rd level sub-colleagues. But they wouldn't normally be bossing 4th levellers. The reason for this was discussed above : The 4th level group priorities are set by the group led by the 3rd level boss. Whilst it may be in order for the 2nd level boss to pass information down to the 4th level, interfering commands could be disruptive.
- This pattern of having to command one level at a time also helps to stop rogue agendas taking over which is an important consideration when 'feelings' and scorn and resentment are difficult to get across in rew. In ftf the factory canteen or corridor can be used to quickly mobilise social forces against disruptive elements - or to spread rumour and discontent.

An exercise for the reader : (a) Look at an organisation and see if you can establish a hierarchy of 'who calls the shots'. In big institutions there will be more than one - for example all the programmers might be "programmers" but some will command more respect than others. (b) Now see if you can discover the way the informal pecking-order is maintained. What forms of communication are most important. (c)

How would you go about say getting all departments to paint their doors red? (d) What is the smallest group to which you belong. How would its team ethos be threatened by having to operate in a rew?

Advertising

Skills, resources, knowledge, and willingness to collaborate

Communication within the organisation.

It's all very well being a polymath, skilled neurosurgeon and part-time super-hero, but people in the organisation need to know these things in order to employ you. Who should somebody contact about a patent issue or maternity leave? In a small group where everybody knows everybody and there's only your group to do everything this sort of thing isn't much of an issue. In ftf it is fairly easy to ask a colleague where to start and they're likely to have absorbed such information over time. This can be done in literally 10 seconds whilst doing something else. In rew though the cost of discovering information through 'folklore' is much greater, and the quality of the folklore poorer, and so it pays to make the initial effort of advertising who you are and what you do.

- This could be done with a wiki.
- An exercise for the reader : (a) Sketch a standard template that groups or important roles in some organisation with which you're familiar could use as a start of an organisational wiki. (b) Is there a one-size-fits-all solution?
- Many people would rather ask a real person than search the most perfect wiki. This may be because computer systems are not noted for their excess of common sense, accuracy or local knowledge. Also they can't be questioned or held to account. "You want to see Margaret but she's at lunch just now - Tell her ...". This is an intensely social activity : 'Please introduce me to these strangers then they won't bite my head off 'cos you'll be vouching for me'. It might be desirable in rew to have people who are known as folklorists, matchmakers and can find ways to solve irritating organisational matters.

Although this is informal it might be worth calling the people who gather folklore "Conductors" in the sense of conducting knowledge around the organisation.¹³

Listening and watching

When listening to somebody talk in a ftf meeting there are pauses and emphasis that help us turn a stream of words into packets of information. The pause after "And now I'll move on to 2008" is a 'section heading' marking the end of the previous item and giving us a moment to parcel it up and possibly interrupt if there are loose ends.

The reason this is "listening" and not "talking" is that a group of people listen collectively. For example when a speaker says "Any questions about that?" even if there are none there will be some murmur or body language from the audience to fill in the pause. This helps everyone sign-up a little more to the collective group mindset - or alerts to fault lines. As social animals we are programmed to work together using 'agree', 'disagree', 'confused' or 'confident' cues. We can easily lose these in rew.

An exercise for the reader : Put a list of emotive choices such as a night out together, or name for a new project into a hat. Now at a group meeting under conditions of complete silence draw the names and get the participants to secretly give 'stars' preference to each. Now ask them to rate which they think is most/least popular with the group. (There's no bluffing here - just curiosity.)

For a rew listener it is difficult to indicate when silence is respectful anticipation rather than distracted indifference or confused shyness.

- While body language may show on a video-phone it needs to be tuned not to miss sighs etc. I cannot be the only one who finds digital voice channels confusing when it replaces the faint sounds of "I'm with you" with complete silence.
- There are cultural differences across the world on unwritten group etiquette and "I'm with you" signals. When rew organisations are not geographically compact these differences can hinder group integration and consensus building.

¹³"Gossip" is another term!

- Emoticons illustrate the need for "this is how I mean you to take my comment" and "ha ha I'm laughing with you" and so on.¹⁴

Writing and talking

As I sit here writing this I'm really talking to myself. When I re-read it I'm listening to myself speak to an audience. It's all quite perfect - I can break off to feed the cat - you can be reading this in the bath or the train - and none of us needs to get to somewhere for a certain time, be stuck in a room while things drag on or be nice to people.

OK?

At this point you may have felt like interrupting with something like "But there are drawbacks and not being able to interrupt is one of them". Of course you'd be right. Another problem is giving a ftf talk to a group that is completely unresponsive or sullenly hostile. I have to get your interest and keep it. This is nothing new - Rhetoric has been taught since the ancient Greeks. What we want to know here is how are the various methods of communication used by speakers and why are they important. (The reason I'm putting writing and speaking together is that there is a spectrum of media from 'books' to live video-casts with tutorials, screen-cases, shared whiteboards, conference calls and many variations in between.)

An exercise for the reader : Take any dramatic speech and recite it (a) in flat monotone (b) with verbal emphasis but no gestures (c) with verbal emphasis and body language, (d) as (b) or (c) but in front of an audience. What does this tell you about writing, telephoning, TV and two-way video as communications media?

- Some *messaging* rew methods are currently used with good results. For example demonstration videos and screen cast tutorials. Talking to-camera doesn't seem to be popular. One useful lesson from the availability of video is that the

¹⁴ Something to think about over a pint of beer is it possible that a definite language of non-verbal expression could evolve. (If it did it would need to be cross-media - How would you say ":-)" on the phone?)

technology needs to be universally available to the intended audience.

- Live *rew communication* methods require everyone to be hooked up to the same system. For example everybody needs to have Skype VOIP to join a Skype conference.
- The cost-benefit of video communication as opposed to voice needs investigating. At some stage we may expect video to be cheap and ubiquitous but there are plenty of ways of losing the benefits - if there are any worth having.
- It may be worth trying to *measure* the effectiveness of various *rew media*. However I suspect it might be even more useful to find good talkers/writers given the constraints of *rew methods* and find out what makes them good in order to train people. That is a behavioural approach to technological limitations. For example recommendations of mine are "stick to a message of no more than three parts and explain what the parts are at the start and how they fit together at the end" and "don't give out printed materials until after your talk". Are these valid for a screen-cast that can be re-played? What makes a video lecture series hang together more than say a series of intermittent conversations in the pub? A lot of this knowledge is 'known somewhere' but there will be many people who need it in a compact format so they can participate effectively.

Teaching

There is an important distinction between lecturing and teaching. Lecturing is merely presenting information whilst teaching is developing the abilities of the audience. One way of lecturing is to start at the top, drone on to the end and say "see you next week". A better way is to involve the students with challenging interaction - you know the sort of thing: "Who can tell me what we did last week...Why did that happen...Should we go over that again...". Any interaction using *rew* is a bit tricky at the moment and falls far short of the buzz of a *ftf* classroom. What's the point of me asking "How did you get on with last week's assignment" unless I can spot the hesitant and confident students and unless the whole class gets the benefit from the discussion? I also need opportunities to pass out 'well-dones' for interaction in front of the whole class.

In a language class we might be developing descriptive skills. The teacher might want to show a picture and ask students to come up with suggestions then get them to improve on their first attempts. Each elicited response gets a 'good', perhaps some guidance then the ball is passed back to the class in general or a particular student. This could be done interactively using voice or even conference messaging but video gives a much better feeling of group togetherness, 'gosh she's good at this' and 'I'm glad I'm not the only one finding this a struggle'. ('Gosh she's good at this' might lead to an after-class help-out between the students which builds confidence all round.)

- Lecturing can use any media but *teaching* has to be implemented in rew as some sort of interactive medium.

Exercise for the reader : After a quick brush-up on your teaching technique¹⁵ do a one-off ftf teaching session (anything from making cookies to how to check a bicycle to setting up a word processing template for a letterhead). [Hint for people not used to this: Start the session by asking "Where do we start?" followed by "can somebody else tell me why?" or "any other suggestions?"] Now if all goes well you'll have (a heap of tasty cookies, lots of safe cycles or letterheads and) a bunch of enthusiastic pupils. Discuss how this exercise would have suffered if (a) you couldn't see the pupils, (b) they couldn't see you (c) they weren't together as a class. What steps could you take to mitigate these issues?

- Even in ftf teaching, eliciting feedback and checking on everybody can be an uphill task so with the reduced bandwidth and clunky interfaces of rew it's going to be even more challenging - unless we can scheme some nifty teacher's aids and social protocols.
- When lecturing you can have a large audience or an audience of one viewing in their own time. This doesn't apply to teaching where a group needs to be 'an appropriate size'. Some work needs to be done on when a class gets too big using rew methods.

¹⁵ If not sure where to start look at
<http://vulpeculox.net/ob>

Feedback¹⁶

We have just covered the quintessential application of feedback. That was in an interactive context. We have also discovered the importance of what we might call "feedaround" between group members.

When we're in a messaging context we obviously have less immediacy and acknowledgement of mutual understanding takes a lot of time and effort. (If "OK" takes one second and little thought to say on the phone; to reply to an email takes at least 10 seconds, care and interrupts whatever else you were doing on the keyboard.) However there are situations where the best we can do, or what we want is written, (or sketched in the shared whiteboard context), feedback.

We see a form of this with emoticons and cliché used in email responses.

```
> We could do such-and-such.  
Cool :)  
> But how do I do something?  
RTFM!  
> ...so now I played my fifth Queen ...  
??!
```

Recognising the attitude of your correspondent is a vital part of effective communications. This is important when negotiating (and thanking) a favour - especially if the first request was silently ignored.

In fact in the *message* context we explicitly solicit feedback by various cues normally by adding a layer of frivolity or self-mockery.

```
Hey dudes how about this for a new cooler  
than cool concept: 'Feedprompt'TM the message  
that gets 68% more feedback than any other!
```

¹⁶ In the middle of writing this section I've just reported an oddity with the on-line public library renewals system. I chose to phone because it could be a serious system-wide issue and I thought it would be better to know there was an actual person immediately aware of the problem. This neatly demonstrates the value of live communication over messaging.

"Err...Jolly Good...I'll have a pint of whatever he's drinking" might be our reaction - and now we've reacted we're almost compelled to investigate and respond.

There may also be situations where we want formal acknowledgements, scores, votes, confirmations etc. I run an on-line cycle safety quiz with a very simple anonymous 'was it useful and leave a comment' feedback form. This is quite valuable information as it helps target future education. However 90% have nothing to say or don't bother. In ftf it is possible to pressurise people to fill in the form at the end of the seminar but in rew we need different carrots and sticks.

An exercise for the reader : Look through old emails for feedprompts and matching feedback. Are there any rules for what makes a good feedprompt? Can you find any that are just too blunt or childish?

- Feedaround appears in Usenet and active forums. Frequent contributors become known and it is easier to 'talk' to them, pull their leg and generally make people feel better.
- How do you know if anybody is listening?
- Trolls sometimes infest newsgroups. These are feedprompters gone bad. They need responses - any responses - so they make an unpleasant nuisance of themselves to get attention.

Business communications

It should be obvious that clear and efficient communications are required within the organisation if activities are to be successfully coordinated. There is a spectrum of formality and complexity here and we need to use the right medium for each message and construct it appropriately. In ftf we can shout across the room "anyone got the drawing tablet" or have a meeting to ensure everyone knows what this week's tasks are, but these everyday conveniences are denied to us in rew.

Issuing instructions and making requests

In a perfect world our colleagues would instinctively know what we wanted and share our knowledge, decision-making ethos and enthusiasm so that a nod and a wink is all that is required. It would be nice wouldn't it - not least because we wouldn't have to spend

time explaining and more time explaining again and trying not to get angry with everyone for not doing it 'my way'.

A request for action needs to be sufficient for the recipient to understand the requirement as intended by the person issuing the request. We can also see that lengthy and detailed specifications are more time consuming than simple ones where the recipient 'mostly knows what to do'. So our task, which doesn't come as a surprise, is to issue clear instructions with the minimum of paperwork and explanation. There are hilarious situations when people sitting next to each other in a ftf office send each other memos about small things that ought to be dealt with by word of mouth - but that's the position we can easily find ourselves in with rew.

One reason for going into reams of detail is the need to cover all eventualities from the start. If I give you instructions which you can't query if you don't fully understand then I need to be comprehensive. Many situations arise when large swathes of information are irrelevant in the specific situation. For example if you work in an office you don't need to know about slinging loads from cranes but the health and safety booklet and course and test all include it. It is much better, where possible to provide incremental instructions within an overall context. Furthermore the interaction informs us (a) of progress and (b) of how much detail, and what specifically, we have to supply for the next stage.

Where we can get away with it we should be using the least-effort form of communication. 'Pick up the phone' is an obvious choice... ..except it is intrusive when in ftf we can leave somebody alone if they're busy; and in rew people may be time-shifted and not appreciate being called 'in the middle of the night'. If this method is to be acceptable then we need a way to page without being intrusive and a way to indicate degree of do-not-disturb to potential callers.

We can use always-on conference facilities to connect a bunch of colleagues simultaneously. For example if I have just given a task specification to your team then we can all read it through commenting to each other as we go to deal with dotting Is and crossing Ts and also glean what other think. (One important habit here is allowing there to be large amounts of silence as people concentrate on their job. Having a video connection makes this far

easier than simple voice. This is also easier if participants are used to each other.¹⁷⁾

Within a treem-based organisation there are three modes of communication:

- Within a treem
- Up and down the tree
- Across the tree

Within a treem we should be aiming for excellent shared understanding amongst members to allow simple instructions or reports without having to explain details or context. If we all know the priorities of tasks and who can do what then nobody has to say "Alice could you stop doing Foo and do Bar instead because...". Rather "The Bar has arrived at last - any takers?" When everybody knows the full picture they can self-organise much more flexibly, and with more job satisfaction, than by diktat.¹⁸

Up and down communications are facilitated by the Pins who is a member of both treems. They literally embody the question, information, instruction or commitment. Their job is to act as the go-between with full knowledge of 'both sides'. In short this is about taking responsibility and coordinating. In one word "Leadership".

Communications across the tree are difficult as there may be completely different knowledge-sets and cultures involved.

- Routine communications are fairly easy to deal with by formalising them. (The management issues are discussed elsewhere.)

¹⁷ I know this is true from personal experience but a little bit of laboratory work might be useful to put a bit of rigour into the spectrum between 'attending a conference phone call' and 'occasional chit-chat amongst colleagues as they work'.

¹⁸ It might be that we have previously agreed that Alice ought to have a crack at Bar-like things when they arrive at a convenient time for her. We also understand as she's not done this sort of thing before it will take longer and need some help - so if time and help isn't available in this case we get on with it another way. Alice won't be upset at missing out this time nor stressed by having an urgent and important job thrown at her.

- Requests for assistance may be casual and based on goodwill amongst mates. For example "Barry, can you let me know when we will be able to get our hands on Foo?"...
- ... This might be straightforward and 'legitimate'. However even with small commitments we need to observe some protocol to make sure we're getting genuine information and the implications are understood and accepted. We might rephrase this example : "Can you let us have Foo by 1st March?" in which case the implied obligation of a 'yes' needs to be accepted by the supplying treem. When so many electronic communications go on 'in private' there is no knowing who is committing the treem to what. In ftf life these communications are more easily visible to everyone and the ease of "while you were at lunch we got a call from..." makes promulgating information that may be significant easier.

Some information is not for passing on or not to be passed on to anybody who asks for it or not to be passed on without conditions of use or warnings about its reliability.

Therefore at the least we would expect treems to keep a record of such communications in their diary, and in many cases to designate one person, probably the senior Pin to field job and information requests. We would also expect all treem members to understand what can and can't be passed to outsiders.

- Formal requests need to turn into agreements. This requires scope for negotiation and authority on both sides. The reason for this is that if circumstances change or things go wrong the fall-out of who is responsible is focussed on the internal workings of one or both treems rather than huffing and puffing about a poorly written agreement. Many of these formal agreements will be in the nature of "we'll do something by whenever" where 'something' is understood but not perfectly defined. In up and down 'contracts' of this sort there is a Pin acting as the common go-between who should understand these things so there can't be a dispute, but across-tree commitments need to have additional clarification.

Formulating policy and making rules

There are different ways of forming policy and it happens at different levels. The important thing is that discussion of opinions and

research into facts doesn't distract from the daily operation of the boring stuff. By all means discuss how you're going to get something done or should we take on such-and-such but when it comes to changing things the temptation is to down-tools, have a good old chinwag, fail to come to a definite conclusion and possibly get people into a lather due to competing theories and personalities.

The key to making policy, however people are included, is to have policy making distinct from policy implementation. Within a team it might be understood that each week *after* the progress conference has finished there is an opportunity for fresh ideas and observations about the team's work and so on. Note that the ban on discussing *future* policy is not the same thing as avoiding discussion of how to handle current issues.

With reward, where the goodwill of the collaborators is essential, it would usually be worthwhile to make sure everybody has an opportunity to add their two-pennyworth to policy making. This may be a good thing anyway, but including people is a way of making them feel they are valued for their insight and wisdom.

Implementing policy and regulations

Top-down management is a straightforward and practically universal concept. Large team-based organisations will typically have a larger number of layers than a flat one which could make the promulgation and monitoring of policy a bit hit-and-miss. To counter these tendencies we need to

- Write or explain policies clearly
- Define the applicability
- Ensure appropriate distribution
- Ensure acknowledgement
- Provide a short term monitoring method
- Note that we need a long term monitoring policy

Also in a team-based organisation we would expect the Champions to be involved where ways of working are involved and Chiefs to be the authority for down-tree implementation.

The personal touch

The psychology of being at work

When people work flat they are constantly surrounded by reminders that they are 'at work' and so their work responsibilities are

uppermost in their mind. Alternatively in rew, a person is their own master in charge of their private environment. Even if the kids aren't yelling next door, and the smell of cooking isn't distracting in anticipation of a leisured lunch, and outside the window the lawn ought to be cut, this is a private domain where work intrudes.

There are physical ways and routines people use to 'go to work in their own homes' but it's in the mind where the real action is. There are two ways to address this:

- Try to build a cocoon of work infrastructure on the screen, via the screen, on the physical desktop and in the work room.
- Try to make work more interesting and rewarding than listening to the radio or going shopping.

For many people their 'work' will be a hobby, but even so others are relying on them to deliver something at a certain time to a certain standard, so it can't be pure please yourself. Possibly the most important thing to recognise and to try to achieve is that work is a habit. If somebody gets into the habit of say spending a hour after supper dealing with their project correspondence before going down the pub then that's many more hours of work than playing occasional catchup. (And also I would suggest a much quicker change of mindset from whatever to focussing on project matters.)

Here are some suggestions to make the private environment more work-like.

- Where possible physical workspaces should be configured as a 'study' dedicated to rew. Everything from comfortable chair, something to keep the feet warm and well arranged desk etc., to "Keep out of the study kids".
- People should expect to login to their project before having any access to their project communications and on-line resources. This being the psychological equivalent of 'clocking in'. (Although the further development of this needs careful thought. For example does being logged in automatically make you available to be contacted? Should hours logged-in be recorded?¹⁹) Once logged-in I would expect something like

¹⁹ Definitely yes privately. Start-work-time is an important self-monitoring metric.

a distinctive console or virtual desktop for communicating and organising work.

- Where appropriate the project should supply some equipment. For example camera for video conferencing, VOIP phone, wall calendar, comfy chair, scrap paper pads, badges and customized security tools etc. These reminders of the project help the subconscious feeling that one is part of the machine.

Care is required not to impose a one-size-fits-all environment on new staff as one person's cozy corner is another's cramped cell. Also more intrusive 'work monitoring' may be resented.²⁰ Some people value restrictions that stop them being distracted, others like to be left to get on with things in their own erratic way. At the end of the week it is results that matter.

As for helping people get into a work routine some experimentation will be required. There will be different types of working patterns that require different approaches and every person's private lives are different.

- To begin with it might be arranged for a mentor to make frequent calls by arrangement at regular times.
- The mentor might suggest an 'each time you log in' procedure to get into the swing. For example check the team diary, see who else is on-line, communicate, plan what to do in the next 15 minutes and for the rest of however long you expect the current session to last. Running through such a checklist helps develop a habit and also conditions the mind to becoming immersed in the project.
- All projects and teams should have one or more 'heartbeats'. For example "first Monday of the month" or "every Friday morning at 11am." These are in addition to project milestones (qv.) The heartbeats serve as marker points for delivery and

²⁰ In my opinion, apart from the most mechanical of jobs, using keyboard time (or similar) as a basis for reward is a very bad idea for a number of reasons. Quality suffers as people 'fill their quota' with rubbish and easier jobs are cherry-picked by the lazy.

review.²¹ That is important, but in a virtual world we can also benefit from the psychological effect of splitting time into definite chunks. In fact a day at work is exactly that. In real life the 'day at work' doesn't really exist as such, so something like 'weekly project contribution' becomes important as being as near a tangible measure of progress as we're going to get. Remember we're trying to create habits and mental engagement when we don't have much to go on. It is much easier to plan, commit to, and monitor work for a definite period than an indefinite one. Somebody might accept "four days work a week" with the knowledge that this could work out at three if things go well and there are no interruptions or it could drag out to five. They now have a habit with which they're comfortable which means by Wednesday they can tell whether or not they can take the day off to play golf.²² Heartbeat conferences are useful for providing the deadlines that some people need to get their act together.

Motivation and motivating others

This is a subtle art which everyone participating in rework needs to acquire. There are two key realms:

- Self-motivation
- Motivating colleagues and subordinates

In general I would say that most people are not well prepared for these.

Being consistently motivated requires

- belief in the value of a main goal, or
- social commitment to a community.

Without these there will be a much larger swing in the ups and downs of enthusiasm. (We have already talked about large effect small dis-motivating factors can have. Both positive and negative enthusiasm can be contagious but negative enthusiasm is amplified more.) Therefore a well designed rework organisation will seek to reinforce member's valuation of the main goal and promote group

²¹ Within a tree it might be decided to put off starting Foo until "week 7". This is a simple calendaring use. Psychologically the heartbeat is more than this.

²² Synchronising, staggering and propagating heartbeats up and down the tree is something that will need experiment.

cohesion. We're into mission-statement country with the first of these and that means vapid bullshit. The overall project needs a *purpose*. In the first instance that's it! However many people take pride in the whole project community and their noble and effective efforts. (This can apply to employing organisations as well as volunteer ones.) In simple terms "These mates are 'good eggs', the best sort there are, and I'm proud to support them and do my little best". This is partly expressed by constitution or written project ethos, but fully implemented as an emotion that's built-in to us as members of a tribe. The tribe needs an identity, a purpose, and some 'moral' framework. There might also be tribe-wide rituals and idiosyncrasies which reinforce belonging.

- 'Tribal elders', that is the Champions and the Grumblee, should recognise their role as such by making people feel good about the project, handing out reassurance and looking out for lost sheep who are not well integrated. From time to time they may also have to explicitly smite anti-social behaviour.
- Indoctrination in the sense of being introduced to the organisation in order to know who is who and what they're doing is covered elsewhere. In addition a little bit of 'aren't we just wonderful' helps to give the joiner a sense of bigger purpose. In fact an organisation can have impressive glass and steel offices or a friendly social club but these aren't available in real so alternative sources of pride and ways to underline the positive aspects of the community are useful.
- Part of 'community' is having things that everybody can take part in or relate to. Simple participatory examples are competitions aimed at everybody, tell us about your team for the newsletter, and buy the tee-shirt. In the newsletter might be everyday stories about everyday people doing non-project things : Getting married, having babies, getting qualifications, how project-inspired skills made a big difference in the day job.

A *community* is about people not their place on an organisation chart or production quota. To repeat the important message: Loyalty to a community stimulates effort and motivation. Without self-motivation real staff will be unreliable and destroy the effectiveness of the organisation.

Teams

The magic of teams for inspiring loyalty and efficiency is well known - and it is magic in the sense that you can't put your finger on it, put it in a box and sell it. Teams are tiny teams usually of three or four. They may lack the breadth of talent and outlook that a larger team may have but make the best use of limited resource bandwidth to bond the members.

Team members are not just acquaintances, they are people who share ambitions, and tasks as people have done since they were hunting in animal pelts. They recognise each other's good and bad qualities then adapt and encourage to achieve the best possible result for the whole team. Our job as designers of an environment in which teams can flourish is to show new members where to find the magic and how to use it.

- Members *must* spend time getting to know each other. This cannot be taken for granted or reduced to a CV. There's an art to finding out about people and acceptable probing varies greatly amongst different communities. This will be covered in 'The team member's guide' as a start but more work needs to be done.
- One proven method is for the team to work together on some training exercise. A team can run through an independent shakedown task, or be part of the project shakedown. Importantly, everyone has to know that it is acceptable to take risks and share jobs around as this is purely a training run.
- Without the old methods of enjoying a meal together or sheltering from a blizzard in a tent together, new team building exercises need to work harder at mutual confidence building and understanding. (There are dangers where levels of enthusiasm and extroversion are not controlled, so there probably needs to be a supervisor for each exercise. This might be the appropriate Champion.) Considerable work needs to be done to develop a more rigorous understanding of what works and where the traps are and then to develop a selection of team-building exercises suitable for new.
- Teams have personalities and an identity separate from the members. There is the formal position in the organisation label and the organic persona. For example "M/Tech-

support/Hardware/3" might publicise their services with a brand of "Panel beaters" or "Laboratory of the smoking screen" - or whatever they feel like calling themselves at the time. Having a team identity, whether simply a formal acknowledgement of collective responsibility or a source of much social badinage is important - and therefore needs to be developed by the Champions.

Leading teams

It is easy for people with a well-developed 'tug boat' personality to be team leaders. Since a large number of people in a team-based organisation will be Pins with responsibility for team leadership we need to ensure they have plenty of help and guidance to offer, and know how to apply it.

- Many will never have taken responsibility for leading others before.
- Some will be afraid of doing it.
- Sensitive, clear, encouragement and diplomacy are difficult in face to face and more so when using the blunt instrument of new communications technology.
- In an ideal world there shouldn't be a need for anything stronger than advice. The Champion has the job of finding out about such difficulties and if necessary using their authority to resolve the matter. By taking the responsibility for discipline from the team leader the Champion can remove the elements of clashing personalities that might be involved in order to understand the issues and what action or training or reorganisation might be required.

7 Hierarchy of trust and responsibility

How many successful organisations do you know where everyone does as they please? Even in a co-operative you don't have everyone being the boss. A club will elect officers with management responsibilities and then they get on with running the club. The board of a company represents the shareholders, exercises a management role but delegates day to day running to the chief executive and their staff.

Where can we see this hierarchy of trust and responsibility mirrored in electronic collaborative tools? Umm...

If we haven't got the right tool for the job then we can't implement an effective on-line organisation.

We can easily imagine a group of three where each member is the team leader of their own group of three. For example the chief accountant might have two assistants. This process can continue to form a hierarchy as deep as we like. One of the assistants might be in charge of bookkeeping while the other in charge of management information. In turn they may have assistants.

While in real-life it is fairly easy to have six or eight subordinates and for everyone to be on first name terms with their colleagues, this is much trickier when personal contact is limited to emails, chat and possibly the phone.

In practice there isn't quite such a perfect pattern but the justification for budding *down* rather than *sideways* should be clear. This sort of growth is ideally suited to an organisation that starts with a tiny core of leaders who take total responsibility, then recruit assistant specialists in their own sector - and so on.

What goes up down and across?

To be able to create a tool to support a hierarchy we need to understand how the various relationships work.

- Responsibility and trust are two faces of the same coin....
...which works up and down but not so well across.
- Authority and power are almost synonymous...
...power depends on sanctions.

The bulk of being loyal and hard-working comes from the camaraderie within a team. This is what we're banking on to drive the common purpose. But there is more we can do to enhance the effectiveness of the chain of command and respect for authority. (This works in subtly different ways in each of the three branches.) Having a rank is something discussed elsewhere. This can be overdone but within the team structure there are Chiefs who need to be able to demand certain things from time to time. Outside are the Champions who expect certain standards of behaviour and have the authority to expel or relocate people. However respect is often simply a matter of deferring to experience while taking responsibility is often simply a matter of giving the newcomers a helping hand. This seems all so simple until remembering that in real life we need to work at the clues needed to tell us who is what.

We've discussed elsewhere the difficulties associated with working across the organisation. On one hand we need smooth communications between the right people but on the other we don't want formal commitments or diversions from more important missions triggered by chatting to mates. We've already got the answer to diversion prevention - having a protocol for commitments - but we haven't addressed ways to bridge understanding and getting to see the other chap's point of view. For this we need opportunities for people to chat and discover what the other people in other branches do. Whereas in face-to-face there are corridors, social clubs, water coolers, hanging around waiting for meetings to start and other opportunities to find out a little without entering negotiations, in real life we are going to have to manufacture alternatives. This might be a full-blown social network, organised on-line recreation, video open-days, human interest articles in the newsletter or ...

8 Induction

With a physical organisation it is relatively simple to take newcomers around the offices, introduce them to useful people, show them the general layout and explain what goes on where, are there 'us' and 'them' zones, do you need special permission and equipment to visit certain parts. Also a quick introduction to the general culture can be picked up informally by simple observation: Do people work late or swear a lot? Who are the twerps and who are the enthusiasts and who are the bosses-not-quite-up-with-it and who are the lowly but respected long-service staffers.

In a new world things are different - but the need for newcomers to become effective team players and efficient users of organisational resources is just as great. Just because this is a difficult problem doesn't mean it should be ducked.

Objectives

- 1 *The newcomer* needs to
 - Understand the overall concept of the project including history, group ethos and current state.
 - Know the general organisation structure.
 - Know what each *relevant* section and sub-section does and who and how to make contact. This includes how to access common resources.
 - Be briefed on the method and style of communication between members.
 - Understand who they report to and how that relationship works.
 - Be aware of administrative procedures and where to get advice.

- 2 *Existing members* need to be introduced' to the newcomer with at least:
 - basic identity
 - what their purpose in the organisation is and who they report to
 - what their background is and do they have any special skills or interests

- 3 *The newcomer and who they report to need to*
- 'Get acquainted' to ensure efficient communication, good understanding and effective, hassle-free working relationship.
 - Both be clear what the 'mission of the moment is'...
 - ...and the overall personal missions are ...
 - ...and the shape and implications of the project plan in their area.
- It is fairly traditional to start with a micro-project for the newcomer to get started with as a gentle introduction. This needs to be discussed and agreed.
- 4 *The project* needs to carry out formal administrative tasks which might include: Checking identity, providing access tokens, getting agreements signed, providing tools and initialising accounting.

Methods

Strewth! What a lot to do. It all looks very intimidating, but it should be obvious that the alternative of leaving people in the dark is a recipe for muddle and waste.

Actually it's not too difficult to see how to tackle these objectives. Very roughly each objective above can be dealt with by:

- An organisational 'FAQ'.
- Member biography, CV and missions.
- Time spent in discussion.
- Administrative procedures.

What I just dubbed the 'organisational FAQ' serves that purpose and could be laid out in say a wiki form with each section and sub-section etc. down to each individual maintaining a page describing what they do, who they are and how to get in touch. For the time being we could use this for a who's who and organisation map, but being such a vital tool there is scope for tuning content and presentation. Regardless of the level of sophistication there is an important cultural issue: Entries need to be kept up to date. For example if I go away for a fortnight then I ought to make sure the appropriate message and redirection is on my page for the appropriate period. (One of the things that goes round the ftf grapevine, the grapevine that doesn't exist in rew, is that Charlie *will* be going on holiday shortly so get in quick.)

What's just been briefly discussed covers objective 1 and can be extended to 2. However we haven't yet got a substitute for the newcomer being taken round the works with "this is Kelly - she'll be working for me - to create and maintain the user manuals and set up technical support." repeated a dozen times to actively bring the new person to that attention of important and useful people. The new world equivalent would appear to be 'staff news' 'blog' of joiners and leavers. Staff news might be pooh-poohed by geeks but is very necessary to an efficient project with very few opportunities of getting to know people as people.

Objective 3 is about building an effective working relationship and establishing efficient and well used channels of communication. Ftf works best but where this isn't practical we have other video and voice methods. The important thing is that you can't set up a relationship in a five minute phone call with a complete stranger. (Neither by completing a questionnaire on a web page!) Time, a minimum of 30 minutes perhaps for anything but the most self-contained of tasks, has to be allocated for discussion. Eventually this *needs to lead to agreement* about who will do what and under what conditions.

Objective 4, administrative procedures, cannot be overlooked. A casual approach here can easily lead to disaster down the line. We can observe that many groups will share a bunch of common templates (such as IP agreements, reward credits, expenses claims, ID verification, acceptable behaviour policies) and therefore there's mileage in developing an appropriate resource pack and administration system to save constant, second-rate re-invention.

Conclusion

We can't leave induction to chance and seat of pants. There are three key policies a new organisation needs to adopt

- A live who's who and does what directory.
- Time to be spent getting to know immediate colleagues.
- An induction *process* that includes formalities of administration.

9 Online stereotypes

When we meet people for the first time we make instant judgements about them based on their appearance, body language, age, way they speak and what paraphernalia they are carrying. In short, we apply our personal library of shortcut stereotypes.

But you can't do this on-line which is a big barrier to building productive relationships, and making a stab at the level of trust you're prepared to give and effort you're prepared to make. The best we can do is a thumbnail photo, 'my interests' then possibly a track record of random posts. We should try to do better than this if we're trying to build efficient teams.

The purpose of *this exercise* is to develop a personality and background badge for stereotyping collaborators. Suppose we were working on some international project then we might use country flags as instant err.. 'flags'.

This is a little different from an avatar although there is some overlap. Here we want to quickly categorise somebody on their background, position and function in the project. (The need for visual recognition in order to quickly differentiate between our remote contacts this can be done with an everyday photograph.)

There is a problem of 'too many characteristics could be useful'. Not all at the same time perhaps but for one project it might be handy to spot who is a technical wizard and who is a stalwart fund-raiser, while for another the degree of experience is the key thing. This will scupper our scheme unless we can find some core stereotypes that will be pretty much universally recognised. For example if 'blue' meant inexperienced and 'red' meant expert for one project we'd be mightily confused when we came across the same colours being used to indicate say catholic and protestant. When somebody says (or displays a badge is a better on-line scenario) 'I'm pretty blue in that area' we need to know what they mean unambiguously.

So, from the point of view of a new organisation, what would help us most to pigeon-hole a list of attendees at a virtual meeting? Here is my first attempt:

Length of time with the project
Length of time doing what they're doing now
Breadth of responsibilities and involvement
Track record of tasks done in this project
Experience and achievements...
...Background
...This project
...Current role

This isn't intended to replace formal job titles and administrivia such as timezone etc., just to let me know whether I should be making sure a newcomer has understood certain aspects of the discussion, or how polite it would be to ask them to take on some responsibility. Of course it also allows members to identify people like themselves more easily and start with something in common.

Three branches of participatory personality

One of the key aspects of somebody's team-member-persona is, roughly, what they're here for. In a theatre company for example there are 'actors', 'technicians' and 'publicity and front-of-house'. This three-way split between the originators, the enablers and the promoters is a model that can be applied to any 'making' project. We covered this in Chapter 4. For example the Left/Middle/Right split for a programming project would be programmers/code librarians, testers, administrators/ public relations and documentation. A pressure group might have leaders and investigators/newsletter and membership/spokespeople and PR.

(This three-branch model will allow us to use red, green and blue - mixing in proportions according to absolute and proportionate 'amount' of each - to provide a characteristic colour.) To recap on the definition of the three branches using different categories to illustrate flexibility:

Left	primadonna technical wallahs - the guys who actually walk the high wire
Middle	facilitators - support staff that keep the project running effectively
Right	distributors - people who focus on the outside world

No type of activity is more important or less essential than any other. ("Pig - Farmer - Bacon sandwich seller" is a phrase you might want to keep in mind when explaining this to 'geniuses in their own lunch-hour' who demand respect rather than taking the trouble to earn it.)

Each branch has a different "what's important to me" life-force. The Left group are driven by technical and professional challenges which require a high level of focussed skill and considerable experience. The 'box they live in' may be fiendishly complicated but it is self-contained. "You are playing one of the ugly sisters", or "we need a routine to display dates in different ways", or "we need 1000 words on how a steam engine works". These people don't have to be good team players - just get on with what they're asked to do. What's important here is "my bit".

The Middle branch (who may require a great deal of competence, imagination, knowledge, sociability and resilience as individuals) are team players dedicated to joining all the bits up and making them work. To them the important thing is "the whole thing" (often with a "I'll help out as well as I can"). The value and scale of this branch is easily overlooked - when the credits roll they're the names that whizz by at the end in small writing and unspecified roles. In many cases diligence and reliability are much more important than years of experience.

People in the Right group are different again. What matters to them is "spreading the word" and "making sure the customer gets value". These guys face outwards with no qualms about trying to get people to part with their money, promoting the project and trying to meet the actual needs of consumers. They make the time to meet and explain what's being offered and also to understand what the world is willing to pay for or at least sit up and listen.

So these three types of role have different 'personalities'...
... which is what I'm hoping to capture.

Furthermore any individual may have

- Absolute experience or responsibility in these areas
- Relative involvement.

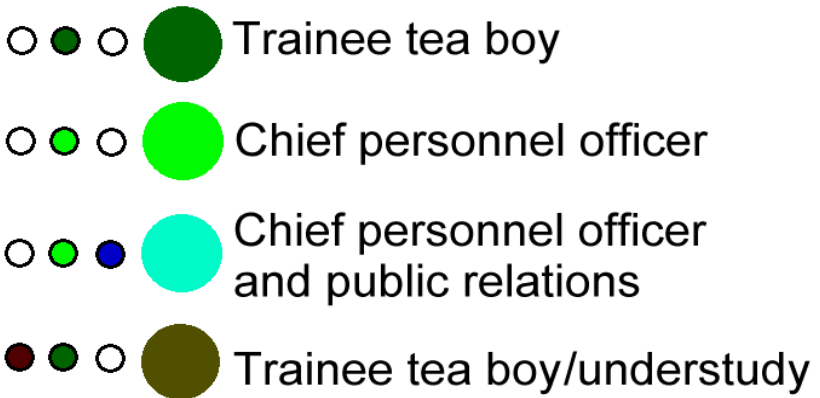
The proportions of involvement will be expressed by hue while the actual depth of involvement will be shown by intensity. Suppose for an example we use green for the Middle group. If somebody is learning in a minor role they will only have a little bit of green to add

to their colour mix while chief general manager who has been doing this sort of thing for years will have the maximum amount of green possible. If this chief general manager did a little bit of the technicals then they'd add a dash of red and if they did a lot of sales they'd add a lot of blue.

This is all very well but we haven't got a definition for 'amount'. Do we mean length of experience, achievement or responsibility? Do we mean on this project, similar projects or background? How should we rate somebody who has no sales experience but has lived for many years in a country we want to sell to? (Or how should they badge themselves?) We can't answer to this question until we know why we're asking it.

From 'technical role' to 'organisational role'

Ok, so we have a promising three-axis 'personality guide' which tells us what sort of roles somebody performs. Actually we don't quite have that as we haven't decided if this is what sort of roles they are good at, are comfortable with, or have won prizes for or something else like 'background'. Umm... We'll have to come back to this later



In an organisation, regardless of their technical roles, people are involved with the management of group activities.

- Some have major formal management roles.
- Some know what to do through long service.

- Some are apprentices.

Confusingly one person could be a director in one realm whilst learning in another - in fact in a team this is often the way as people work at overlapping for better resilience, understanding and trust. Nevertheless it is quite important to have some clue about 'a name appearing out of cyberspace' on these matters.

On top of this there is a democratic/autocratic layer which guides general policy rather than task fulfilment. The board of trustees, the shareholders or the club members. In some types of organisation, particularly those that are not project oriented and those that rely a great deal on the goodwill of participants, there is an expectation of 'everyone having a say'. The reason for raising this issue here is that there is a difference between directing policy and seeing that it is implemented. One man's visionary is another man's nutter and very few of them are leaders! Is it useful to try to indicate somebody has a track record of steering the organisation over a period? Probably yes. Although being a veteran board member doesn't necessarily mean anything as far as competency goes we could find it a useful source of information if we're trying to get to the bottom of some politics.

Seniors and juniors

When people are seated round a table they soon pick up who are the experts and bosses and who are the fumlbers and subordinates. Some of this is explicit with job titles - obviously a good start - but the real respect comes from subtle signs as others react. (Followship) In a team-based organisation nearly everyone will have a recognised place in the organisation - fine for 'up and down' meetings but not so useful when it comes to cross-discipline meetings where a lot of important exchanges take place. Suppose the only representative of the finance side nonchalantly says that there should be no problem funding a certain proposal: Do they have the authority or real knowledge to be able to say that? This is where a quick check of their stereotype should give us an approximate answer.

This is where we need to know who we're dealing with - we may have regular monthly cyber-contacts with people and after a while we want to 'get to know them' so that we know how much to take on trust rather than 'putting everything in writing' and how much can be 'taken as read' without them getting the wrong end of the stick or picking on some one thing as an excuse to pursue their private agenda. This is where we use our brains - the trouble is that without seeing and hearing people we don't have much of a 'hook' to hang our

impressions of them on. This is one of the reasons why voice-based teleconferences are better than text chat and video is even better.

At present we don't have any on-line way equivalent of sighing, shuffling papers, or more subtle body language, and I don't think we're going to get it soon. In the meantime is there any substitute for 'a firm handshake', 'speaking in depth without notes', 'being respectful but firm' and similar face-to-face characteristics? The nearest we get to this is SHOUTING LIKE THIS in email which onlookers generally regard as poor form. Quite simply cyber-meeting technology isn't subtle enough to give us much dynamic information.

Where to go from here?

This is a cue for some research. I've suggested a three-axis colour scheme but there are all sorts of graphical modes we could use such as shape, texture and twiddly bits and these could be added together - but whether that would help us much is another matter. It may be that such a scheme would only work after 'meeting' dozens of people and 'picking-up' the hints embodied in a badge. I can see that for a lot of new organisations the three-axis scheme would be applicable, and since it would be relatively easy to implement coloured blobs to go with an organisation map that might be the best place to start with a practical experiment - although there is plenty of scope for laboratory work.

10 Social and economic opportunities

Remote teams are a low-capital-investment way of putting together viable creative and productive units giving individuals new opportunities to participate, learn and earn.

Case study

First faltering steps - FOSS

Let us look at an area which is taking the first steps to rew, the Free Open Source Software movement. This shows wonderful results are possible through collaboration but for every success there are many more still-births and scraggy attempts.²³ There are many reasons for failure but the main ones are:

- Insufficient breadth of skills - eg five programmers but no sales force
- Not enough people - Quality projects are enormously time consuming
- Initial enthusiasm drops off over time especially when 'ancillary jobs' need doing.
- Insufficient development resources to keep ahead of the game
- One person's brilliant idea isn't actually all that good.

Some of these are simply down to the scarcity of good people, but for a large part not enough effort has gone into managing the enterprise as a whole. This is understandable when there isn't much of a blueprint to use as a template. Enthusiasts simply don't have the resources to develop significant applications without an effective team. That effective team needs a purpose and structure.

There are lots of software development projects that are looking for talent to join on a cooperative basis. Many of these will never make a penny for their contributors even though their work is highly valued and widely used - many talented people subscribe to the belief that it is worth contributing their time to the benefit of everybody via the FOSS movement. This shows the level of goodwill there is but

²³Furthermore the commercial issues are mostly ducked as being 'unworthy' or, more realistically, 'too difficult'.

shouldn't dictate FOSS as the only economic model. Moreover we know that anything but the simplest project needs the effort of many roles - all of which are essential - and ought to be done well. So for example a casual project of mine needs a tester, at least one internationaliser, somebody to maintain the project web page and interact with enquiries, and somebody to proselytize.²⁴ Altogether that project requires another 1 man-month ... so that's lots of tiny bits from a number of contributors or one little bit from a jack-of-all trades. There's a satisfaction from doing it all, and it could be a useful educational experience, but some areas are bound to be done by guesswork. On the other hand, although it is reasonably easy, once they've been found, to get people to put in a small bit of effort into a worthwhile project for nothing, the overheads of getting people working together, using the same communication and library system and so on make it not worth the bother.

Where are these skills to come from? Firstly they are practical, technical skills that are not generally taught in school. If only there was some way people with an interest could dip a toe in, get experience and learn in a benign working environment... ..That's exactly what a new network can do, and with very few barriers to joining. To return to my small example project above: If there's somebody who wants to learn how to maintain web pages or to manage a log of change requests and coordinate discussion groups with interested third parties then it is worth my while mentoring them, showing them how to use the tools if they will put in time. They learn on the job, I get the job done. Everybody is happy. But better would be that these newly acquired skills *are used on the next project*, and the one after that. All the time this is good self-paced practical learning.²⁵

²⁴ vulpeculox.net/day

²⁵ This example project is about defining a standard and isn't meant to earn money. However it is easy to imagine a validation service being provided for 3rd party implementations which might involve hard cash. It is also possible to imagine legal disputes as to who has the right to alter the standard or make claims. These commercial aspects need careful management and a proper financial footing - for which frameworks have to be developed - which is one of the reasons for implementing a variety of prototype groups.

Conclusion

- There is an appetite for collaboration - even on a volunteer basis.
- Everybody gains from collaboration.
- The success factors of management, vision and breadth of skills all suffer when enthusiasts focus on their private productions.
- Treems offer a management structure and raise the level of the project to an enterprise as opposed to a product produced by the ants-and-twig method.

Scrapping the physical office opens new vistas and saves money

From the business point of view, dispensing with the physical office means:

- Elimination of rent, rates and other overheads.
- No need to permanently staff the building, be available to answer phones etc.

In many cases physical factories can be reduced although we're probably looking at farming out more work to small subcontractor factories than home workers. (Interestingly the commercial stimulus for this would tend to be where quality, specialist skills and knowledge are required rather than simply units of production. A large assembly line designed for high throughput may be unsuited to rapid changes in product requirements, while smaller 'less efficient' units with committed staff would learn how to change jobs much more quickly.)

From an individual's point of view:

- No need to travel.
- Work can go on at any time during the day - possibly in fits and starts.
- (While daily physical interaction with work colleagues is mostly seen as a very beneficial thing) some people find 'having people breathing down your neck' or 'constantly interrupting' very stressful and disruptive. Doing work at one's own pace without being pressurised to cut-corners gives a lot of job satisfaction.

As soon as the 9-to-5 approach is discarded we can employ specialists for just as much as we need them for, or provide part time work for people who can only do so much at certain times. Instead of employing general-purpose people to do a mix of jobs to fill up 40 hours a week we can employ specialists for however many hours are required - which may vary from week to week. Many organisations will find it in their interest to encourage people with limited skills to expand and improve them - or simple commercial opportunities will encourage people to be 'more employable'. Practically every enterprise and organisation has many people who started at the bottom and worked their way up learning and developing as they went. New organisations will be no different - except that the risk in taking on somebody in a limited role is much less than hiring them for a full time presence in a real place.

We will see a much more active skills market with the benefit of being able to find skills from a wider geographical area and with clearer competitive pressures driving up standards.²⁶ This form of skill development is very efficient because it is directed towards specific purposes by individuals who have a vested interest in improving themselves.

One important issue is developing categorisation and labelling of the many different technical skills. Not only does it make people easier to match with roles, but the opportunity then exists to develop skills to a much higher level with a much improved impact on the project. For example every software project needs testers. Testing isn't very glamorous, always involves conflict with impatient go-ahead people and costs a lot to 'expose trivial issues'. The knowledge and tools required take a long time to acquire and be proven in the field. So what often happens is a poor plan, half-heartedly implemented with poorly skilled people. On the other hand if "Tester" is a recognised craft.²⁷

- Practitioners can bring their experience, knowledge and toolbox to a project ready to provide professional testing on a firm foundation.

²⁶ Why driving up rather than down? Because successful teams will always be seeking to improve - That's in the nature of small healthy work groups.

²⁷ See the Hanse project in the appendix of projects for how this might come about.

- It is worthwhile individuals investing in developing skills, knowledge and toolbox.
- Experience is re-used and enhanced.
- It is easy to find the skills required for a project . . .
- . . . and the project is designed with the 'slot' for them from the start.

So the project can access important skills as required, at a high level of competence, and the competency of the workforce is continually improving. This is the way to use human resources effectively.

Some new organisations will produce products, services and intellectual property for sale. Some will be commercial, some non-profit, some volunteers enthusiastic about a worthy goal, others enjoying collaboration for the self-improvement opportunities.

Many will produce secondary economic benefits :

- Improved job opportunities elsewhere for members who acquire a higher grade of skill and confidence.
- Cheap high quality systems for general use created by organisations working for the social-good.
- Developing new information technologies and ways of working.
- Supporting minority or social applications (eg making the internet useable by older people or supporting the training and standards for specialist technicians.)

Whether profit or non-profit, member-owned or traditionally employed, group members will be developing their economically useful skills. These skills will be current, practical and directly applicable to many businesses. Also the huge underused resource of knowledgeable people can be efficiently tapped to guide well-founded innovation.

New organisations require a combination of role related skills not just 'programming':

- Creative 'engineering' talent with specialist skills.
- Administration, management and technical IT support.
- Marketing, user support.

The three-way branch structure is a powerful guide to three separate streams of secondary, tertiary and continuing education.

Rew organisations are suited to making a lot of things possible

- Developing useful software and systems.
- Guilds of specialists to champion particular technical skills.
- Collaboration within a wide community to reinvent failing and obsolete systems.
- Enabling minority applications to be developed to a professional standard

and importantly

- Providing individuals with access to a personal development path of depth and breadth in a technologically intense area or a living 'business' environment.

Rew organisations can grow organically. They don't have to start off with a large investment and long wait for profits. Many more people can become involved on a 'let's see what happens' basis. This is worth their while either because they see value in the product or they see value to themselves through job prospects or simply the satisfaction of using skills and encouraging others who they would never otherwise meet.

By removing most of the obstacles (location, qualifications, fixed time commitment) to participation in a real enterprise many more people can take part in rewarding commercial or technical activities. For example a retired lawyer in a remote area may advise groups on an occasional basis as required and in doing so earn a little money, keep their knowledge up to date, and contribute to the success of others in similar positions or help a worthy cause. Or a school sixth-form may not offer somebody their turn-on challenge but there's a group ('hundreds of miles away' - in reality everywhere) that is just desperate for an electronics enthusiast and will invest in their progress - and perhaps in a while introduce them to selling or designing in a real-world enterprise and in the meantime motivate them to pester the science labs and collect more practical enthusiasts.

The knowledge-based economy is structurally different from today's one-person-one-employer norm.

Many projects and organisations need specialist skills on-demand a bit at a time. Employing say a system administrator as a permanent position doesn't make economic sense until the organisation is quite large. Yet every organisation needs some. The traditional fudge is to lump responsibilities on people with other things to do who don't want them and aren't experts in problem solving or prevention. Furthermore training and understanding is ad-hoc, the minimum necessary and quickly lost.

See the *Hanses* project on page @@@90 for how to develop a pool of specific skills available on-demand and associated training and commercial presence. Modern guilds of craftsmen.

11 Getting started with prototypes

At the present time, February 2009, nobody has taken the ideas discussed above and put them into practice. Just as with any new technology some development is needed to investigate the detailed practicalities of application.

Given the potential impact of rew we should be thinking about a properly scoped and funded research and development programme.

Development work to be done

We have social networking as a starting point but this doesn't provide all that we need for successful electronic collaboration amongst people who want *to get things done*. In particular the structure and management of such an organisation needs to be significantly different to say a local self-help group or two chaps tinkering in a garage.

- Dealing with this involves a combination of social psychology and information technology.

The social-psychology aspects that form the justification for the basic 'Treem' structure are relatively easy to understand²⁸. Beyond that theory a number of practical experiments are needed to explore details. I have a number of suitable projects which have different scale, ambitions and natures waiting to be set in motion. Clearly, as well as getting a better general understanding of what works well and why different emphases develop between projects, we need to monitor individual and group development as it happens. These tasks require some methodology and resources to implement. Part of getting treems going will involve

- educating people on how treems work
- encouraging the development of treem-management tools.

²⁸Section 6 of great *Writers on Organisations* by *Derek Pugh and David Hickson* is a quick introduction to various scientific approaches in this area.

These short-term tasks which concentrate on building stable and efficient teams can later be extended by using the practical knowledge gained to develop an infrastructure that deals with 'business issues', 'managing layers of quality' and encouraging a market in the full range of skills.

Suggested plan

Some candidate projects that require team efforts which are almost ready to start are listed as an appendix. These projects have very different natures but all have easily graspable goals.

- To do : Finalise Manifestos.²⁹
- To do : Estimate nature of group and key aspects of interest.
- To do : Devise a shakedown project for each group.³⁰
- To do : Estimate the resources required to support each group.
- To do : Suggest a monitoring methodology for all projects.
- To do : Decide how to set up seed 'steering groups'.

The nature of these projects is such that they will be suitable for part-time volunteers and one-off contributors. This sounds very feeble until you realise that many respected organisations, for example the RNLI, work on this principle and are extremely effective. For the participants in this first set of projects they have the added motivation of being pioneers.

A major difficulty is recruiting a suitable mix of people to each project. One key feature of a team-based organisation is that it has three main branches of which two (tech-support and public-face) are less closely associated with the exciting creative process and are more difficult to recruit as a result. Technically skilled people tend to 'hang around' in known places and get a buzz from using their skills, but the people who support are spread everywhere and are motivated by other means. The public-face, marketing and customer relations

²⁹ An object-method summary encapsulating "This is what we want to do, and this is how we intend to go about it..." as the basis for "...do you want to help, and let's see how you would fit-in".

³⁰ Jumping in at the deep end' is a mistake that is made over and over again. Enthusiasm and urgency need to be tempered by the need for everyone to be comfortable and efficient as a team.

people are traditionally two other breeds. (These recruitment difficulties would not be so severe if the roles were being paid for with real wages. Although beyond the scope of this plan, it would be very useful to apply treem technology to a fully commercial start-up as a demonstrator of the applicability - and drawbacks in actual practice.)

- To do : Identify ways to access key skills (per project).
- To do : Identify generic methods ways to access:
 - Technical support staff.
 - Administrative support staff.
 - Customer-focussed staff.
 - Business-building staff.
- To do : Establish methods to monitor recruiting efficiency.
- Desirable : Apply treem technology to a number of for-profit situations.

The treem management philosophy is not hard to understand, but the ways to address the difficulties of 'working together apart' will be new to most people.

There is a lot of potential for improved communications infrastructure tailored to the treem organisational structure. Both the methods and the implementation should be fully researched as they are fundamental to the enabling efficient remote working.

- To do : Sketch the important aspects of communications technology and the directions developments could take.
- To do : Write the guide "How to work in a treem".

The need for funding

The technology of effective remote working is going to be immensely important. We now have the bare theory and for a trivial amount of money we can take the next steps which are:

- Quickly set up some prototype groups.
- Scheme the methodology and resources for monitoring them.
- Create enough academic and business interest to develop a core of practical expertise.

The alternative is that these projects still go ahead but few lessons will be learned by very few people and the knowledge needed to revitalise the British economy will either be completely lost or come through in a trickle of folk tales.

The funding will go towards:

- Recruiting prototype group participants.

- Overall project management.
- Monitoring and reporting and learning and tweaking how people interact.
- Budgets for each project's expenses.
- Identifying practical technical issues as a first step towards improving efficiency and dealing with 'business problems'.
- Making the results available.

The alternative is that these projects either don't get started or don't fulfil their ambitions. Furthermore there will be no incentive to spread the knowledge of what works and what doesn't, what is simple but feeble and what is complex and effective - and what those terms mean in practice.

Funding makes possible:

- Rapid proving of the treem technology...and...
- building a corps of knowledgeable people able to advise on wider implementation.
- Participation by disadvantaged and disconnected (in all senses) people.

At some stage we have to go from just projects with volunteer participants to some with paid employees. This is a big and important step that should really follow the bottom-up approach...
...But if the right business opportunity arises it ought to be supported as a prototype for the factories of the future.

Without funding the following would be lost:

- The social benefits (inclusion, participation, connecting, learning skills with a purpose, understanding the need for 'doing it right').
- National economic benefits (accessing a huge pool of skills, ideas and knowledge in flexible manner; developing the skills at all levels of remote working for any purpose; being able to cut down on wasteful and carbon-based travel).
- General 'national feel-good' benefits (being leaders in technology, having a new avenue of work satisfaction to explore, opportunities for everyone to participate in some way in new enterprises and socially worthwhile schemes that are 'beefy enough' to make a difference. Confidence is important.
- Economic (and social) benefits of individuals having access to technical skills training and re-training (at very little cost) or developing previously ignored aptitudes provided by an approachable and benign environment...

- ...and the national economic benefit of a workforce with many special skills...
- ...available in a 'for hire' marketplace.

(Or take ages to develop - by which time competitors would have taken the lead. That would mean our most progressive cooperators would be working for foreign-based groups.)

Funding amounts

Because of the importance of being at the leading edge of remote working technology it is tempting to suggest that a large team should be created forthwith to 'make things happen'. Hmm... On the other-hand two research-student-years and £2000 for expenses is obviously falling short.

I suggest the following roles are required (not necessarily full-time or separate)

- A champion and visionary
- A social economist
- A business psychologist
- A recruitment advisor
- A consulting systems administrator/designer
- An 'internet technology' technician/programmer
- A secretary
- A 'good listener'³¹
- A data collection assistant
- An editor and technical author
- ? An academic liaison person - (re. treem technology)
- ? An experienced trainer - (re. access to technical skills)

On the back of an envelope we can suggest one to two days per week for say nine months per person. $1.5d * 39w = 60 \text{ days}$. Times 12 people = 720 (say 1000) man-days of varying levels of skill.

Funding would also be required for administration, seeding the prototype projects and, possibly the largest item, recruiting prototype participants.

³¹ This is part to do with 'grumbling' but mostly about good contacts at all levels with all the members of all the prototype groups.

12 Glossary

Branch

The three way distinction between the types of activities of the organisation.

Left branch : Productive, creative

Middle branch : Internal support and management

Right branch : Outward facing

Each branch suits different personalities.

Champion

The head of a branch who has the job of maintaining the organisation of that branch. (Compare Chief)

Chief

The head of a 'department' with the job of 'getting the work done'. (compare Champion)

Class

Group tutorial where the teacher leads discussion

Conductor

An ad hoc informal communicator of folklore and gossip.

Feedaround

Knowledge sharing amongst a group whether actively participating or just observing.

Feedprompt

An encouraging cue for a response. Important in 'conversation', eliciting knowledge and provoking a riposte. For example in face to face conversation we use voice inflection, silence and facial expression to indicate questioning.

Followship

See a real leader and you will see a bunch of people who endorse them. When a leader is recognised like this it is easier for others to accept the hierarchy and so the effect is magnified. Also illustrated by "He may be an idiot - but he's our idiot".

ftf

"Face to face" situation or world

Grumbler or Grumblee

A formal role within an organisation with the task of listening to miscellaneous gripes and being available for people to express their concerns without disturbing good harmony in the workgroup.

Hanse

Guild of technologists in a specific realm.

Interaction

Communication in real-time. (Compare Message)

Message

A communication without an immediate response. (See Interaction.)

Moot

Discussion with the object of resolving some policy issue.

Pin

A person who 'joins' two treems together by being a member of both.

rew

"remote electronic working" situation or world

Shakedown

An exercise carried out before the main task in order to bring all the participants together and up-to-speed.

Treem

Teams of (usually) three people arranged in a tree hierarchy.

13 Appendix: Tutoring and guiding

This appendix is included because it illustrates the need for some rethinking of the everyday skills that people need in order to function as part of a remote workgroup.

- *The team that trains together works better together*
- *A lot of the muddle-through learning of ftf needs to be replaced by more explicit education in rew.*
- *Treems are an ideal self-improvement forum for individuals and the treem as a whole.*
- *Many people will have subordinates or at least junior colleagues, but are frightened of any 'leadership responsibility'.*

However as this appendix is short it demonstrates that important issues don't necessarily have complicated answers.

Why bother with training?

Many people in treem-world will find themselves with junior colleagues who need things explaining to them and who have all sorts of little and large things to find out. It can be a bind at the time but in the long run it is the only way. How else are you going to progress to more interesting jobs if you can't delegate the boring ones!

When it's your job to pass on knowledge or skill you have to spend a little while asking yourself and the people you are leading what items of knowledge or skill that would be. This will soon tell you where the best approach is 'didactic' - telling and showing - and where it is discovery. There is an art to this which comes with experience and is very satisfying when learned.

The difference between tutoring and guiding

There is a difference between tutoring and guiding:

- Tutoring is where you have a *pupil* who is aiming at the objective *you have set*.
- Guiding is where you have a *student* with *their own objectives* who may need advice on how to achieve them.

And

- To be a tutor you need to know the course.
- To be a guider you need to know the subject.

Starting off

In all cases the initial contact is the most important few minutes of the whole relationship. Your tasks are to:

- 1 Find out how much the pupil/student knows or can do already.
 - It is important to do this in a way that doesn't make the pupil/student feel hopelessly ignorant and incapable.
 - It is also important to try to find if there are any 'blockages' in their previous education. "I just came to a dead stop with..." is what you want to hear because if you can crack this they will have great respect for you, and confidence that 'impossible' things can be solved given the right approach.
 - It is extremely easy to wrongly assume people have certain specific knowledge or skills. This is a fatal trap. You need to check the essentials and look for signs of flakiness. People simply forget. One way of doing this is to ask them what sort of problem or task they feel confident with at the moment.
- 2 Give the pupil/student confidence and motivate them.
 - Many people are defeated by their own lack of confidence and initiative. Your job is to convince them that you will be easily able to tell where they are having trouble and find a no-hassle fix.
 - Of course everyone finds a happy and relaxed learning environment better than a stressful and worrying one. It's your job to make it so.
- 3 Build a team.
 - With pupils it generally helps to set a tangible goal ("Aim for grade 3 by Christmas")
 - With students it's more important to establish a relaxed working relationship. Inextricably linked with this is

establishing some end goal and sketching out some intermediate tasks.

These three tasks need to be got off to a roaring start at the beginning of a new relationship, but then also figure in the first few minutes of every subsequent session. For example it pays to check that the stuff we did last time has been taken on board. One of the ways teaching fails is when the pupil's competence falls behind the teacher's expectation and the teacher fails to notice and doesn't fill the gap before continuing.

Finally, at the end of each session some confidence building, recognising achievement, simply congratulation on doing well to keep up is required.

Guiders will need to keep the agreed set of intermediate objectives up to date. For example it might be agreed that the student should become a bit more proficient in some area before pressing on. The guider needs to be able to review progress firstly in case the student gets bogged down with something that is causing them problems requiring some intervention and secondly to avoid getting delayed unnecessarily when it makes sense to move on to the next challenge.

In a team there will be people who tutor and guide you as well as you being the tutor and guider. Everyone is pushing the boundaries of their knowledge and abilities which is intensely rewarding.

14 Appendix: Possible prototype projects

Here is a list of possible prototype projects which are nearly all concerned with software development, IT skills and IT infrastructure. The information is intended as a sketch not a specification - proper scoping of the projects needs to be left to the people who found them.

The most likely candidate projects have been highlighted and are discussed in more detail below. However if enthusiasts or sponsors get the hots for another then that's great.

Team	Project	Description	Core	People	Months
A	12Ms	A follow-on from the 12Rs, using a modified approach to put 12 'Maturities' under the analytical spotlight.	Non IT	40	12+
A	12Rs	Defining 'essential basic skills' and develop resources to assist assessment and teaching.	Non IT	20	4+
B	AX	Low-level operating system trick to provide no-brainer accents.	System programming	5 10	-3
C	Day	A standard for representation and processing of dates.	Standards, System programming	5	9+
D	Calc	Calculator with checked units and fuzzy values	Widget	5	3
D	Factors	Simple project planning and monitoring - what matters	Management application	5	2+
D	Hurdles	Simple project management - what's left to do	Management application	5	4+
D	OM	Objectives - Methods : Simple essential project planning fundamentals.	Management application	5	2+
E	Cases	Standards and tools for obtaining, sharing and controlling knowledge.	Information management	10 20	-6 - 12+
E	Chairman's assistant	Organising all sorts of meetings	Management application	15	12+

Team	Project	Description	Core	People	Months
E	OR	Operations room collects management data and provides a structured and controlled discussion environment	Management application	5 10	-6++
F	Auditing	Generic self-audit	Web application	5 10	-4
F	Club assistant	Generic organisation membership, finance, events, messaging, record keeping and web site system	Web application	5 10	-6++
F	Disruption	Develop then maintain a service that simplifies and improves on-line communications for organisations when hit by disruption.	Web application	5 10	-6++
F	Flowchart in the margin	Graphical aid for procedure manuals.	Widget	2	2
F	Halls	Creating an online market place for the hire of public halls.	Web application	5	3
F	Morris	Federated version of Club assistant to collectively support Morris sides.	Web application	5 10	-6+
F	Nat.Pot.	Pothole reporting from the public's point of view	Web application	8	9
F	One line	Local directory	Experimental web application	10	12
F	Will on the web	A means to itemise and keep current a will and complexities of on-line accounts which makes acting for a deceased or incapable person possible.	Web application	+ 5 10	-6+
G	Better email	Protocols and tools for communication within an organisation	Management systems	10 20	-6++
G	ID+Reputation	Research and development for how on-line reputations (and identities) can be established and maintained.	Exploration group	10 20	-++
G	Rew tech tools	Developing the interaction and management tools for treems and rew	Tools to aid rew	20 30	-++
H	Hanses	Guild of technicians in a specific setting (eg Graphics design, code management) setting scales of competence, developing talent and a trusted practitioner programme	Organisation	5 10	-++
J	Email titles	Adding functionality to existing email addresses	Standards, promotion, programming	10	18+
J	GGG	Service to track moved web sites	Web application	5 10	-4+
K	Computer cadets	How to think like and be like a programmer. Self paced, low cost learning. Training and mentoring experience for existing practitioners.	Community tech. training	>100	++
K	Tech	Interactive schooling for technical (IT)	Training	>20	++

Team	Project	Description	Core	People	Months
	school	subjects. Object is to build and maintain a generic infrastructure, in particular support staff. Specialist guest tutors and course developers concentrate on content while the school staff concentrate on delivery.			
K	Tech school interns	Inexperienced but keen talent looking for opportunities			
L	Frontends	A long-lived group focussing on designing and building or retro-fitting user interfaces.	Application group	30 50	--+
M	Manifesto market	Project proposals	Forum	5	3++
M	Skills market	A market place for developer and tree jobs.	Forum	5 10	-6++
N	Accessible business computing	Procedures and practical tools for reliable small-scale business computing.	Robustness and ease of use	>30	12++
N	Accessible home computing	Very basics of essential IT for personal use. Focus on getting started and internet usability. Including developing better tools and easier to manage platforms.	Robustness and ease of use	>30	12++
N	Accessible security	Very basics of essential IT security made simple. Methods and implementation. Focus on usability	Robustness and ease of use	>30	12++
O	Theory and practice of forms	Structured data interface principles and tools	Insight, analysis, coding	10	9+
O	Tool room	Creating components	Tech. Sourceforge-ish	>30	3++
P	Workshop	Adapting components for specific purposes	Tech. Adapting components	>30	3++
Q	Prototypes	Assembling components and creating demonstrations	Application building and proving	>30	3++
R	Guinepig club	Beta testers from many different backgrounds and environments using defined test protocols.	Pool of volunteers	>100	3++
S	PC furniture	Physically reengineering PCs to fit pleasantly into homes	Hardware, craft/design, marketing	10 20	-3++
T	Representation of knowledge	Research programming language	Comp.Science research	5-10	6 - 12
U	Rew	Promoting, guiding, informing and gathering	Organisation	>20	220

Team

Project

Description

Core

People

Months

society together rew and treems. Monitoring and publicising good practice

The 12 Rs

Starting from the premise that there are *twelve* essential basic items of basic education this project aims to:

- As a *shakedown*, produce a full definition of what we mean by each R, why it is important, how and when we might assess it and the potential for developing resources. The framework for this is ready.
- As a main project, expand on the definition to produce general resources, do research (particularly into assessment), promote best practice in education and recruiting.
- Whether the organisation closes down at the end of the project or continues as a 'society for basic education' is up to the members.

The social and economic value of the project aims make it worth doing per se.

The reasons for setting it up as a new team are:

- The considerable breadth of people who will be interested in participating (teachers, educationalists, recruiters, parents, social services) gives a varied mix of participants. This will be useful to
 - (a) get away from IT-driven projects,
 - (b) spread the new/team concept outside IT
 - (c) be a test bed for how to handle significant discussions without degenerating into a talking-shop.
 - (d) have 'productive' IT staff in a Middle Branch role.
- Participation is not restricted to one geographical area or driven by one type of member. For example we might expect academic educationalists to work with practical teachers and guinea pig pupils to assist recruiters develop assessment methods who would then move on to support groups wanting to understand how the 12Rs affect vulnerable adults.

Note. The 12 Maturities project is a more complex version which would be started after the organisation of the 12Rs had settled down. The lessons learned from the 12Rs prototype would be built-in from the start.

Factors, Hurdles and organisation- Methods

Three simple management tools that are easy to implement, could be implemented more than platform (eg web-based and stand-alone), have a considerable amount of user-related content (user guides etc.) and could be very profitable. This project aims to:

- Shakedown by creating prototypes and getting in touch with representative potential users for market research.
- Produce one or more implementations of the three methods
- Produce the how-to and why-do-you-need-to documentation
- Set up a sales/distribution operation
- Profit

The reasons for setting it up as a rewtreem are:

- To demonstrate the rewtreem method working for-profit. This will require devising the methods to set up and monitor legal rights, responsibilities and rewards.
- To demonstrate the rewtreem method working in a collaborative software development environment. This is important as currently this sector is very badly organised and is not good at producing profit or fully-featured results.
- To explore issues surrounding the Right Branch: Creating working software is easy - the success of this project depends on good selling and support.
- The short-term nature of the main effort and the opportunities for a distributed sales operation make this ideal for rewt.

This is a fairly quick and easy project to bring to a commercial market. The organisation would then be in a position to develop more management tools in a similar vein. (Labelled E in the table.)

Will on the web

This is probably the most interesting web application from the point of view of what can we learn from a prototype. The application is in essence that somebody keeps their will and access to private information (eg account credentials) securely on the web in such a way that if they die or are incapacitated the information is passed on to somebody who can use it. There are a host of legal, social, international, privacy and security issues where we would expect a wide variety of experts to work together to solve the issues. This

won't happen overnight so the project organisation will be working a little bit at a time refining the system.

- To begin with it will be a development-led project but later, morph into a stable service operation. This will be an interesting test of the responsiveness of the treem structure to change.
- At the development stage there will be many disciplines involved in design and investigation. How will the treem and moot system work under these conditions?

The reasons for setting it up as a new treem are:

- To use many skills and much knowledge on an occasional basis.
- To use international membership to inform on multiple jurisdictions.
- To allow the development to be paced by the development community.

This could turn into a for-profit operation but the development phase could be quite long given the legal and security issues.

Rew tech tools

This project is concerned with building a corps of expertise in the application of technology to rew. This is of course going to be very important in order to give rew treems the tools they need to operate effectively.

The members of this project might not be individuals but other organisations, perhaps university departments or interested commercial firms, who have the facilities to build and test technology. Only a little of this technology be the rocket-science stuff; a lot will be relatively simple technology applied to rew for which investigations of the effectiveness from a social psychology point of view will be required. It is easy to see how some communication tool could start in a lab, be developed in a controlled research environment then passed on to one or more rew-treems for proving in-the-field.

This project, which aims to have off-the-shelf rew-management and rew-collaborative working tools available is necessary in any case.

A reason for making it a prototype project is that we can see what happens if some members are organisations themselves instead of the normal individual. We might expect in some cases for the treem structure to cross organisational boundaries but not in every case. How does a Pin work in this situation and what are the legal implications? Encouraging established technology producers to join as a unit means they can be closely involved with what's going on in this developing market.

There might be a useful connection with the *Rew society* (see below)

Hanses

"Hanse" is an old word for craft guild.³² As information technologies proliferate so we need the skilled technicians to apply them. Many of these technologies are niches which are not on any traditional career path. Also a lot of the time there are few opportunities to continue developing skills or even getting started in the first place. Furthermore often there are few full-time long-term jobs. The economic result of this is poor application of technology due to a fragmented, poorly trained workforce that lacks experience where high levels of skill are essential. This results in inefficient implementation, poor quality products and missed opportunities.

The modern technician's guild version would be very similar to the old craftsmen's trade association:

- Organised by the experts themselves.
- Membership on merit and ethical behaviour.
- Training and mentoring with defined levels of experience and skill.
- An established source of specialist skills.

Each hanse would have a specific realm. Some examples are 'Javascript programmers', 'software librarians and change controllers', 'Arbitrators', 'management technologists', 'graphic artists' and 'Grumblers'.

The benefits for the members are better employment prospects, mutual improvement, mutually defining levels of experience and

³² "Guild" has been devalued by many trade associations with dubious membership requirements.

recognising expertise. The benefits to the economy in general are a well-trained, available and flexible workforce. The benefits to enterprises are access to specific skills at an understood level for specific tasks.

See <http://vulpeculox.net/ob/hanses.htm> for further discussion.

The reasons for setting up a prototype hanse as a new organisation are:

- Explore how new works for an organisation that is concerned mainly administrative and policy rather than production. This would probably not be team-based but the alternatives are vague.
- Explore the social, legal and practical issues of rank and regulation.
- Explore the issues of mentoring, access to introductory and expert knowledge and opportunities to gain worthwhile experience.

Manifesto market

A manifesto is a structured outline project proposal. It is equivalent to the script of a play where an author describes what is to happen and what resources are required.

This isn't an entirely new concept, but in the context of new organisations that have general aims and take on specific projects within those boundaries it is useful for them to be able to find new 'scripts' to work with. (There are plenty of source libraries and active project pages but that's like saying there are plenty of flower shops when what we're trying to do is buy and sell seeds.)

The aims of this project are to establish a common presentation standard, a common set of rules and stimulate the production and legitimate acquisition of seeds for projects. A web site would be developed as a showcase and marketplace.

The reason for suggesting this as a prototype project is the importance of divorcing 'the bloke with the idea' from the team(s) that develops it. (Playwrights are generally experts at writing plays not producing them and vice versa.) There are important issues of trust, and legal obligations to be investigated. It might be essential for the market to be restricted to accredited buyers and sellers.

Manifestos are described in an old article at <http://vulpeculox.net/ob/mmm.htm>

PC Furniture

The basic premise is that 'boxes with lots of wires' don't fit well into a domestic living space, and perhaps a rethink for commercial use wouldn't go amiss either. The object is to stimulate innovation by bringing furniture designers and PC builders together.

The reasons for making this a prototype project are:

- This involves completely different disciplines - separately experienced but jointly exploring. This is quite a challenge to deal with by new methods.
- This is a hardware project where the people involved are used to tactile involvement. Another challenge for new.
- This is a nice small demonstrator project that is easy to explain to a wider audience in order to show the potential for new to stimulate industry.

Rew society

The purpose of the Rew society is straightforward enough. Apart from the usefulness of having a central point for information and promoting innovation, this should be a prototype project because it will grow organically rather than having a definite project plan.

- It will be a hybrid organisation: Part interest group and part a mission-led organisation. This is like most pressure groups or special interest groups. What is the best new organisational structure for this?
- It will grow which may mean that a small-organisation structure has to morph into a different larger-organisation structure. At the moment we don't know if there is any difference between small and large - this is what we should find out.

15 Conclusion

I hope this book has shown that remote electronic working requires a new approach. We already have a lot of the communications technology and now the task is to apply it based on social and group psychology.

- The team group model is the start for close-knit organisations with strong bonds of loyalty.
- The three-branch structure gives us a way to place people in that part of an organisation to which they are temperamentally suited.
- Champions and Chiefs deal with maintaining the organisation and production respectively.
- Distractions and dissatisfactions are diverted away from working groups by Moots and the Grumbler to avoid disrupting the work flow and harmony.
- Research is needed into how people establish their identities and positions within the organisation.

The social and economic benefits are enormous.

- More opportunities for individuals to participate, learn and earn.
- A more flexible workforce with rare skills more easily accessible.
- Reduced overheads.

The next step is to see if the theories discussed actually work in practice by implementing some prototype projects. A selection of demonstration projects will show the wide range for which new, when done the new way, can change the way we work in the 21st century.

Index

across	8, 21, 25, 31, 35, 43, 45, 50, 52, 53, 61, 62, 66
aims	43, 93-95, 97
bandwidth	9, 27, 48, 59
Branch	17-19, 21, 25, 26, 31, 35, 37, 67, 68, 76, 84, 93, 94, 99
Champion	25, 26, 29, 33, 35, 59, 60, 77, 83, 84
Chief	25, 26, 28, 29, 33, 35, 61, 69, 84
cohesion	3, 58
collaboration	5, 72, 74, 76, 77, 79
communication	38, 40, 43, 44, 46, 47, 49, 51, 52, 63-65, 73, 85, 90, 95
Conductor	84
context	7-9, 11, 13, 29, 35, 49, 51, 52, 97
discipline	36, 60, 70
dissatisfaction	8, 9, 11, 13, 21, 23, 24, 35
economic benefits	76, 82, 99
feedaround	49, 50, 84
feedback	48-50
feedprompt	50, 84
folklore	39, 44, 45, 84
followship	34, 70, 85
funding	70, 81-83
goals	13, 14, 16, 18, 23, 26, 29, 30, 36, 80
goodwill	8, 37, 53, 54, 70, 72
Grumblee	24, 58, 85
Grumbler	24, 26, 27, 29, 35, 85, 99
knowledge	6, 12, 13, 24, 26, 30, 36, 41, 42, 44, 45, 47, 50, 52, 57, 68, 70, 74-78, 80-82, 84, 86-89, 91, 95, 97
leadership	16, 19, 33, 34, 52, 60
Left branch	17-19, 31, 84
loyalty	13-15, 21, 23, 24, 39, 40, 42, 43, 58, 59, 99
Management layer	4, 21, 22
media	13, 40, 46-48
Middle branch	17-19, 26, 68, 84, 93
Moot	25, 27-29, 34, 35, 85, 95
motivation	3, 8, 10, 11, 21, 57, 58, 80
organisation structure	14, 16, 63, 98
Pin	28, 53, 85, 96
prototype	3, 4, 73, 81-83, 89, 93, 94, 96-99
psychology	5, 7, 8, 13-15, 38, 54, 79, 95, 99
research	3, 54, 71, 79, 83, 90, 91, 93-95, 99
Right branch	17, 18, 26, 31, 84, 94
skills	3, 6, 12, 17, 19, 24, 26, 36, 44, 48, 58, 63, 72-78, 80-83, 86, 87, 89, 91, 95-97, 99
social benefits	82
software	5, 19, 72, 75, 77, 89, 94
stereotype	18, 42, 70
tools	8, 11, 36, 38, 54, 56, 61, 64, 73, 75, 79, 89-91, 94, 95
up and down	16, 31, 32, 35, 52, 53, 57, 62
video	39, 40, 45-48, 51, 56, 62, 65, 71