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DAY 4:

THE JOINER TRIANGLE

and

THE 14 POINTS (part 1)

DAY 4: THE JOINER TRIANGLE AND THE 14 POINTS (part 1)

(9.00am – 12.45pm; 1.45pm – 5.30pm)

Introduction (p 1); The Joiner Triangle (p 2); Simple and profound (p 3)

Read D*emDim* pages 31–36 (p 3)

The Joiner Triangle: "Scientific Approach"; Activity 4–a (1) (p 4 *[WB 49]*)

Activity 4–a (2) (p 5 *[WB 50]*)

Activity 4–a (3) (p 5 *[WB 50]*)

The Joiner Triangle: "All One Team" (p 6); Activity 4–b (p 6 *[WB 51]*)

The Joiner Triangle: "Obsession With Quality" (p 8); Pause for Thought 4–c (p 9 *[WB 51]*)

Activity 4–d (p 10 *[WB 54]*)

The Expanded Joiner Triangle (p 11)

Introduction and notes on the First Project (p 14)

Point 1: Constancy of purpose (p 16 *[WB 56]*)

Point 2: The new philosophy (p 18 *[WB 58]*)

Point 3: Cease dependence on mass inspection (p 20 *[WB 60]*)

Point 4: End lowest-tender contracts (p 22 *[WB 62]*)

Point 5: Improve every process (p 24 *[WB 64]*)

Point 6: Institute training (p 26 *[WB 66]*)

DAY 4: THE JOINER TRIANGLE AND THE 14 POINTS (part 1)

My public and in-house seminars on Dr Deming's work date from 1986. At that stage I simply offered a one-day introduction. Apart from a little historical background, such a one-day seminar would comprise just three topics: understanding variation, the Experiment on Red Beads, and the 14 Points for Management. Back then, those were pretty much all I knew about the Deming philosophy. In retrospect, and as some of my comments when introducing the Red Beads Experiment will have confirmed to you, my level of understanding even of those topics was somewhat minimal back then! But one has to start somewhere ...

My treatment of the 14 Points in those days was rather along the lines of what you can read on *DemDim* pages 39–48. I simply took them one at a time, giving a fairly full statement of the Point using Dr Deming's own words (often from more than one source), and then sharing some of my own thoughts about the Point.

According to accounts that I have seen, the 14 Points have their origin in discussions at a four-day seminar presented by Dr Deming for the Hewlett-Packard company in 1981. Some ten suggestions of what might be included apparently arose from those discussions, although unfortunately I do not have any details. Deming developed and extended these suggestions during the following months, and what we now recognise as the 14 Points soon became a substantial feature of his four-day seminars. The versions introduced in 1982's *Quality, Productivity, and Competitive Position* are quite similar to those that are presented and more extensively discussed in *Out of the Crisis* four years later.

That compares interestingly with the five "Deadly Diseases" of Western management (which we shall get to tomorrow afternoon). These are also well-covered in *Out of the Crisis* but appear in the earlier book in only relatively embryonic form. In fact, just a couple of them are seen there in specific terms, and are merely referred to as "Obstacles" rather than "Diseases". Nevertheless they are the *first* two Obstacles identified there, most of the rest then appearing in *Out of the Crisis* within a larger collection of Obstacles which we shall study on Day 7.

You may recall that we have already referred during "The Deming Story" to a video made in 1984 which shows Dr Deming speaking passionately about the dangers of the five Deadly Diseases (see Day 1 pages 37–38), so his awareness of them and of the harm they cause clearly grew rapidly in his mind during the two years after the earlier book was published.

I should point out that Deming mentioned two further Deadly Diseases on *Out of the Crisis* page 84[98], but described them as "peculiar to industry in the US and beyond the scope of this book". He also did not discuss them in any of the four-day seminars that I attended (either in the US or elsewhere), nor in the video just mentioned. I shall therefore follow his example and content myself here with merely quoting them from *Out of the Crisis* as:

- Excessive medical costs; and
- Excessive costs of liability, swelled by lawyers that work on contingency fees.

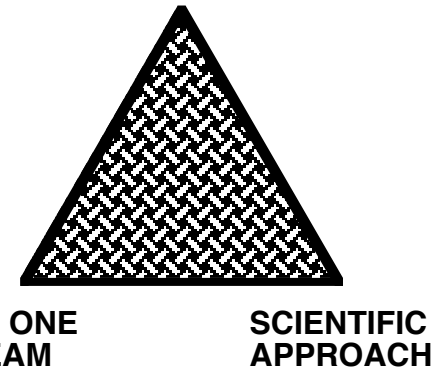
The 14 Points, the five main Deadly Diseases, and the later set of Obstacles are all introduced in *DemDim* Chapter 3.

THE JOINER TRIANGLE

In those early seminars, I soon realised I must be getting something wrong concerning the 14 Points—because people would keep asking me awkward questions that I couldn't answer! Thinking hard about the matter (as one would), I began to realise that merely considering the 14 Points one by one, important although that had to be, was just not sufficient. At that time I really had little appreciation of the Deming philosophy as a *system*, in the sense in which we have begun to use that word. To put it metaphorically, I was talking about the individual pieces of a jigsaw without trying to fit the pieces together. No wonder that I was unable to answer my delegates' questions! Perhaps it is a comment on the attractive nature of Dr Deming's material that individual pieces of the jigsaw are *worth* talking about in their own right—but clearly their prime purpose and role is to help form the big picture.

Nowadays, as I re-read my comments on the 14 Points in *DemDim* Chapter 3, which are largely based on those which I included in my handouts for those early seminars, it is clear that I saw a *few* links between the various Points—but not many. It is almost as if I regarded such links as happy coincidences rather than as an essential feature of their contents. However, as I thought about some of the awkward questions from delegates, I began to see that it was just those very links to other matters about which Dr Deming was also talking and writing that showed the way to answer those questions. And this encouraged me to search for a more fruitful way of finding those links and understanding them—and thus understanding more of what Dr Deming was teaching, and why—rather better than had so far been the case.

My "Eureka" came through getting to know Dr Brian Joiner and some of his colleagues in his then recently-founded consultancy company, Joiner Associates, based in Madison, Wisconsin. They were using the "Joiner Triangle" as their attempt to summarise some foundations on which they saw the Deming philosophy as being built. Just eight words, written at the Triangle's three corners:



In fact, the people at Joiner Associates used only *six* words, with the top of the Triangle being condensed to just "Quality". However, that struck me as being rather too nebulous. On page 11 you will see their more detailed version of the Triangle which shows some of the items to be included under each of the three headings. "Develop an obsession with quality" was the first item under that single word "Quality". With that and the fact that the final item was "Continual never-ending improvement", the thrust of that part of the Triangle was clearly far greater than conventional interpretations of "Quality" would imply; thus it seemed appropriate and helpful to take those two words "Obsession With" up into the title**.**

We shall study the Joiner Triangle's three foundations in some depth on pages 4–13.

Simple and profound

I liked it! Three succinctly-expressed major foundations of Dr Deming's work, and displayed in a simple diagrammatic form which also clearly broadcasts the message that these very foundations are not separate from each other but inextricably linked together. (Does this remind you of Peter Scholtes's diagram in "The Deming Story" on Day 1 page 39? If so, no wonder. Peter was one of Joiner Associates' first consultants.)

So that little diagram of the Joiner Triangle was not just *simple*—it was *profound*.

> I have already emphasised this combination of *simple* and *profound* with regard to the Red Beads Experiment. It is something of which I became increasingly aware in Dr Deming's work—but also something of which I saw little during the more academic pursuits in the first half of my career life. In academia it seems as if one has to come up with pretty complicated things in order to be regarded as profound!
>
> The control chart is another supreme example of this combination of simple and profound. It really is (if taught properly) one of the most straightforward of statistical techniques. Yet the learning from it, and the implications of that learning, can indeed be profound—and often are. This is even more the case when the control chart is used in the 97% region of application rather than just the 3% (see the final "bare bone" of "Shewhart's Breakthrough" on Day 1 page 33).

I soon began to appreciate the potential value of relating the 14 Points to the Joiner Triangle's three foundations. I suspected that this might be just the vehicle for linking the 14 Points together, as by this time I'd realised needed to be done. I was right! So, after having confirmed the importance of this to myself over the following few months, that is what I began enabling my seminar delegates to do. And, would you believe, those awkward questions just stopped—the delegates now found they could answer them themselves! Therefore this is what I shall be getting you to do during the First Project this afternoon and tomorrow. We shall also carry out similar activities later in the course: a considerable part of your learning from now on will be through engaging in such activities—fitting together the pieces of the jigsaw.

This really is a vital part of your learning. The 14 Points and the Diseases cover a multitude of topics: they include leadership, training, education, the importance of matters which cannot be measured (statisticians, please note!), performance appraisals, targets, job-hopping, short-termism, single *vs* multiple suppliers, inspection, fear, and many others. To bring all of these together under the single roof of the Joiner Triangle will be (mixing my metaphors) a great stride along the road toward understanding the Deming management philosophy. To the best of my knowledge, Dr Deming never used the Joiner Triangle. However when, in the second half of this course, we reach his own choice of four foundations, I think you will see quite an amount of overlap with the three bases in the Joiner Triangle. Your current work will therefore be excellent preparation for that later stage. Here we shall be learning to walk before attempting to run!

But, before that, let us spend the rest of this morning studying the Joiner Triangle's three foundations. The first thing for you to do will be to read my brief discussion in *DemDim*—just over five pages. After that, I shall get you to work on the "Scientific Approach" and "All One Team". I will then expand further on "Obsession With Quality", because I'm well aware of some of the doubts and arguments that might arise concerning that concept, especially concerning my sharper focus there compared with the original. Then finally I'll also get you to work on that.

Now please read *DemDim* from the bottom of page 31 to the end of page 36.

> Don't try to chase up all the references on these pages, else this will take you much longer than the 20 minutes that I'm suggesting! But you might find you have time for one or two of them.
>
> When you reach the Chain Reaction on *DemDim* page 33, recall that it is an expanded version of what we have seen on Day 1 page 35 as the fifth in Deming's own seven-point summary of what the Japanese learned from him back in the 1950s.

The Joiner Triangle: "Scientific Approach"

Going right back to Dr Shewhart's formative work in the 1920s, we know that the vital thing to always bear in mind is the division of variation into its two types, coupled with the observation by Dr Deming and others that by far the more important and more numerous problems (and therefore opportunities for improvement) primarily lie in the *common* causes of variation, i.e. in the *system*. What sort of things might these include? There is, for instance, a host of them which relate directly to the company or organisation as a whole: its "culture", its values and principles, the reward and punishment mechanisms, the nourishment or discouragement of innovation, whether people are regarded as having real brains or just as "black boxes", etc, etc. This aspect of variation is, of course, all highly related to work we have already done, e.g. in our learning from the Experiment on Red Beads and the issue of "tampering", so well illustrated in the Funnel Experiment.

> My friend Malcolm Gall once pointed out to me that a "Scientific Approach"—which I suppose might be interpreted as something like a "Purely Logical Approach"—may be seen by some as an *inhibitor* of creativity and innovation (to be studied on Day 8). On page 12 I shall suggest further topics that have a place in such an approach, some of which look ahead to Day 11 and in particular to the "Theory of Knowledge" aspects of Deming's teaching. In Malcolm's words, innovators "need to understand the role of theory and test"—for intelligent innovators must agree that otherwise some of their innovations might not work! In fact, a Scientific Approach supports and aids creativity in practice by helping to discern whether innovations will or will not work and, in the latter case, can provide help in modifying them so that they *will* work.

Activity 4–a (pages 4–5) is also on Workbook pages 49–50.

ACTIVITY 4–a

> This Activity is in three parts. All three parts are likely to involve some deep thought—but I'm giving you plenty of time! *In each of the three cases, if you have not made much progress after, say, five minutes or so then take a look at my brief suggestions on Appendix page 22 to help get you started.*

(1) Identify some situations with which you are familiar where people are being prevented by the system in which they live and work from doing as good a job as they would much prefer to do. In this respect, what particular features of that system do you believe are doing the most harm? How could/should they be remedied?

(2) In *The Deming of America* video, one of the issues which arises is performance appraisal (of the judgmental kind, especially the *ranking* of individuals). In that video Dr Deming states:

> "Ranking doesn't do any good. Of two people, one would be worse and one would be better. I don't know what we'll do about it! The question is: Is one outside a control limit, or does the difference mean nothing?"

Expand on this statement, particularly with reference to the paragraph at the top of the previous page. Your thoughts and answers in (1) are also likely to be relevant.

(3) On *DemDim* pages 34–35 we saw Lloyd Nelson's statement about the importance of "unknown and unknowable" figures, followed by a number of illustrations. Spend some time thinking of further examples of important unknown and unknowable figures.

The Joiner Triangle: "All One Team"

The words "All One Team" surely speak for themselves. They have strong connections with the concepts of optimisation of the system (i.e. helping it to work in the best-possible way) and of "Cooperation: Win-Win". We have mentioned both of these in the Overture and will cover them in greater depth later on.

> Some senior managers worry that heading toward "All One Team" might pose a threat to their authority. However, a further astute observation from Malcolm Gall is that "Interdependence is not an indication of weakness, but an indication of maturity".

Activity 4–b (pages 6–7) is also on Workbook pages 51–52.

ACTIVITY 4–b

Again consider situations familiar to you, perhaps at work, perhaps in your family, perhaps in clubs or societies with which you are involved.

Do the groups of people of whom you are thinking operate as All One Team?

If *Yes* … what has brought about that All One Team state and spirit? What are some of the gains that would otherwise not have been obtained? Are you aware of anything or any things that might, now or in the future, harm or even destroy that All One Team relationship? What would be some of the losses?

If *No* … please move on to page 7.

If *No* … what are some of the losses caused by them not being All One Team? What do you see as the biggest obstructions to their moving toward an All One Team state? What might be done to break down those obstacles? If you were to succeed in this, what would be some of the gains?

(If you are not content with your answers here, you might like to return to this Activity after studying some of the 14 Points and Deadly Diseases in the forthcoming project.)

The Joiner Triangle: "Obsession With Quality"

In all fields of activity, everyone recognises the importance of quality *to a certain extent*. If the quality of the product and/or service being provided by our organisation is so poor that we are losing business, who could argue against the need to improve quality? Also, often there are specifications or targets or standards that *have* to be met, set by legislators or by customers. If our company is not meeting those requirements, who could argue against the need to improve quality? Customers like having the protection of warranties, but they much prefer not having to use them. Further, "a number of companies set their own specifications based on what they *think* a very varied market will find acceptable. Often this is an R&D Department which is far removed from the practicalities of production" (my thanks to Dr Jackie Graham for this observation).

Two particular problems with this attitude to quality are as follows (wherever the specifications originate). First, having worked to reach the standard or target or specification, etc, there is often a tendency to breathe a sigh of relief ("We've made it!") and for the improvement effort to stagnate—at least for the time being. The other problem, which we'll address later (e.g. when working on the 11th of the 14 Points), is the temptation to try to "cheat" in order to *appear* to meet the requirements. Deming often spoke disparagingly about "fudging figures" by means such as redefining methods of measurement or of counting—e.g. what exactly qualifies for descriptions such as "punctual" or "defective"? (The work on operational definitions on Day 11 will be very relevant here.)

> Because the notion of assessing quality in terms of conformance to specifications is so widespread, some may find Deming's teaching on this matter to be particularly challenging. Of course, he is not suggesting that there's no need to bother to meet specifications! His message is instead neatly summarised by the phrase "Specifications, meeting specifications not sufficient" that appears in *Out of the Crisis*'s index (page 428[505]) and points to several references to relevant material in the book.

But since the customer or the Government etc may be, or may become, aware of such attempts to "cheat", would it not be more advisable to improve quality in order to prevent the negative consequences of not so doing? Even then, this could hardly be referred to as an *obsession* with quality! "Obsession" is much more indicative of *continual* improvement, making quality a "way of life", etc—whether or not there appears to be any vital and immediate *need* to do so. And there's the difference. Everyone appreciates the highly *negative* effects of *poor* quality—and, the poorer the quality, the more negative the effects. But Dr Deming was trying to get us to equally appreciate the highly *positive* effects of *good* quality—and, the better the quality, the more positive the effects.

> This is another situation where some teaching about quality from other sources is directly obstructive to Deming's teaching. A previous example was seen in my discussion on Pause for Thought 1–c (Appendix page 6) where I alluded to the damaging confusion with "quality assurance". Considerations of "cost of quality", for instance, guide one to think in terms of how far it is "cost-effective" to improve quality, with the impression that there is some optimum stage at which to *stop* improving quality. (Do you think the Japanese "economic miracle" would have happened if they had thought like that?) However if, in Activity 4–a, you thought seriously about Lloyd Nelson's "unknown and unknowable" figures which he claimed were the "most important" for the organisation, the weakness of "cost of quality" considerations becomes very evident. (In connection with this, also look out tomorrow for the fifth of the Deadly Diseases.) A further massive issue which is ignored in such primitive considerations is the great *savings* that are often made as a result of reducing variation, indicated e.g. in the top half of Deming's Chain Reaction (*DemDim* page 33)—and remind yourself about what that leads to in the bottom half!
>
> An interesting related topic which is popular in some areas of industry is COPQ: the cost of *poor* quality. I have had examples described to me where the yearly COPQ was found to exceed the annual profits!
>
> Deming had a great question to ask of those who were keen on "Zero Defects" and "Right First Time", etc. It was "By what method?". I do not recall him ever getting much of a reply.

Pause for Thought 4–c is also on Workbook page 53.

PAUSE FOR THOUGHT 4–c

Take another look at Deming's Chain Reaction at the bottom of *DemDim* page 33. In later years, there was one link in the Chain Reaction which Dr Deming wished he had expressed differently. Can you suggest which it was, and why eventually he decided he didn't like it?

It was "Capture the market"—with its implication of putting others out of business. In the interests of the "big system", he later clarified (e.g. in *The Deming of America*) that his preference was instead for *expansion* of the market by diversification and innovation—with obvious advantages for both suppliers and customers.

Now, a loud word of caution here. When we are talking of "improving quality", "obsession with quality", "continual improvement", etc, let's be sure not *only* to think in terms of the quality of product or service as received by the customer. That might lead us in the direction, for example, of depending on mass inspection which, as we shall soon see, is in direct contradiction to the third of the 14 Points. Alongside the quality of what the customer receives, we *must* be thinking of the quality of what goes into the *production* and *delivery* of that product and/or service—the processes, the ability and willingness of people and groups within the organisation to work together to solve and indeed prevent problems, and to find and implement better ways of doing things. Attempting to improve quality of product/service *without* those broader considerations may well prove to be impossibly expensive and so lead to a dead end. But, yet again, here we are immediately getting involved with those "unknowable figures" and very much with the whole way in which the organisation is managed. Which is what the Deming philosophy is about ...

Delight the customer?

On *DemDim* page 32, quoting from that great paper by Peter Scholtes and Heero Hacquebord, we saw:

"Quality Guideline 1:
Quality Begins with Delighting the Customer"

To people who have always thought of "quality" in terms of specifications, targets, standards—i.e. simply an "It is" or "It isn't" view of quality—the notions of continual improvement, delighting the customer, etc can seem wholly unrealistic and impractical "pie in the sky". "We can't even *satisfy* the damned customer. *Delight* the customer? Don't make me laugh!"

But is it really beyond rhyme and reason to think of delighting the customer? Rather than asking the question: "Can we *afford* to delight the customer?", might it not be more important in many instances to change the emphasis to: "Can we afford *not* to delight the customer?".

Activity 4–d is also on Workbook page 54.

ACTIVITY 4–d

Imagine the following situation. You want to celebrate, say, an anniversary or a birthday. So you and your friend/spouse/partner arrange to go out to dinner, perhaps to a restaurant that you haven't previously visited. Let me suggest three scenarios to you. At the end of the evening ...

Scenario 1: ... you are a *dissatisfied* customer. The menu was unexciting, the food was poorly prepared and cooked, the service was inattentive and slow (or alternatively, too fast—they seemed keen to rush you through your meal and get you out of there).

Scenario 2: ... you are a *satisfied* customer. There was nothing to complain about: the food was OK, the service was OK, the menu was pretty much what you expected, and so on.

Scenario 3: ... you are a *delighted* customer. Everything was *wonderful*! The menu was so crammed full of exciting possibilities that you'd need to come back several times to explore it properly. The food was delicious (it "melted in your mouth"). And the service was just right: immediate attention when you needed it, but without that irritatingly repeated "Is everything all right, Sir?".

There are two questions I'd like you to consider in each of those three scenarios:

(a) When you next go into work, or meet up with friends, do you talk about your experience at the restaurant? Do you recommend that they try it out for themselves? Suppose you had been …

(1) *"dissatisfied"*:

(2) *"satisfied"*:

(3) *"delighted"*:

(b) In a year's time (the anniversary or birthday again), are you back in the same restaurant, or are you somewhere else? Suppose you had been …

(1) *"dissatisfied"*:

(2) *"satisfied"*:

(3) *"delighted"*:

So what has

(1) dissatisfying you:

(2) satisfying you:

(3) delighting you:

done for that restaurant's business?

(For some brief discussion, again see Appendix page 22.)

THE EXPANDED JOINER TRIANGLE

In preparation for the First Project and as promised on page 2, here is a fuller version of the Triangle as used by Joiner Associates' consultants. It includes notes of a few of the topics relevant to each of the Triangle's three foundations. Take a careful look through it: you will probably find it helpful to refer repeatedly to such an expanded version of the Triangle as you work through the forthcoming project.

Develop an obsession with quality
– of products and services
– of processes
– of performance
– of work life

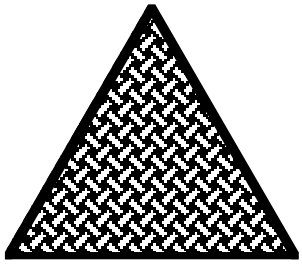
Define minimum needs in operational terms
– external customers
– internal customers

Quality is achieved by improved processes, not by inspection

Go beyond mere conformance to specifications

Continual never-ending improvement

OBSESSION WITH QUALITY



ALL ONE TEAM

Cooperation *vs* competition

Break down barriers

Process improvement teams
– cross-functional
– cross-hierarchical

Optimise the system as a whole

Teams of teams

SCIENTIFIC APPROACH

Work on the system
– flowcharting

Understand variation

Use process methodologies
– charting
– statistical thinking
– special and common causes
– seven tools
– problem-solving and continual improvement

Innovation of product and process

However, before we move on to the project, I need to consider further the Scientific Approach part of the Triangle. There are several reasons.

First, you will have already read on *DemDim* page 35 that "Topics which can be included under this general heading *[Scientific Approach]* take up a considerable proportion of this book". That doesn't really tie in with the mixture of topics chosen by Brian in his expanded version of the Joiner Triangle that we have just seen on the previous page. Of course, everything there is useful but, in its context relevant here as representing foundations of Dr Deming's theory of management, some other choices could have been preferable. For example, I would have added two very important topics: Operational Definitions and the Deming Cycle. (However, I shall not include these in the box below since we won't be studying them here until Day 11.)

Second, you will observe quite a large emphasis on *tools* in Brian's choice of topics, well beyond the control chart: the seven tools, flowcharting, problem-solving. Recall that, in his four-day seminars, Dr Deming didn't even discuss any technical details of how to construct the most important tool of all, the control chart (see Day 1 pages 7–8): so such an emphasis would be out of place here (as you know, anything "beyond the basics" is instead optional/*extra-curricular*). Again, this isn't to say that the tools mentioned in the Triangle on page 11 are not useful: indeed they are, but they can be useful *whatever* approach to improving quality is being adopted, whether or not it has any connection with what Deming taught.

> I recall two occasions in four-day seminars when the topic of "quality tools" was raised. On one occasion Deming suggested that, regarding tools (other than the control chart) "you can learn all you need to know in an hour". On the other occasion, a delegate was unwise enough to enquire what part one of the then-current "flavours of the month"—QFD (Quality Function Deployment)—had to play in the Deming philosophy. That prompted probably the sharpest retort I ever heard from Dr Deming at any of his seminars: "For Hell's sakes, let's get down to business".

However, as you have seen, Brian did also include "statistical thinking" and "special and common causes" in his selection of topics, and so presumably "charting" definitely included the control chart! It seems wise for the current purposes to restrict our attention for most of the project which follows to understanding variation in the sense introduced by both Drs Shewhart and Deming via our opening day and about which we have now learned plenty during Days 2 and 3. This will also be ideal preparation for the Second Project on Days 10 and 11 which involves the System of Profound Knowledge (briefly introduced on Day 1 page 37) since "Understanding Variation" is one of the latter's four component parts.

In the spirit of the expanded Joiner Triangle (but bearing in mind the above reference to Day 11), I therefore offer the following as an alternative list of topics for our current interpretation of the "Scientific Approach":

Collect data when possible, but
also pay due regard to
"unknowable figures"

Summarise data on charts
– non-process data: histograms
– process data: run/control charts

Understand variation

Avoid tampering

Out of control: find special causes
In control: improve processes

So here for your convenience is the expanded Joiner Triangle again but now with my modified version of the Scientific Approach content:

Develop an obsession with quality
– of products and services
– of processes
– of performance
– of work life

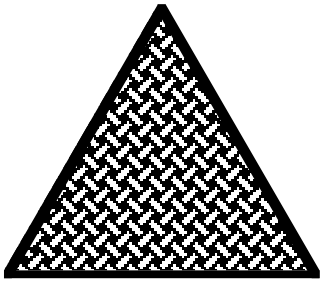
Define minimum needs in operational terms
– external customers
– internal customers

Quality is achieved by improved processes,
not by inspection

Go beyond mere conformance to specifications

Continual never-ending improvement

OBSESSION WITH QUALITY



ALL ONE TEAM

Cooperation *vs* competition

Break down barriers

Process improvement teams
– cross-functional
– cross-hierarchical

Optimise the system as a whole

Teams of teams

SCIENTIFIC APPROACH

Collect data when possible, but
also pay due regard to
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– non-process data: histograms
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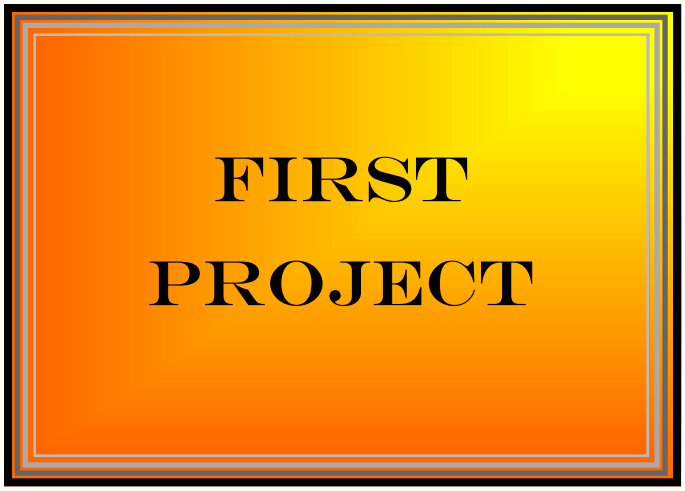
Avoid tampering

Out of control: find special causes
In control: improve processes



During the rest of today and all of tomorrow we shall be working through the whole collection of the 14 Points and the five Deadly Diseases, using two pages for each. This afternoon we shall be covering the first six of the 14 Points, and the general layout of each pair of facing pages there is as follows.

On each left-hand page I shall begin by stating the particular Point using the version in *DemDim* Chapter 3. As mentioned early today, these statements are all expressed entirely in Dr Deming's own words. However, he often used shorter versions whose detail might change over time as he revised the emphases in his teaching. So I am generally presenting an integration of words from two or more of his sources with the aim of providing a more complete picture. I then follow the statement with some brief thoughts and comments on the Point. After this we move on to the three Joiner Triangle foundations. "Obsession With Quality" occupies the rest of the left-hand page with the other two foundations on the right-hand page. In all three cases I make one or two introductory suggestions on how the foundation supports the need to get to work on adopting the Point.

So, having read through the top half of the left-hand page, please take each of the three foundations in turn, think about my suggestions of the link(s) between the foundation and the Point, and see if you can expand a little on my starter. Illustrations from your personal experience supporting the relationship would be particularly valuable, but make a note of anything and everything that occurs to you. My suggestions are not intended to be in any way complete but are there simply to provide you with some initial pointers, should you need them. So do not feel constrained to limit yourself to my own interpretations of the relationships!

Notes on the First Project

- There are two obvious ways of tackling this project—I suggest you use both. One is to consider how putting the Point into practice or curing the Disease is consistent with, and supportive of, the Joiner Triangle foundation. Then there is the opposite: to consider how *failing* to implement the Point or failure to cure the Disease weakens or even demolishes that foundation. Using the latter approach could be the more fruitful here since, sadly, that is the situation with which you may well be more familiar! Note that Point 1 and Disease 1 are the exact opposites of each other. So, in these two cases, concentrate on the former emphasis under Point 1 and the latter under Disease 1.
- Don't rush! After you have read about each Point or Disease, allow a little time for thought in order to let its significance and its implications "sink in" before beginning to develop your comments.

- Allocating a day and a half for this project, covering all 14 Points and the five Deadly Diseases, corresponds to around 30–35 minutes for each of the 19 topics. Naturally, if circumstances permit, take longer if you wish.
- I repeat the implication that my introductory notes and suggestions here are in no way "definitive". I have no doubt that many of them can be improved upon—so please feel free to do so!
- My notes and suggestions here on the links between the Points and the foundations are deliberately concise—there is no need for yours to be! Indeed, the more you can elaborate on these relationships, the better.
- I recommend that, whilst working on this project, you read my short discussions on *DemDim* pages 39–52 about each Point and Disease in turn. They will help you to expand upon my brief introductions here.
- It is up to you as to whether you browse through the whole of this project before beginning to write your own contributions, or whether you simply take it an item at a time. My suggested timings fit the latter option but please choose whichever is the more appealing to you.
- Obviously, there is much more that you could read—though not in the current timeframe! Like so much of what Deming taught, there is always more to learn. *DemDim* Part 5 contains a complete chapter on each of the 14 Points, and so do some of the other books cited in the "References and Sources" section. Of course, *DemDim* Part 5 refers to several topics that you have not yet studied: however, there is no harm in your getting an early taste of those topics. Chapter 2 on the 14 Points in *Out of the Crisis* is almost 80 pages long; similarly deep debate on the Deadly Diseases continues in his Chapter 3—so this is why *Out of the Crisis* has to be my main recommendation for further reading here. I shall sometimes quote from *Out of the Crisis* in my own comments.
- If you are studying this course in a small group rather than on your own, you may have time to take a quick look at the relevant chapter in Part 5 of *DemDim*, particularly if you do not have copies of *Out of the Crisis*. In that case it would make sense to divide up the reading between you and then use the time saved for discussion. In my experience, the best size of group for such discussion is three, with two as second choice and four as third. If the size of your group is four or more then I recommend you split into twos or threes and that these smaller groups first spend a little time working on their own before subsequently sharing their thoughts with the others.
- Please tackle this project very seriously. The experience you gain here will be invaluable for your success in approaching further major work later in the course and in your overall understanding. You will also need to gradually become used to thinking through such matters for yourself before looking at my suggestions: I shall encourage you to head in that direction as the project continues tomorrow. I am giving you plenty of help at this relatively early stage of the course: but, as the 12 Days go by, I shall be giving you rather less, as I try to get you ready to think for yourself on Dr Deming's teaching after completing the course.
- If you work well at this project over this day and a half, you will short-circuit my own learning progress back in the 1980s by many months! Effectively carrying out this project at that time, albeit slowly, was a crucial part of my own voyage of discovery—and within two years from then I had begun to write *DemDim*! I believe it will also be an important part of your journey.

Points 1–6 (pages 16–27) are also on Workbook pages 56–67.

Point 1. Constancy of purpose

> **Create constancy of purpose for continual improvement of products and service**, allocating resources to provide for long-range needs rather than only short-term profitability, with a plan to become competitive, to stay in business, and to provide jobs.

Notice the nice link with the Deming Chain Reaction, finishing up (as in both versions of the Chain Reaction—see the bottom of page 3) with "provide jobs". We have already remarked (Day 1 page 23) upon Dr Deming's hate of unemployment because of its huge waste of human potential. Deming clearly saw the "plan to ... provide jobs" as an *obligation* on the part of those people (management, especially senior management, and government) who have the power so to do.

It is already well worth referring ahead to two of the "Deadly Diseases" which you will study tomorrow afternoon:

- As indicated on page 14, the first Deadly Disease can be expressed simply as the *non*-adoption of this first Point, i.e. *lack* of constancy of purpose. The fact that "constancy of purpose" thus heads both lists surely confirms how crucial Dr Deming saw it to be. Indeed, even in the 1982 book he describes lack of constancy of purpose as "the big obstacle".
- The emphasis on "long-range" provides a close link with the second of the Deadly Diseases.

It is well worth noting that, although "innovation" is not included in the above statement of Point 1, there is in fact much specific focus on innovation in Deming's description of Point 1 on *Out of the Crisis* pages 23–24[24–26]. Indeed, his discussion begins with the observation that "There are two problems: (i) problems of today; (ii) problems of tomorrow"—improvement and innovation respectively.

Obsession With Quality

This is a very obvious and strong link with which to begin our work. The use of "*continual* improvement" (as compared with improvement only in areas of obvious trouble) is wholly in line with Joiner's *Obsession* With Quality—as compared e.g. with improvement merely in order to meet specifications or legal requirements, as discussed earlier. Improving quality can all too easily slide down the agenda in favour of "more pressing" matters whenever they arise; and, without *obsession* with quality, it will be very difficult to get it back up to its rightful place.

> If you are used to reading material from other sources on quality, you may have become a little puzzled by Deming's, Brian Joiner's and my use of "continual improvement" rather than the much more common phrase "continuous improvement". If so, take a quick look at the top half of Appendix page 23.

All One Team

Here we surely have a clear two-way connection. How can you continually improve unless you are working together as All One Team? Can you really do it on your own—or, worse still, if others are working against you? Conversely, what better motivation could there be for an All One Team culture than the purpose of continual improvement? But beware—especially management: *All* One Team has both horizontal *and* vertical implications. It is far too common for management to preach teamwork to "them down there" but subsequently to ignore or reject the results and consequences of that teamwork. If they do so then it will soon be goodbye to All One Team.

Scientific Approach

The Scientific Approach is necessary for genuine improvement, be it continual or otherwise, because of its emphasis on the *system* and *processes* both in concept and in the methods that it provides, especially the control chart. We also need well-chosen data and the knowledge of how to interpret those data in order to reflect and guide us on how successful our attempts and experiments for improvement are working (but definitely ***not*** in the sense of whether or not we've met some numerical target—recall the second paragraph of page 8).

Point 2. The new philosophy

> **Adopt the new philosophy. We are in a new economic age**, created in Japan. We can no longer live with commonly-accepted levels of delays, mistakes, defective materials, and defective workmanship. Transformation of Western management style is necessary to halt the continued decline of industry.

This *is* a whole new philosophy. It's not just optional add-ons to what we are already doing; it's not the use of a few new tools. At the beginning of the course I interpreted the word "philosophy" as a "way of thinking". So this is indeed a whole new *way of thinking*. And, as I also said at the beginning, what and how we think so greatly affects *what* we do and *how* we do it.

This Point illuminates the danger of just "making do". The implication is that we may have become so used to lower levels of product and service that we have become resigned to them and skilled in compensating for them. But that might not be so true of your customer.

> The reason for the description "created in Japan" which Deming included in the statement of this Point may be less obvious now than when he said it in the 1980s. At that time, Japan unarguably led the world in terms of quality and reliability. But even then I puzzled about the fact that the Japanese were seemingly no longer learning much from him. He occasionally delivered a speech at a Deming Prize ceremony, but there were certainly no four-day seminars there. I doubt whether many Japanese knew much about what he was teaching elsewhere during the final ten years or so of his life. I sometimes muse on the thought that perhaps, if they had, some of the difficulties subsequently experienced by their country might have been avoided. Recall my note in the middle of Day 1 page 27.

Obsession With Quality

The third sentence of the statement of this Point ("We can no longer live ... ") provides a clear and strong link with the Obsession With Quality. This is improvement of quality "across the board".

All One Team

The specific kinds of problems mentioned in that same sentence ("We can no longer live ... ") are most usually caused by the *non*-existence of All One Team. Very often people cannot do their job as well as they would like because poor product and service from "upstream" in the system prevents them. (Think of the red beads—the Willing Workers didn't make them.)

Scientific Approach

What causes the "delays, mistakes, defective materials, and defective workmanship"? Maybe the underlying system itself is reasonably good but is suffering from some serious special causes. On the other hand, the underlying system itself may not be *capable* of producing acceptable results even when it is *not* being affected by special causes. How would you know? These and other related questions cry out for the use of control charts, the fundamental plank of the Scientific Approach. Remember that the capability of the underlying system cannot even be assessed if its output is being disrupted by special causes. Also remember that (as was so clearly illustrated on Day 3) taking action appropriate for an unstable process when the process is in fact stable, or *vice-versa*, invariably makes things worse rather than better. Without the use of the Scientific Approach you are always running that serious risk.

Point 3. Cease dependence on mass inspection

> **Eliminate the need for mass inspection as a way to achieve quality** by building quality into the product in the first place. Require statistical evidence of built-in quality in both manufacturing and purchasing functions.

In some areas at least, the world has fortunately moved on since Dr Deming came up with the third of his 14 Points. Dependence on mass inspection for quality has immediate implications about what the quality is like in the first place! It is now more generally appreciated that dependence on mass inspection is a costly and unreliable means of delivering quality. It costs just as much to make the bad as it does to make the good, and the additional costs of the mass inspection plus the scrap or rework that results from all which fails the inspection can add up to a very large bill indeed.

Except for some matters literally of life and death, mass inspection is a method for a bygone age. And sometimes, when I was relating the 14 Points, that indeed is what I was told: "Yes, we used to inspect 100%. But now we have improved our processes, resources, methods, and all else relevant so that mass inspection has become irrelevant". I might then ask: "Do you have performance appraisal? For what is that but 100% inspection of your people?". (Remember this when you reach Deadly Disease 3 tomorrow afternoon.)

Despite Dr Deming's particular wording here, the lessons from this Point relate just as strongly to service and other areas as to manufacturing.

Obsession With Quality

An Obsession With Quality will surely result in quality being improved way beyond that which needs mass inspection to verify it. Notice again the words: **"the need for"**. Deming isn't simply saying "Stop doing it". He is telling us to improve things so that mass inspection becomes redundant.

> There are more general practical lessons to learn from this observation. If you're interested, take a quick look at the final paragraph on Appendix page 23.

All One Team

An important aspect here is that, through being a member of All One Team, we both feel and become more responsible (through desire) for the quality of what we do—we don't want to let anybody down, and they do not want to let us down. This is a long way down the road from dependence on mass inspection to try to ensure quality.

Scientific Approach

How may we be sure about what the customer will receive from us if we do not use mass inspection techniques? Answer: By getting processes and the product/service they provide into statistical control, and taking advantage of the resulting *predictability* thus implied. Dr Deming's second sentence in the statement of this Point makes it clear that the Scientific Approach is fundamental for success with Point 3.

Point 4. End lowest-tender contracts

> **End the practice of awarding business solely on the basis of price tag.** Instead, require meaningful measures of quality along with price. Reduce the number of suppliers for the same item by eliminating those that do not qualify with statistical evidence of quality. Move toward a single supplier for any one item, on a long-term relationship of loyalty and trust. The aim is to minimise *total* cost, not merely initial cost. Purchasing managers have a new job, and must learn it.

As with Point 3, the awarding of business on the basis of price alone is, or rather should be, a practice for a bygone age (NB "price *alone*", which of course does not imply that price is unimportant). What is the logic of lowest-tender contracting? Surely that the required quality is either obvious or can be specified, so that then the only variable quantity to consider is the price.

But doesn't everybody *know* that is not the case? Simply ask yourself how, when you wish to acquire something, you reach the decision on which of the competing products/services you will buy. Do you really decide on exact specifications of what you want and then simply select the cheapest from amongst those that satisfy the criteria? Do you? Surely the answer is only "yes" if either (a) you are poverty-stricken or (b) you are buying something very elementary—perhaps a basic foodstuff like granulated sugar which may seem to be the same wherever you get it. But, even then, does not e.g. *convenience* enter your thoughts? Will you travel ten miles to buy sugar one penny cheaper? With other purchases, how about the reputation of the maker, the reputation and civility and helpfulness of the supplier, and all the other *non-specifiable* aspects of quality: "looks", feel, trust, confidence, etc?

And if all these, and more, enter decision-making about purchasing for yourself and your loved ones, why shouldn't they enter the purchasing decisions of your company?

Obsession With Quality

All that I have just mentioned contributes to quality. Price does not. Obsession With Quality implies purchasing *best value* in the broadest sense of that term, including matters both quantifiable and non-quantifiable, and not only at the time of purchase but subsequently.

All One Team

It is worth recalling that the famous 1950 flow diagram: "Organisation Viewed as a System" includes both the organisation's suppliers and its customers—they are *all* part of the System.

> We saw this diagram on Day 1 page 35 as the first of Dr Deming's "Summary of Teachings to Top Management and to Engineers in Japan". We shall revisit it at greater length on Day 9.

The arguments in favour of a single supplier become especially important regarding long-term relationships for mutual advantage, involving improvement, development, innovation—and the cooperation for mutual benefit thereby implied. This is all part of *optimisation* of the system.

Scientific Approach

Anyone who has been involved with the effects of awarding business on lowest price knows, through bitter experience, the huge additions to variation—and therefore effectively to cost—thereby generated through having to deal with different companies, different people, different methods, different procedures—let alone the different product/service received. Saving pennies can cost pounds (or whatever is your local currency).

Point 5. Improve every process

> **Improve constantly and forever the system** of planning, production, and service, in order to improve every process and activity in the company, to improve quality and productivity, and thus to constantly decrease costs. It is management's job to work continually on the system (design, incoming supplies, maintenance, improvement of equipment, supervision, training, retraining, etc).

Here we have a direct contradiction to a familiar saying—and maybe a familiar attitude: "If it ain't broke, don't fix it". This is instead: "If it's broke, fix it; if it ain't broke, *improve* it".

> An objection to Point 5 sometimes heard from those who are not yet in tune with what Deming was teaching is that we can't *afford* to keep improving! It comes from those who think that improvement can only be achieved expensively by buying dearer materials, buying new machines, carrying out more inspection, hiring more consultants, etc, etc. But, to put it mildly, these were not Deming's focus on improvement. His emphasis was instead on *reducing* costs, particularly through improvement of processes and reducing variation—such improvements are frequently very *in*expensive yet can produce considerable rewards. For confirmation, again refer back to his Chain Reaction (*DemDim* page 33).

Obsession With Quality

We have already pointed out that Deming was talking about quality "across the board"—quality of the end-product or service, of course, but also quality of all that contributes to delivering that product or service. This link is therefore particularly strong.

All One Team

Without All One Team, Point 5 could in fact be rather dangerous, and I have come across examples. Such danger will be multiplied if teams are encouraged or even forced to *compete* with each other (in total contradiction, of course, to All *One* Team). I am thinking of situations where lots of local "improvements" are made which look fine in their local context but whose side-effects elsewhere in the organisation are neither known about nor cared about. (Later you will find the examples of *suboptimisation* on Day 9 to be particularly relevant here; the same is true of both Day 8's Major Activity and also the powerful case study on *ST*—my book of *Statistics Tables*—pages 79–82.)

Scientific Approach

The link here is obvious: the Scientific Approach is directly concerned with *how* to improve systems and processes—including how to avoid tampering with them.

Point 6. Institute training

> **Institute modern methods of training** for everybody's job, including management, to make better use of every employee. New skills are required to keep up with changes in materials, methods, product design, machinery, techniques, and service.

"Training and education" are often lumped together as if they were pretty much the same thing. Perhaps surprisingly, Dr Deming did the same in very early versions of the 14 Points. But he soon clearly divided them into the two widely-separated Points 6 and 13 respectively.

In Deming's terminology, the purpose of "training" is the acquisition of specific skills for specific tasks. Training is thus narrowly defined and finite in scale and scope. In contrast, as we shall see in Point 13, "education" is the opposite: very non-specific, very broadly defined, and essentially infinite in scale and scope.

Training budgets in many organisations are absurdly small. So how do people learn the skills necessary for their jobs? Notice Deming's emphasis in his second sentence above on the need to keep up-to-date. Also heed the fact that "Worker training worker" was one of his favourite examples of the toxic Rule 4 of the Funnel.

Obsession With Quality

Clearly, a prerequisite for people to do quality work is that they have received appropriate training for that work and can understand it. Notice that here Deming is at pains to emphasise the particular relevance of this to *management*. He quite clearly considered, and often said, that potential managers do not learn it in most MBA courses.

> As a personal viewpoint regarding training, I think it may be insufficient to simply pack people off to some external consultants' training course, however expensive. Note the above words: "to make better use of every employee". Far better if the training can be arranged in-house, whether or not using external trainers: there is then a much better chance of *everyone* receiving training that is relevant to their particular needs. Further, as Deming often emphasised, "people learn in different ways". Person A may respond better than Person B to a particular kind of training, yet the reverse may be true with another method of training: again this is likely to be far better catered for in-house than externally.

All One Team

Part of a sensible training strategy is that people are trained to carry out their tasks in ways which are consistent with the ways that others do their work. They can then contribute *together* to the improvement of processes, enhancing both stronger teamwork and self-fulfilment. Without appropriate training, people have no option but to "do their own thing". This breaks up teamwork even at a micro-level, let alone at the macro-level implied by All One Team.

Scientific Approach

Here it is appropriate to recall the original expanded version of the Joiner Triangle on page 11 in addition to my subsequent suggested modification. As we saw, Joiner Associates' own expanded version of the Triangle included flowcharting and other "old tools" of quality under the Scientific Approach. Obviously, the control chart is in both versions!

> **NB** My alternative list of topics for the Scientific Approach on page 12 was not intended as a criticism of the original expanded Joiner Triangle! Regarding the difference in nature between education and training, consultants in the Deming area clearly need to work with *both*, and thus the version of the Scientific Approach on page 11 was entirely appropriate for Joiner Associates. But, equally clearly, the primary nature of *12 Days to Deming* is education, and so a different emphasis regarding the Scientific Approach is usually appropriate here.

As you know, this project will continue throughout Day 5.
So get ready to keep up the good work tomorrow!