When the Cure is the Cause:
the Turnover and Absenteeism Problems

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ABSTRACT

A comparison of three recent studies dealing with turnover and absenteeism in Australia shows that the continued increases in both turnover and absenteeism flow from the practices of most HR managers. These practices arise from a set of assumptions and beliefs of the Human Relations School of thought. These assumptions and beliefs bear no resemblance to the realities of employees and their aspirations. Employees want intellectual satisfaction and a reasonable quality of life. Instead, they are blamed for problems caused by bureaucratic structure and treated as inadequate human beings. Universities are still teaching Human Relations and ignoring proven theories. If we are to emerge quickly from the global financial crisis and face accelerating climate change, universities need to start teaching proven workable theory. Senior business management also needs to learn about this theory so they can change their organizational structures to provide the conditions that prevent turnover and absenteeism.

Key words: Absenteeism, design principles, open systems theory, retention, sociotechnical systems, turnover

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Three studies reported in 2008 concerned turnover and absenteeism. Comparing these studies shows HR managers share a set of beliefs that are at odds with the nature of employees and their aspirations. This paper explores this situation, its origins and what can be done about it.

Three studies

The first study is of turnover with a comprehensive research report released by the Australian Human Resources Institute and TalentDrain (Asquith et al, 2008). The survey respondents were members of AHRI and 79.5% of them were HR managers. Another 9.4% were other managers and senior organisation staff. Over 95% of survey respondents saw turnover having a negative effect on the business. Using a previous estimate that the cost of replacing each employee is 150% of salary, this AHRI study calculated that Australian employers are losing $20 billion per year from turnover.

Turnover is expensive and it is also increasing. Previous research showed an average 12.6% turnover rate but that has now blown out to 18.5%. However, some Australian organisations are facing rates of 40%. This compares with the USA turnover rate of 17.6% for 2006 (HR.com, 2007).The questions are why do people leave and why is turnover increasing?

The second study, of absenteeism, comes from Direct Health Services. The most recent data shows that the average worker takes 8.62 days off per year in addition to their entitled annual leave (DHS, 2008). The UK figure is comparable while the USA figure is lower at about 5 days.

About 28% of the 183 workplaces surveyed said absenteeism had increased over the past year compared with 18% who said it had decreased. 62.5% of manufacturing and production companies noted an increase as did 40.6% in public service and government where the average was 10.8% days per year.
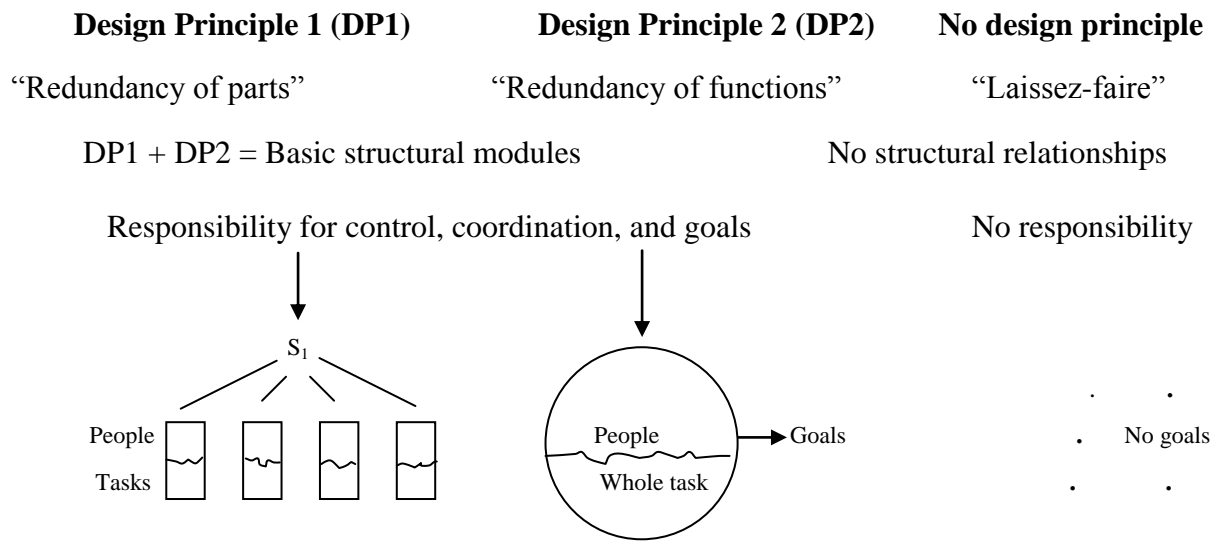
Again, the cost is huge. The average cost of absence was $354 per person per day which equates to $26.6 billion in lost productivity for the Australian economy each year. DHS predicts the situation is going to get worse. As absenteeism increases, so does the pressure on remaining employees. They respond by succumbing to illness. DHS found that about 80% of all sick days are legitimate. In the face of the global financial crisis, organizations will probably cut staff exacerbating the existing figures (The Age, 2008; Sydney Morning Herald, 2008).

The third study is an analysis of the determinants of retention/turnover and absenteeism from a combined database of five diverse organisations surveyed in Australia and Canada in the last two years. This data was collected as part of a larger action research study of organisational health and innovation and mental health (de Guerre et al, 2007; de Guerre et al, 2008). This study is comprehensive, including all the factors hypothesized to cause innovation and health/illness. Details of scale construction are given in Appendix A. Among these factors are the extremely powerful genotypical design principles discovered by Fred Emery during the Norwegian Industrial Democracy Project, 1962-67 (Emery, F, 1967).

Organizational health, innovation and the genotypical design principles

Emery & Thorsrud established that jointly optimized sociotechnical systems or participative democratic structures better meet the psychological requirements for productive and creative work (1969) and that they increased productivity (Emery & Thorsrud, 1976). This came after

years of intensive action research following the birth of sociotechnical systems (Trist & Bamforth, 1951).

Design Principle 1 (DP1)	**Design Principle 2 (DP2)**	**No design principle**
"Redundancy of parts"	"Redundancy of functions"	"Laissez-faire"
DP1 + DP2 = Basic structural modules		No structural relationships
Responsibility for control, coordination, and goals		No responsibility

Note: S_1 = first-line supervisor.

Figure 1: Genotypical Organization Design Principles

The first design principle (DP1) (Figure 1) is called 'redundancy of parts' because there are more parts (people) than are required to perform a task at any one given time. In DP1 responsibility for coordination and control is located at least one level above where the work, learning or planning is being done. DP1 yields a supervisory hierarchy. Individuals have fragmented tasks and goals. The second (DP2) is called 'redundancy of functions' because more skills and functions are built into every person than that person can use at any one given point in time. In DP2 responsibility for coordination and control is located with the people performing the task. The self managing group works to a comprehensive set of agreed and measurable goals. DP1 structures are hierarchies of personal dominance. DP2 structures are non-dominant hierarchies of function where all change is negotiated between peers. Over time DP1 actively deskills and demotivates, DP2 skills and motivates (Emery & Emery, 1974).

Laissez-faire (Lippit, 1940) is theoretically defined as the absence of a design principle and, therefore, structure. It is every person for themself. However today, approximations to laissez-faire can be found in organizations where the structure is legally DP1 but the controls have been loosened. So called 'self managing teams' with leaders are common. They cause widespread confusion about where responsibility for control and coordination are located with reduced accountability. These forms of organization are increasing in North America and can be mistaken for empowered workplaces (de Guerre, 2000).

These design principles are correlated with the psychological requirements for productive work, called the '6 criteria' for short. These are the *intrinsic motivators* (Emery & Thorsrud, 1969). DP1 gives low scores, DP2 gives high scores. It is difficult to get good scores on the 6 criteria from DP1 structures even when management has gone out of its way to attend to all hygiene factors or external motivators (Hertzberg, 1987). If an organization genuinely wants

sustainably high levels of intrinsic motivation or engagement, it appears to have no choice but to change the design principle that underlies the structure.

The six criteria are:
1. Elbow Room, optimal autonomy in decision making
2. Continual Learning for which there must be
      (a) some room to set goals
      (b) receipt of accurate and timely feedback
3. Variety
4. Mutual Support and Respect, helping out and being helped out by others without
      request, respect for contribution rather than IQ for example
5. Meaningfulness which consists of
      (a) doing something with social value
      (b) seeing the whole product or service to which the individual contributes
6. A desirable Future, not having a dead end job.

They have been routinely measured in countless Participative Design Workshops since 1971 and provide a highly reliable measure of intrinsic motivation regardless of the purpose or nature of the organisation (Emery, M. 1993).
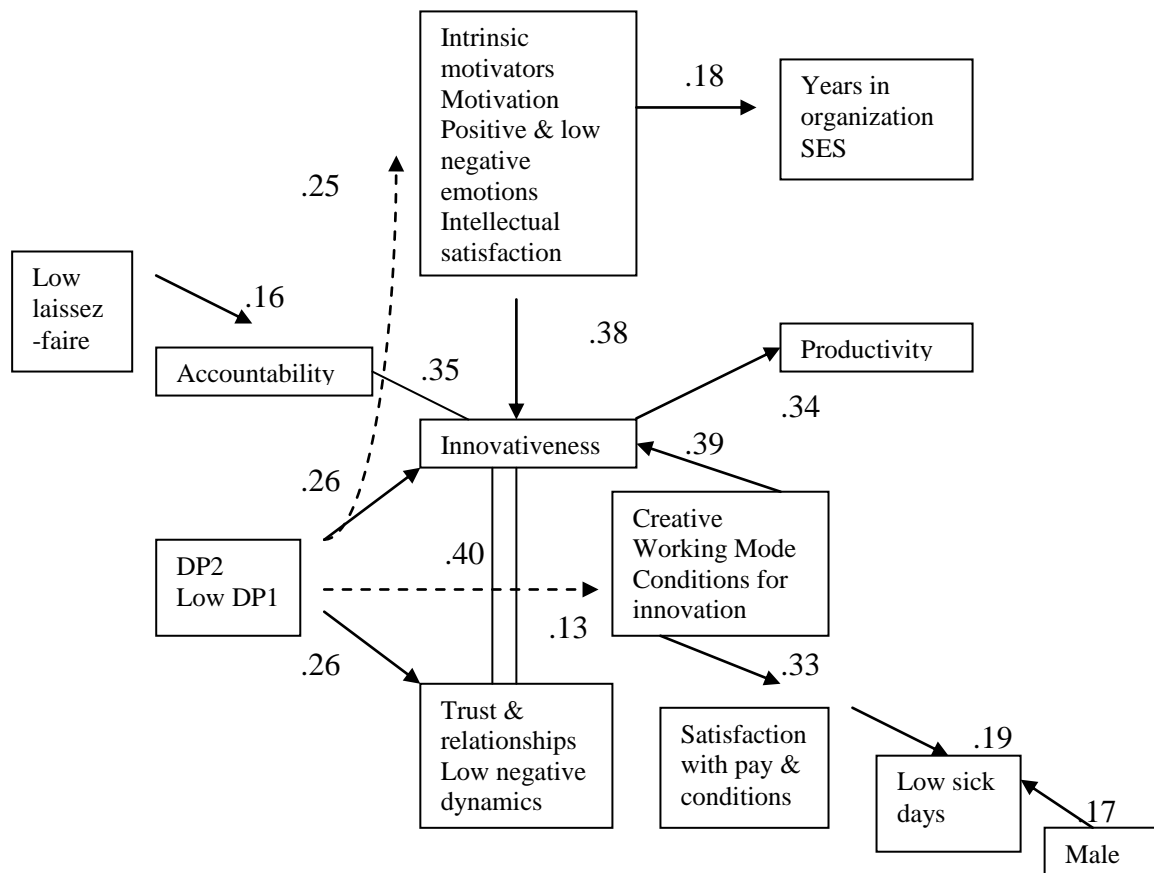
The determinants of retention

All major variables from the combined database were put into a correlation matrix. All correlations with the variable 'years in the organization', the measure of retention, were then recalculated to control for age as this measure is confounded with age. For example, only people over about 26 years old can have worked in an organisation for 11 or more years. It is not possible for an 18 year old to have done that. The controlled correlations, therefore, are an accurate measure of retention.

The matrix was analysed by causal path analysis (Emery F, 1976), an alternative to factor analysis that has many advantages.

The resulting causal path graphs, e.g. Figure 2, are read just like a road map. The arrows tell us what leads to what. Relevant secondary relationships are shown as dotted lines.

On the left hand side of Figure 2 we see the boxes containing the design principles and laissez faire. Low laissez faire leads to accountability which is linked to innovation. DP2 and low DP1 lead directly to innovation and also to trust and good relationships and low negative dynamics. There are also strong secondary links between the design principles and the box at the top headed by the intrinsic motivators (r=.25) and also to the box containing the creative working mode and the conditions for innovation (r=.13). As factors such as innovativeness cannot cause the design principles, we know the arrows must run the way shown.

The central core of the graph is innovativeness and its very strong relation to trust & relationships and low negative dynamics. As well as the design principles, the intrinsic motivators, motivation, the positive emotional profile and intellectual satisfaction contribute to innovation as also do the creative working mode and the conditions for innovation. Once these latter factors are in place, people feel more satisfied with their pay and working conditions and this satisfaction leads to fewer sick days, lower absenteeism. Lower absenteeism is also associated with males. It should also be noted that there are strong relations between positive and low negative emotions and lower absenteeism (r=.24 & .23). That is, when such feelings as boredom, anger and frustration build up to a critical level, people take a sick day.

N=403; r=.10 @ p<.05; r=.13 @ p<.01; r=.16 @ p<.001

Figure 2. The Determinants of Retention (from M3)

Higher innovativeness leads to higher productivity as you would expect. Yet the graph tells us that retention does not depend on innovativeness and productivity, it is a consequence of motivation, positive emotions and intellectually satisfying work, those enabling factors that spring directly from DP2, not DP1.

The breakout of the top cluster headed by the intrinsic motivators and retention (years) shows that the intrinsic motivators and motivation cause high positive and low negative emotions and also intellectual satisfaction. Intellectual satisfaction in turn causes retention (Figure 3).
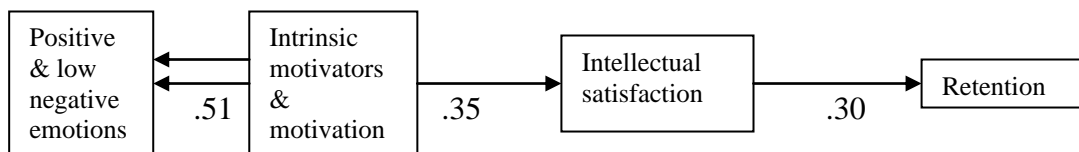

Figure 3. Detail of Relationship between Motivational Cluster and Retention
(from M1)

The main graph also tells us that retention is tied to socioeconomic status (SES) meaning that the more intellectually satisfying work is to be found at the top of DP1 structures. However, any work can be made intellectually satisfying by a change of design principle. Turnover is an unnecessary burden.

So too is absenteeism. DHS found manual worker took on average 24% more sick days than non manual workers (DHS, 2008). The higher ranks are much better at supplying more intellectually satisfying work for themselves than they are for the lower ranks.

Table 1. Direct Contributors to Retention

Contributors	*Adjusted R^2*	*Total d.f.*	*F*	*p*
SES	**.302**	**370**	**27.709**	**.000**
Male				
Intellectual satisfaction				
Low negative emotion				
Low DP1				
DP2				

The pattern in the causal path is confirmed by stepwise regression. Table 1 shows the six major contributors to retention in order of size of contribution. Apart from being a male manager, we see the same factors of intellectual satisfaction, low levels of negative emotions, low DP1 and high DP2.

Because turnover is the opposite of retention, we can fix the turnover problem by a change of design principle.

**Table 2. Direct Contributors to Sick Days**

Contributors	*Adjusted R^2*	*Total d.f.*	*F*	*p*
Low positive emotions	**.146**	**397**	**14.574**	**.000**
Low SES				
Female				
Negative emotions				
Age				
Low DP2				

Table 2 confirms that absenteeism is caused by exactly the opposite set of factors to retention. Predominantly people take sick days because of negative experiences because they do not have the adequate degree of control and coordination of their own work that every person requires. This causes anger and frustration as well as low motivation.

Workers also take more sick days as they age, simply because they get 'sick of it'. There is a limit to how long ordinary dignified adult human beings can put up with being treated as stupid children.

The cure for turnover also cures absenteeism.

As above, this analysis is part of a larger research project. Regardless of the focus of any particular analysis, the pattern shown in the box below has emerged.

| DP2 | → | intrinsic motivators | → | motivation | → | enabling conditions | → | positive outcomes |
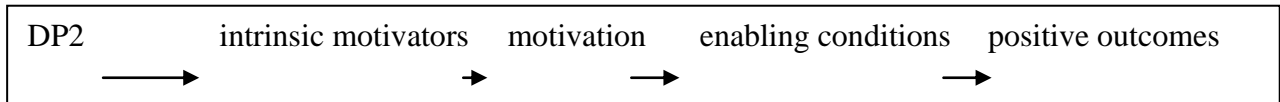
The enabling conditions are those factors such as intellectual satisfaction that lie closest to the organisational and individual outcomes. In other words, the choice of design principle has far reaching effects – literally on every variable and factor that has been investigated so far.

This pattern means that changing anything other than the design principle can have only short term effects. Everything gradually returns to normal.

This pattern from the hard data research is exactly the same as that seen in action research projects where the design principle is changed through Participative Design Workshops (de Guerre et al, 2007). At Org3, the first of the participating organisations in the innovation and health study to change its design principle, the employee engagement before the workshops was 32%. Only 6 months later after the introduction of DP2, engagement was up 81%. These figures come from a research organization totally independent of this author and research project. At the same time there was a 28% decrease in absenteeism in that 6 month period (de Guerre et al, 2007). Data like this have been accumulating since 1951.

Retention and the components of intellectual satisfaction

The causal path showed that the scale intellectual satisfaction is an immediate determinant of retention. To test this, tabular data was produced relating the individual components of intellectual satisfaction to retention. In each case, the sample was split into the two groups who had either spent 1-2 years in the organization or 11+ years. Tables 3-8 show that employees do want intellectually challenging work and satisfaction and are prepared to move around to get it. And remember that this sample consists mainly of ordinary workers in manufacturing, assembly, service and clerical positions, some from relatively disadvantaged backgrounds and some with low levels of education.

Table 3. Retention by Mental Demand

Mental demand	1-2 years		11 + years	
	N	%	N	%
Less than demanding	43	50	13	11.7
Very & extremely demanding	43	50	98	88.3

$$X^2 = 34.903, \text{ d.f.} = 1, p < .001$$

Table 3 shows that the mental demand of the work is closely related to retention.

Table 4. Retention by Workload

Workload	1-2 years		11 + years	
	N	%	N	%
Far too low to OK workload	94	68.1	62	40.8
High to far too high	44	39.9	90	59.2

$$X^2 = 21.739, \text{ d.f.} = 1, p < .001$$

Table 4 shows that high workload is closely related to retention. Like mental demand, workload reinforces the point that workers want to use their brains at work and do a good day's work for a good day's pay. Any manager who believes their employees do not want challenging work, only an easy life and a pay packet, is contradicted by this data.

Table 5. Retention by Sense of Achievement

	1-2 years		11 + years	
Sense of achievement	N	%	N	%
No to moderate sense of achievement	84	60.9	69	45.4
Very & extremely high sense of achievement	54	39.1	83	54.6

$$X^2 = 6.946, \text{ d.f.} =1, p<.01$$

Table 5 shows that a sense of achievement is also closely related to retention.

Table 6. Retention by Replaceability

	1-2 years		11 + years	
Replaceability	N	%	N	%
Easy to extremely easy to replace	61	67.8	69	45.8
Difficult & extremely difficult to replace	29	32.2	83	54.2

$$X^2 = 8.534, \text{ d.f.} =1, p<.01$$

Table 6 shows that replaceability is also closely related to retention. Replaceability is a function of low skill and training levels – unplug the existing part and plug another in. Employees want skills and education. They want to be treated as people not machines.

Table 7. Retention by Knowledge Not Used

	1-2 years		11 + years	
Knowledge not used	N	%	N	%
None to some knowledge not used	102	73.9	128	84.2
Quite a lot to heaps of knowledge not used	36	26.1	24	15.8

$$X^2 = 4.676, \text{ d.f.} =1, p<.05$$

Table 7 shows that retention is related to not wasting knowledge. People become extremely frustrated and angry when they have relevant knowledge that is ignored. They want to contribute.

Table 8. Retention by Learning

	1-2 years		11 + years	
Learning	N	%	N	%
Never to sometimes learn from others	46	33.3	52	34.2
Learn frequently & all the time	92	66.7	100	65.8

$$X^2 = 0.025, \text{ d.f.} =1, \text{n.s.}$$

Table 8 shows that learning from others is not related to retention. We believe this is because learning on the job has received a lot of attention in Australia and no longer differentiates organisations.

Five out of the six individual variables that constitute the scale called intellectual satisfaction have significant relationships to retention/turnover. All analyses confirm that employees in whatever industry or organizational strata want mentally demanding or challenging work and the intellectual satisfaction this generates. This is generally not perceived or believed by HR managers.

HR managers out of touch

The AHRI study found a discrepancy between the reasons for leaving assumed by HR managers and those given by employees in exit interviews. As the first few items in Table 9 show, HR managers assume employees are primarily concerned with interpersonal relationships, money and getting ahead. By looking at the bottom of the table we see that what employees are really concerned about is having interesting and challenging work and a decent quality of life.

Table 9. Ratio of Employee Exit Interview Data to HR Manager Data in Ascending Order*

Poor relationship with supervisor/manager	.33
Inadequate pay	.55
Lack of promotion opportunities	.64
Lack of confidence in the future of the organization	.64
Lack of training/development opportunities	.91
Lack of teamwork/cooperation	1.00
Poor work-life balance	1.14
Uninteresting work/boredom	2.43

*extracted from Table 9 of Asquith et al, 2008, p9

As the same reasons for turnover are found in the organizational health and innovation data and the exit data, we can conclude that HR managers are out of touch with employees.

In fact, HR managers' assumptions hide a theory that when translated into organisational practices, lead to turnover and absenteeism as we have seen from the causal paths.

HR managers translate what they believe into interventions to improve retention. Improving the induction process was reported by 60% but this does nothing to improve the intrinsic motivators or intellectual satisfaction. Improving employee's communication came in second at 58%. There is an analysis below that shows this practice has no chance of reducing turnover and absenteeism. Increased learning and development came in third at 54% which shows some awareness of the role of intellectual matters. It was followed by increased pay on 43%.

Two interventions that bear a close relationship to genotypical structural change and intellectual satisfaction are 'increased involvement in decision making' (14%) and 'redesigned jobs to make them more satisfying' (11%) (Asquith et al, 2008: Table 16). The percentages speak for themselves.

Three erroneous assumptions

   HR managers make three erroneous assumptions. The first is that employees are motivated by external motivators such as money. There can be a short term increase in motivation due to increased pay but only the 6 criteria can produce sustained intrinsic motivation.

   The second assumption is that organisations consist of sets of interpersonal relations put to productive purposes. They believe the sufficient condition for behaviour lies within the social unit. Therefore, if problems arise, the thing to fix is the interpersonal relationship. If there is a lack of team spirit, the employees must be taught to work in teams.

   The third assumption is that communication is a primary property of organisation and therefore, must be dealt with directly by teaching people to communicate better. This view fuels a huge training industry. Here HR believes the sufficient condition for behaviour lies within the person, that is, their communication skills are deficient. Assuming the sufficient condition for behaviour lies within a person or social unit is the hallmark of a closed systems theory (Emery M, 2000).

   Open systems theories assume that the sufficient conditions for behaviour lie in the system-in-environment. It is easily demonstrated that people change their behaviour as environmental conditions change. When the temperature drops, people either put more clothes on or turn the heater up. Different people choose differently here showing that Lewin's formula - behaviour is a function of environment *and* personality - holds true. Figure 2 shows that the organisational structure functions as an environment for the people within it. Change the design principle and behaviour changes.

   It is easily demonstrated that the quality and quantity of communication is dependent on the genotypical design principles. "It (communication) is and has always been a necessary condition for people to act socially. Not, however, a *sufficient* condition. Many situations can be observed where communication channels exist but are not used. In many situations communication can reduce social activity" (Emery & Emery, 1976: p.147).
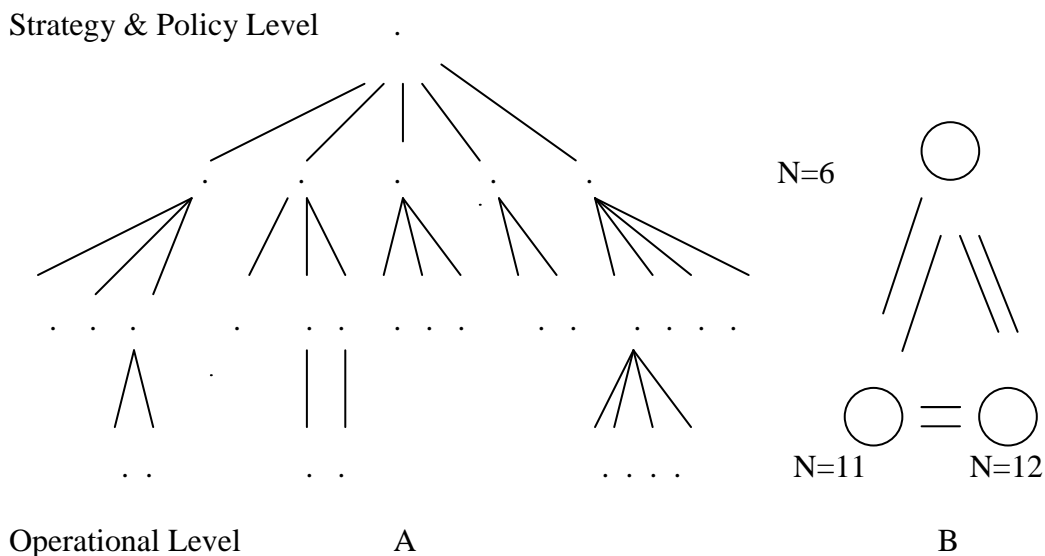
Strategy & Policy Level

Operational Level   A   B

Figure 4. Structures of a Small Organization under the Two Genotypical Design Principles.
         (Emery M, 2004, p55)

Also, an increase in skills does not translate into improved communication unless the person is motivated to use the skills. As we have seen, people in DP1 structures are less likely to enjoy satisfactory levels of the six criteria and correspondingly, are less likely to employ the communication skills they readily display outside work.

Let us look first at the quantity of communication. In Figure 4, A and B are charts of the same organisation. All that has changed is the genotypical design principle, yielding in A, a typical 4 level DP1 structure. B shows the structure based on self managing groups after the principle has been legally changed from DP1 to DP2.

Table 10. Formal Reporting Channels and Task Mediated Relations		
Steps removed from policy maker	*No in DP1*	*No. in DP2*
1 step	5	2
2 steps	15	0
3 steps	8	0
Total of formal reporting channels	28	2
Task mediated relations between peers, maximum. This is calculated for within groups. We could add 1 under DP2 for between peer groups.	0	136
Paper generating function*	59	2

* These diagrams and table are adapted from Emery & Emery (1976: p166-171) where we stated that this was an estimate of the paper generating function based on previous experience that it increased by the square of the distance from the bottom level. We multiplied number of steps by steps removed from the top.

Table 10 shows that even for this small organisation, the quantity of communication is vastly different. Also while I have used the term 'formal reporting channel', the double lines in B indicate that these relations are negotiations between peers. This means that the quality of communication is also very different.

Within DP1 structures with their relations of personal dominance, communication has three characteristics, asymmetry, egocentrism and 'them and us', an adversarial characteristic.

Asymmetrical relations lack the reciprocity of sender and receiver that can be observed in a discussion between equals. There is reduced discussion in favour of orders or instructions.

Egocentrism is expressed in statements such as 'I want this by Friday'. Use of 'I' versus 'we' was one of the most distinctive language differences between autocratic and democratic organizations (Lippitt & White, 1943). Because the interests of individuals are best served by looking out for themselves, they are not concerned to communicate information that could be of benefit to others. Similarly, unless a communication is of benefit to oneself, there is little concern to attend to it. DP1 structures induce competition with all the dynamics that are associated with competition.

Competition also explains the adversarial nature of communications in DP1. Each step in the communication chain represents a difference in status and therefore, a difference in the interest of the individuals. Misinforming or failing to inform is a powerful way of waging organisational

war vertically as well as horizontally. "A status gap between communicants is always a potential barrier to communication. It constitutes an inherently unstable medium: always ready to amplify or attenuate messages in ways that have nothing to do with a truthful correspondence of source events and message" (Emery & Emery, 1976: p.152). Clearly, training people in communication skills is not going to solve any communication problems caused by DP1.

The implications for organizations and education

Why are most HR managers so out of touch with reality? HR managers are taught that increasing skills in interpersonal relationships and communication generates commitment leading to improved productivity and quality. That is a central tenet of the Human Relations School of thought.

Human Relations goes back to Elton Mayo and the Hawthorne studies, 1924-1933. This school of thought is based on a set of beliefs and assumptions about which there are multiple problems including the fact that there was never sufficient evidence to justify its conclusions (Carey, 1967; Parson, 1974; Franke & Kaul, 1978; Rice, 1982; Greenwood et al, 1983; Adair, 1984; Gillespie, 1991). None has been discovered since. The theory never worked (Emery F, 1988).

The "original interpretations were influenced by both the ideology of the researchers and the zeitgeist or 'spirit of the times'" (Olson et al, 2004: p.37). The 'theory' emanating from this ideological base develops "mythical beliefs among students" (Olson et al, 2004: p.34). It is transmitted through textbooks.

By adopting the beliefs of the Human Relations School and ascribing the woes of the DP1 structure to the employees who are suffering its effects, HR managers are blaming the victims, their materialistic desires, their lack of interpersonal and communication skills. Employees know this and it turns them off. While management may believe in teaching interpersonal and communication skills, their employees are less enthusiastic. In 2007 we asked those in a small Australian organization on our database, who had experienced a range of these activities to rate how they worked to improve their creativity or productivity. The most relevant one here, team building, had no effect on or turned off 80.0%.

People are increasingly well educated, sophisticated and independent. They are increasingly less likely to accept the authoritarianism they experience within DP1 structures. They are also less likely to tolerate managers assuming they are inadequate human beings.

The solutions are exacerbating the problems. The DHS study found that the range of measures used to try and curb the disturbing rate of absenteeism in Australia has failed. They have been "largely ineffective at dealing with the underlying causes" (DHS, 2008). This is because the 'solutions' for absenteeism flow from the same beliefs as the 'solutions' for turnover.

Why is it then that tertiary institutions are still teaching flawed management courses when the evidence clearly shows that they are failing students, organizations, investors, and communities? Teaching closed systems Human Relations theory and ignoring the alternative is anti-scientific. This situation must be redressed.

The question of academic freedom does not arise here: the matter is one of science and its societal consequences. Why is there so little understanding that a theory needs evidence to support it? There is a serious malaise in our social 'science' departments.

Universities must take the lead here as it is primarily at university that HR managers are learning their theory. Senior management, unions and their peak organizations across the country

can help by demanding that tertiary educational institutions teach those theories that work. Management needs these theories so they can redesign their structures and strategies to reduce their costs and increase their profits.

In conclusion

Evidence about the failings of DP1 structures and Human Relations has been accumulating for a *long* time. It is time to call a halt to the status quo. We must replace the DP1 structures that produce sick, turned off people, high turnover and absenteeism with DP2 structures that produce motivation, health, innovation, productivity and quality. To do this, we need to educate people in theories with established bodies of historical evidence.

As we face the global economic crisis on top of accelerating climate change, we need the energy and creativity of all our people.

About the Author

Merrelyn Emery obtained her first class honours degree in psychology from the University of New England in 1964 and her PhD in marketing from the University of New South Wales in 1986. She has worked in Psychology, Education Research and Continuing Education, mainly at the Australian National University. Since 1970 she has worked specifically to develop open systems theory as a practical conceptual framework and is currently an adjunct professor in Applied Human Sciences at Concordia University. She has published numerous articles together with a host of institutional research reports as well as 15 books, the latest of which is *The Future of Schools*. She is currently working on two research projects, the first of which will result in practical strategies for organizations and communities to more effectively address the causes and effects of climate change. The second will result in a book documenting the need for science in general to move from closed systems and reductionism to the reality of phenomena as open systems.

Sources

Ackoff, R. L. & F. E. Emery. 1972. *On purposeful systems*. London: Tavistock Publications.

Adair, J. G. 1984. "The Hawthorne effect: A reconsideration of the methodological artefact". *Journal of Applied Psychology, 78,* 413–432.

Asquith, John, Sardo, Serge & Paul Begley. 2008. "Love 'em don't lose 'em. Identifying retention strategies that work". *HRPulse Research Report*. 2: 1, TalentDrain and AHRI

Carey, A. 1967. "The Hawthorne Studies: A radical criticism". *American Sociological Review, 32,* 403–416.

de Guerre, D. W. 2000. "The codetermination of cultural change over time". *Systemic Practice and Action Research,* 13: 5, 645–663

de Guerre DW, Emery M, Aughton P, and A.S. Trull. 2007 Mental health in the workplace: recent results from a joint Canadian and Australian study. Presented at Academy of Management Symposium on Socioecology: The legacy of Emery & Trist, Philadelphia, PA. Available from authors.

de Guerre DW, Emery M, Aughton P, and A.S. Trull. 2008. "Structure Underlies Other Organizational Determinants of Mental Health: Recent Results Confirm Early Sociotechnical Systems Research". *Systemic Practice and Action Research*. Online & 21(5),359-379.

DHS. 2008. 2008 absence management survey. Direct Health Services. Retrieved from www.dhs.net.au/newsDetail.aspx?pid=121 on 2 December

Emery, F. 1967. "The next thirty years". *Human Relations,* 20: 199–237. Reprinted with postscript in *Human Relations* (1997), 50*:* 8, 885–935.

Emery F E, 1976. "Causal path analysis" in *Systems Thinking*. Vol. I. F Emery (Ed) 1981. Penguin.

Emery, Fred. 1977. *Futures we are in*. Leiden. Martinus Nijhoff Social Sciences Division,

Emery, F. 1988. "The light on the hill: 'Skill formation' or 'the democratization of work'". in *Participative design for participative democracy.* M. Emery (Ed.), (1993). Canberra: Centre for Continuing Education, Australian National University.

Emery, F. & M. Emery. 1974 "Participative Design: Work and community life" in *Participative Design for Participative Democracy*. M. Emery, (Ed) (1993). Canberra: Centre for Continuing Education, Australian National University.

Emery, F. & M. Emery. 1976. *A choice of futures*. Leiden, the Netherlands: Martinus Nijhoff.

Emery, F., & E. Thorsrud. 1969. *Form and Content in Industrial Democracy*. Tavistock. London.

Emery, F., & E. Thorsrud. 1976. *Democracy at work*. Leiden, Netherlands: Martinus Nijhoff.

Emery, M. (Ed.). 1993. *Participative design for participative democracy*. Canberra: Centre for Continuing Education, Australian National University.

Emery, M. 1999. *Searching: The theory and practice of making cultural change* Amsterdam/Philadelphia: John Benjamins.

Emery, M. 2000. "The current version of Emery's open systems theory". *Systemic Practice and Action Research,* 13: 5, 623–643.

Emery, Merrelyn. 2004. "Open systems theory" in *Dynamics of organizational change and learning.* Japp J. Boonstra, (Ed), Chicester: UK: John Wiley and Sons.

Franke, R. H., & Kaul, J. D. 1978. "The Hawthorne experiments: First statistical interpretation". *American Sociological Review, 43,* 623–643.

Gillespie, R. 1991. *Manufacturing knowledge: A history of the Hawthorne experiments.* New York: Cambridge University Press.

Greenwood, R. G., Bolton, A. A., & Greenwood, B. A. 1983. "Hawthorne a half century later: Relay assembly participants remember", *Journal of Management 9*(2), 217–231.

Herzberg, F. 1987. "One more time: How do you motivate employees?" *Harvard Business Review, 46*, 5-13.

HR.com. 2007. Retrieved from www.HR.com 2 December, 2008

Lippitt, R. 1940. "An experimental study of the effect of democratic and authoritarian group atmospheres". *University of Iowa Studies in Child Welfare*, 16: 3, 43–195.

Lippitt, R. & R. K. White. 1943. "The 'social climate' of children's groups" in *Child behavior and development.* R. G. Barker, J. S. Kounin, & H. F. Wright (Eds.), Norwood: NJ: Ablex.

Olson, Ryan, Verley, Jessica, Santos, Lindsey &Salas, Coresta. 2004. "What we teach students about the Hawthorne Studies: A review of content within a sample of introductory I-O and OB textbooks". *The Industrial-Organizational Psychologist*. 41(3) 23-39.

Parsons, H. M. 1974, March 8. "What happened at Hawthorne? New evidence suggests the Hawthorne effect resulted from operant reinforcement contingencies". *Science, 183,* 922–932.

Rice, B. 1982. :The Hawthorne defect: Persistence of a flawed theory". *Psychology Today, 16*(2), 70–74.

Sydney Morning Herald. 2008. "Firms 'failing to tackle absenteeism'". Retrieved from http://news.smh.com.au/business on 2 December, 2008.

The Age. 2008. "Firms fail in curbing sickies". Retrieved from www.theage.com.au/business on 2 December, 2008.

Trist, E. L. & K.W. Bamforth. 1951. **"**Social and psychological consequences of the longwall method of coal-getting". *Human Relations*, IV, 1: 3-38.

Appendix A. Constructed Scales

Table A1. Scale Construction	
Scale	*Components*
Intellectual satisfaction	Mental demand+ sense of achievement+ difficult to replace + learning + workload + - knowledge wasted
Conditions for innovation	Reward innovation + management openness
Relationships + trust	Relationships with S_1+ relationships with peers + cooperation + trust peers + trust superiors + trust subordinates
intrinsic motivators	Sum of all intrinsic motivators
External motivators	Satisfaction with pay + conditions
Negative emotions	Putdown/ humiliated + angry + powerless + trapped + depressed +frustrated
Positive emotions	Excite + joy+ interest+ create + energy + - bored
Set scales from pilot & standard test	
CWM –creative working mode	Q28 – creative ideas + celebrate achievements
Fight/flight	Q28 – form cliques+ play politics
Dependency	Q28 – reluctant to participate + give up easily
Negative dynamics	Fight/flight + dependency + being ignored + jog along
DP1 – measure of extent of first design principle	Super+ -teamtype+ -control+ -coordination +individual accountability
DP2 - measure of extent of second design principle	-super+ teamtype +control+ coordination+ group accountability
LF –laissez-faire-measure of	-super+ -teamtype+ nobody accountable