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communiqué

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Workplace Learning: Supporting and Facilitating Learning in the Workplace

Ms. Niamh O'Donoghue

Ms. Niamh O'Donoghue

WHAT DO WE MEAN BY LEARNING?

Before starting any discussion on learning, one first must look to what we mean by learning and come up with a working definition of what learning entails.

Twenty years ago, Fiol and Lyles (1985) suggested the following definition stating that learning is the 'development of insights, knowledge and associations between past actions, the effectiveness of these actions and future actions'. A later definition by Crossan et al (1999) suggested that it is a 'dynamic process, occurring over time and across levels that involves a tension between new and existing learning'.

Although both definitions seem at first glance quite different, both have common elements within. Both include a temporal element, with the suggestion that reflection on past events leads to learning for future events. Both also imply a complexity that is not strictly structured or linear. For example Fiol and Lyles (1985) use the word 'associations' whereas Crossan et al (1999) use 'dynamic process'. Both terms implying that learning is a complex cognitive process which includes a mixture of knowledge, experience, contextual cues and whole brain thinking.

THE LEARNING ORGANISATION

Previous Research examines the levels at which learning can take place within an organisation, - e.g. at individual level, at group level or at organisational level. Much has been written in the last ten to fifteen years about learning and the organisation. Peter Senge's seminal work 'The Fifth Discipline' (1990) has much to offer in this regard. Senge spoke of the five key components that facilitate a learning organisation namely, Systems Thinking, Personal Mastery, Mental Models, Shared Vision and Team Learning.

For the purposes of this discussion, let us consider for a moment, two of those components – 'Personal Mastery' and 'Team Learning'. On 'Personal Mastery', Senge says 'people with a high level of personal mastery are able to consistently realise the results that matter most to them…. they do that by being committed to their own lifelong learning'. On the concept of 'Team Learning', Senge writes – 'Team Learning is vital because teams, not individuals, are the fundamental learning unit in modern organisations…. unless teams can learn, the organisation cannot learn. (Senge, 1990)

Although much of the research on learning may still focus on individuals and how the individual learns, we need to build into our aspirations of a

learning organisation those aspects that facilitate learning at team level. 'Learning is not just a psychological process but is intimately related to the world and affected by it….people take on the knowledge, values, beliefs and attitudes of the society in which we live' (Jarvis 1987). Therefore, learning in an organisational context must also be affected by the values, beliefs and attitudes of the organisation which is referred to as the culture of an organisation. Babuji and Crossan (2004) talk about aspects of culture that support and facilitate learning which include, openness, transformational leadership, participative decision-making, positive supervisory behaviour and organisational support.

FORMAL AND NON-FORMAL LEARNING

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Early research in this area focussed upon formal training and development. However, organisations are finding that more traditional modes of training and development, particularly those of the chalk and talk type, are failing to keep apace or address the requirements of the increasingly complex roles in today's work environment.

In more recent times, research has turned its attention to 'informal learning' i.e. learning that takes place outside the classroom and is more unstructured. Marsick and Watkins (1990) defined informal learning as learning which 'may include incidental learning and occurs in institutions but is not typically classroom based or highly structured and where control of the learning rests in the hands of the learner'.

There are several reasons for the increasing disillusionment with more formal structured method of classroom learning. Too often individuals have been 'sent' on courses by managers as some kind of reward. Alternatively individuals have been handed over to the training function to be 'fixed' in some way. Either scenario is destined to have little or no impact, with little or no transfer of learning back into the workplace, as it contravenes two basic principles of adult learning.

Firstly no 'set-up' or 'set down' has taken place between the individual and the manager. No objectives or outcomes have been agreed prior to the intervention which precludes review or follow-up taking place on return to work. The second basic principle contravened is ownership of the learning. An individual needs to take control of his/her own learning for maximum impact and to increase the chance of learning being applied back in the workplace.

THE ROLE OF MANAGER/SUPERVISOR

Taking on board, that individuals do not act in isolation within an organisation, but are just one element in an interconnected learning

system, then we need to be conscious of linking up people to optimise the learning on all levels. One of these people (although by no means the only person) is the individual's manager or supervisor.

The manager has long been seen as having a role in the development of his/her people. Any role profile that has been written within the last twenty years and based around managerial competencies is likely to feature a competency relating to people development. The Garda Organisation is no different in this regard. However research indicates that the best predictor of how a person will actually behave in a given role is heavily influenced by their belief system.

BELIEF SYSTEMS
Ellinger and Bostrom (2002) examined the transition of managers from the traditional command and control style of management to one, which included a coaching style that recognised and facilitated learning opportunities in the workplace.

Their research showed that managers who displayed beliefs in the following areas: - strong self efficacy beliefs (i.e. believed they had the ability to perform a certain behaviour), strong beliefs about the value of the outcomes and finally had developed a strong identity belief that their role was to facilitate learning and development - these managers were more effective in the role as a facilitator of learning.

Figure 1 illustrates the predominant belief systems of managers who serve as facilitators of learning

Figure 1 the predominant belief systems of managers who serve as facilitators of learning.

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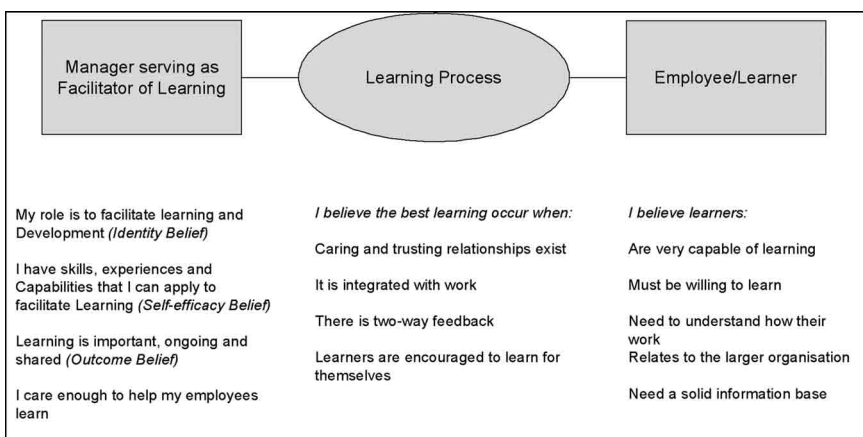
Research has also shown that training increases the self-efficacy of the learner. Self-efficacy has been found to be a critical variable in whether or not training gets transferred back into the workplace. An increase in self-efficacy increases the trainee's likelihood of persisting with mastering and performing complex skills on the job, (Gaudine & Saks 2004).

This is an area that a manager/supervisor can influence by reinforcing the self-efficacy belief with which an individual returns to the workplace having attended a training or development programme. Therefore, any change initiative focussed upon encouraging managers to engage in the role of developer, needs to incorporate the importance of beliefs and particularly beliefs around self-efficacy. The dynamic of having a manager with high levels of self-efficacy as a developer, supporting an individual recently returned from a training/development programme should greatly enhance the chances of the individual applying the new skills and behaviour in the work environment.

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COACHING AND MENTORING – AS A FORM OF LEARNING

Discussions about the manager or supervisor acting in the role of developer, invariably brings the terms coaching and mentoring to mind. Much has been written about the role of a coach or mentor in the workplace as a means of supporting the transfer of learning to the workplace as well as facilitating and taking advantage of learning experiences in the workplace as they occur.

There is much confusion about the terms and for the purposes of this article the following definitions will be used:

> Mentoring has been defined as 'off-line help by one person to another in making significant transitions in knowledge, work or thinking' (Clutterbuck 1998).

> Coaching on the other hand, has been defined as 'unlocking a person's potential to maximise their own performance. It is helping them to learn rather than teaching them' (Whitmore 1999)

However, confusion arises possibly due to the fact that mentors may engage in coaching behaviours. But generally speaking coaching is seen as more specific targeting of a particular area of performance with a more immediate timeframe and often with the line manager in the role of coach. A mentor however is generally off-line and focuses on development over a longer period of time.

The skills involved in coaching and mentoring do overlap. Both are heavily dependent on providing personal reflective space for a learning

dialogue to take place. We have already ascertained that the belief of both the manger involved in the developing role and the belief of the learner are critical to the success of learning taking place.

Therefore, a manager as well as having the belief that this is something he or she can engage in with an employee, must also have the skills necessary to ensure that the right space is created allowing learning to take place and at the same time must also be working within a culture that recognises and values this approach to learning.

THE CULTURE OF THE ORGANISATION

A survey conducted by CIPD[1] in the UK[2] found that although 88% of UK employers surveyed said that they utilised internal coaching, there was little evidence that one-to-one development made a significant impact on their performance in the organisation.

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The problems identified for this in the same research were:

1. Lack of competence and confidence by line managers and others in their ability to coach. To overcome the lack of competence and confidence coaches need to be developed according to their own individual needs and to be set a development agenda for themselves before they are in a position to coach others.
2. Inability of employees in general to be coached and to know when and how to acquire coaching. If the culture is one where there is a reluctance to admit weakness then this will prove a barrier to individuals seeking out coaching.
3. Failure by leaders to be role models and to lead the strategic change to a coaching culture. It is essential therefore that senior managers are seen to 'give their permission' for a coaching culture and act as role models.
4. Failure to address the barriers raised by the existing culture. Barriers to coaching are embedded in many organisations, which are often reactive in their approach leaving little time for reflection. Communication has become more transactional meaning that the reflective space required for real learning to take place is just not there.

WHAT SKILLS ARE NEEDED?

Most articles and books emphasise the need for excellent interpersonal and communication skills to facilitate the learning process. They are drawing on evidence from the burgeoning research on Emotional Intelligence as well as areas such as Neuro-Linguistic Programming (NLP).

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[1] Chartered Institute of Personnel and Development
[2] Quoted in 'Training Journal' June 2005: page 19

At the outset of this article, learning was described as a complex process that doesn't necessarily occur in a linear and structured way. Cunliffe (2002) suggests learning is a 'messier process of making connections. It involves both explicit knowledge and tacit knowing…I propose that between tacit knowing and explicit knowledge is an area of muddy water that creates a space in which possibilities for learning and constructing new understandings from within our experience open up…and may be influenced by our opportunities for reflective/reflexive dialogue with others or with ourselves'. (pg. 35-61)

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This suggests that the skills for the manager/coach is to be able to navigate those muddy waters with the learner in a way that assists the learner in making those connections and involves both cognitive and emotional elements. Our traditional teaching practices often do not encourage this connecting process because there can be an over-emphasis on the linear cognitive approach.

CONCLUSION: SUPPORTING MANAGERS AND SUPERVISORS

In order to support and facilitate learning in the workplace, managers and supervisors need themselves to be able to recognise the opportunities presented to engage in meaningful dialogues which can lead to mutual learning.

How can we best support managers and supervisors in this role? Increasing self-awareness is an important ingredient in the mix. Self awareness is part of the whole area of emotional intelligence, and research on which indicates that two-thirds of the success of an individual at work is as a result of emotional intelligence attributes. The more we can understand ourselves and our motivations and impact on others, the more we can support others in the process.

Therefore, one way of preparing and providing our managers with the skills and the self-efficacy required to performing this facilitative and supportive role, is for them to experience the beneficial effects of being coached themselves. Coaching assists the development of self-awareness as well as providing clarity on the belief and value systems of individuals, which as we discussed earlier, are crucial to supporting others.

We have now come full circle, since once there is a belief in the ability to help others to learn and we are each supported in our approach to this, then we have enabled culture change to occur – a culture where openness and real dialogue around everyday problems and issues become commonplace and normal. When this occurs we are truly moving towards the notion of a learning organisation where self-mastery, shared visions and team learning all become part of the fabric of the organisation and the way of doing things.

If this becomes accepted as the norm and is inculcated in our beliefs and value system, then we can truly say that we are supporting and facilitating learning in the work place. If effectiveness and performance improvement flows from the dynamic process (Crossan, et al., 1999) then Senge's (1990) prophetic words about organisational learning can be realised.

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Communicating Organisational Change

Inspector Tony McLoughlin

Inspector Tony McLoughlin

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INTRODUCTION

Organisations can themselves be regarded as communications structures (Scholes 1997). Without communication, organisations could not exist; they come into existence - moment by moment, day by day – through the processs of interaction that takes place between organisation members, and as a result of the communication between them.

Interpersonal communication is the essence of the organisation because it creates structures that then affect what else gets said and done by whom. According to Gatley and Clutterbuck (1997) the most compelling reason for regarding internal communication as much more than an administrative chore, is its significance in the management of organisational change. This article focuses on the process of communicating organisational change.

THE COMMUNICATIONS OBJECTIVE

Change is not perceived as negative because of its unwanted effects, as much as by our ability to predict and control it. All major change produces disruption and all disruption produces resistance. Change is not possible unless, at the very least, the change recipients accept change. What many if not all people experience during change is cognitive dissonance. As the occurrence of cognitive dissonance is unpleasant, people are motivated to reduce these feelings. To do this they must bridge the gap between the conflicting opinions by either:

(1) **External justification** – i.e. they feel they were forced into these actions. The best way to reduce dissonance is to reject or distort the evidence. The deeper a person's commitment to an attitude, the greater his or her tendency to reject dissonant evidence.

(2) **Internal justification** – i.e. they change their own beliefs or attitudes so they are no longer in conflict. From a change management perspective it is extremely important that these behaviours are justified internally to ensure behavioural change is sustained (Aronson 1999).

Effective communications should focus on supporting the internal justification for dissonance. People resist change when they are uncertain about its consequences. Lack of adequate information fuels rumours and gossip and adds to the anxiety generally associated with change. Effective communication about changes and their likely results can reduce this speculation and allay unfounded fears. The provision of information reduces the opportunity for members of the organisation to inoculate themselves against the changes and reduces resistance.

THE COMMUNICATIONS PROCESS

As Scholes (1997) points out effective communications is a complex process that combines three essential components into an integrated package, *who* says *what* to *whom.*

The source of the Communication

A communication will only be effective if the audience feels that the source (written or oral) has credibility and is trustworthy. The pace of modern working life means that workers have little time to reflect, comprehend and understand all of the information that is thrown at them. In order to cope, most people develop mental short cuts (heuristics) that help us to short circuit and process the vast amounts of information in circulation today. The type of short cut reflects the credibility of the information source. This source can determine our reaction and attitude to the information being received.

The choice of spokesperson will have a significant impact on the success of the program. As Ryan (1980) points out the impact will be stronger if the individual possesses a high level of credibility with his fellow employees. Characteristics such as expertise, trustworthiness and dynamism are important components of credibility. The individual's expertise may be based on his /her executive status, senior position, or success with similar programmes.

Larkin and Larkin (1994) believes that generally, our communicators come from the wrong source (Senior Management) and not from the front line supervisor. They (management) use the wrong methods (video, newsletters) instead of face to face communication. Organisations wishing to influence their people, are more likely to succeed if they accept that communication does not happen uniformly across organisations; that it is most likely to happen where trust exists. This is much more likely to occur between supervisors and their teams, than between top management and grass roots employees.

Traditional Methods

Wrey (1997) pointed out that the strategy for communicating change pursued by most organisations is flawed simply because it views the task as primarily an exercise in internal administration. As a consequence there is an *over reliance* on communication tools, such as newsletters, videos, and senior management road shows. The weaknesses with these communications methods were summarised by Larkin and Larkin (1994) as follows:

- They involve a one-way communications process, where the views and attitudes of the recipients are not readily available.
- They have absolved managers from the responsibility of designing real communications.
- They fail to change behaviour because it uses the wrong source (senior management instead of supervisors) over the wrong channel (print instead of face to face) with the wrong content (corporate, not local work area).
- Employees need the answer when they ask the question and they believe that the newsletter does not tell the whole story.

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Despite these weaknesses the advice from Larkin and Larkin (1994) and Scholes (1997) is not to eliminate the newsletter, videos and other print material, but understand what they can do and apply them appropriately.

Ryan (1980) points out that print media has the benefit of permanence, consistency, and constancy of stimulus to all readers. Print and video play a vital role in reaching senior and middle management and a handful of particularly keen supervisors and employees. The print media can play a very important role in bringing about awareness of change in an organisation and can guide formal or informal face-to-face discussions.

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When change requires front line employees to do their jobs differently, that information must be delivered face to face (Larkin and Larkin 1994, Wrey 1997). First in discussions between senior managers and frontline supervisors involved with the change, and then in discussions between the supervisors and their front line subordinates. Research by Mark Paterson also shows that when employees are searching for solutions, they first ask questions of their supervisors and co-workers and only as a last resort turn to written material (Larkin and Larkin 1994).

Face to Face Communication
According to Larkin and Larkin (1994) communications is not a thing; it is an interaction, the goal of which is not to make things happen but to cause successful interactions. Therefore it is not possible for printed communications *alone* to provide this interaction. In face-to-face interaction the relationship between the two parties is paramount to the outcome and the effectiveness of the process.

As Scholes (1997) pointed out most surveys show that the majority of people prefer face-to-face communications, and in the case of employees, ideally this should come from their immediate boss. The prevailing wisdom appears to be that for successful large-scale change you cannot rely on middle management to cascade the required information downwards and at any rate, the employees on the front line are generally not receptive to information from this source.
However, there are a number of inherent weaknesses with concentrating totally on front line supervisors. Organisations may be lucky enough to find natural communicators among their supervisors. In the main it is unrealistic to expect front line managers to become effective formal communicators with all that this means in terms of facilitating, motivating, supporting, educating influencing and enabling their teams.

Management
All managers engage in activities designed to result in change, but that does not mean that employees respond in a way that satisfies those intentions. Larkin and Larkin (1994) explains there is loyalty and admiration towards organisational executives among middle and senior management but this dissipates as you go to the front line. Employees have to be able to trust and believe in their managers as a source of

information. Scholes (1997) discovered that everyone who tracks employee opinion finds evidence of a trust gap between management and the majority of front line employees.

When managing change, senior managers' eyes are usually facing up and not downwards. The views of supervisors may not be addressed and may be lost in the tense atmosphere of large-scale change. As a result communication may not necessarily trickle down through middle management to the lower levels. It is reasonable to expect that in hierarchical organisations, information would roll down management layers like a marble rolling down steps. But in reality the middle layers grab the marble, drain its contents and transform it into a little piece of powder. Middle managers are power sponges and as a result messages are withheld or modified in ways that enhance their power. By the time it reaches the front line it is often less a datum of information and more a mechanism of control.

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The Nature of the Message

It is through information that undesired behaviours may be changed. Presenting organisational change information in a way that encourages members to accept it also encourages the appropriate socialisation to occur more readily. The information presentation must base the changes on the recipient's current position. This makes it less threatening and so less likely to be rejected. Complete challenges of people's attitudes can be counter productive as they encourage a defensive attitude and inoculation, increasing resistance to future information flows.

Information must be designed so as to lead recipients from where they are now – by showing how the new information relates to their current position and then leading them on in small changes by showing how new information can improve their situation. If they are not shown that the new situation is an improvement on the old in a non-threatening manner, then it is less likely to be accepted.

Any organisation will run more effectively and efficiently if it values communication that is direct, clear and unambiguous. Despite many perceptions to the contrary, the simpler the language or the image, the more chance it stands of conveying its thoughts in the first place. The content and form of the message may vary with the audience sector, depending on the information and the attitudinal needs identified by prior audience analysis.

Aristotle observed in 350 BC, that if communication is to change behaviour, it must be grounded in the desires and interests of the receiver. To change behaviour it must touch one of their values. The message should gain the attention of the receiver to help him/ her to understand it, accept it, and act upon it. The primary function of the message is to support the accomplishment of the goals of the change project. The intent at all times is to ensure valid and reliable knowledge of the

impending change, assure positive attitudes toward the change and reduce rumour, misunderstanding and anxiety.

THE AUDIENCE
The attitude of the audience is fundamental to the success of communicating change. In order to influence this attitude you must understand and know the position of the audience in relation to the proposed change. The message must be structured, fashioned and tailored to suit the audience and the diverse groups within it.

Mento (2002) argues that communicating the message in the same way to all, will not have the desired effect at the different levels within the organisation. It is important to tailor each communication message to suit each individual audience group. Ryan (1980) believes that the senior managers of the organisation undergoing change, are the primary audience sector for the re-organisational communications program. It is imperative that each member of the senior management team clearly understands how reorganisation relates to his or her area of responsibility. It is to these senior managers that employees turn to for official information on change. Should such official information not be readily forthcoming, rumours will emerge to fill the resultant information gap.

Larkin and Larkin (1994) observed that the most important information channel for the front line workers are their supervisors, and if you want to successfully change the behaviour of the front line, you must concentrate your communications programme on the supervisor. Giving the supervisors the information to answer the questions of the workers will reduce ambiguity and positively influence the rumour mill.

Staff can find many reasons to indicate why change is unnecessary and can reject ideas (inoculate themselves) before they have even been presented to them. There is a great need to get messages out quickly and clearly before there is a build up of resistance. For those who resist continually, it is important to keep the communications channels open. The greatest adversaries, once won over, can become the best proponents of organisational change.

A vital ingredient of effective communication is being self aware of the power one has to affect how another person responds. Response styles serve as a model for those you communicate with and it is likely to influence their response style when it is their turn to listen. This is particularly relevant to the mangers role as it affects many aspects of employees' feelings about work, including motivation, change, rewards etc.

ACKNOWLEDGE AND USE YOUR GRAPEVINE
Scholes (1997) points out that those responsible for communication strategies and plans should be aware of the power of the grapevine and other informal communications. The values communicated in the formal

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channels should be matched by the values demonstrated on an everyday basis; otherwise uncertainty will be created in the minds of employees.

The emergence of a strong grapevine is to some extent inevitable as the formal hierarchical structures of organisations become less able to cope with the increasingly turbulent and fast paced organisational environments.

The grapevine is a communications method arising out of direct social interaction, and as organisations are socially constructed realities, its importance cannot be overstressed. It has been shown by several studies, (Salancik and Pfeffer, 1977), that employees are heavily influenced by the perceptions of others, with the grapevine providing a particular means of assessing the perceptions of colleagues on particular issues.

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Contrary to popular belief, the grapevine does not merely fill the gap created by ineffective formal communications. It thrives on information fed into it through formal channels. If accurate and useful information is fed into it, it is a valuable support mechanism for the formal system. If the organisation is seriously concerned about its culture and communications philosophy, the grapevine should not be overlooked. It is the channel most likely to reflect the underlying culture and values of the workforce itself.

The grapevine is an excellent means of providing change information in a more user-friendly manner. The cynicism found in organisations reflects on the corporate information channels, thus creating an environment in which the grapevine will generate an inherently greater belief than formal management initiated communications.

In assisting the change of behaviours, the grapevine and its ready assimilation into the communications process, represents the perceptions of employees as to the reliability of the information source. Often information through the grapevine comes via a work colleague or friend and this in part fulfils the affiliation needs of the employee. Friendship has a tendency to generate a belief in the integrity and honesty of the other party, whereas the organisation as an intangible entity has much greater difficulty in creating the personal allegiances that arise through personal contact.

If information is being communicated to someone, through whatever channel, it must be seen as being relevant to him or her. The grapevine is one of the best communication methods available in this regard. This is especially so as it seeks out and finds the people for whom the information will be of relevance, while filtering out information of less relevance. Timeliness is especially important on change projects and the grapevine is one of the fastest methods of communication within an organisation.

Strategy Formation in modern org

Just as the nation-based economies of the 20th century replaced the empires of the 19th and earlier centuries so too it appears that the knowledge economies of the 21st century will be the drivers of economic growth in the current era. Economic growth on a global scale today is underpinned by the pace of technological development and the effect of the global economy on national economies (Ohmae, 2005). Economic development and sustained profit-making requires careful strategising. Because strategy makers must be conscious of the emergent trends they must also carefully plan on how to use existing resources.

The vision of the CEO and his/her top management team are embedded in the first steps of the strategy process and this is the way it should be. Top management should make certain that the proposed strategies are consistent with the organisations objectives and can be supported with the resources available to the organisation (de Wit and Meyer, 2004).

Strategy is a course of action for achieving an organisation's purpose and as Mintzberg and Waters (1985) suggest there are those who see it as an *intended* course of action and those who see strategy as a *realised* course of action.

The process by which strategy is formed is called strategy formulation and this is normally followed by strategy implementation. However sometimes things do not work out as planned and strategies have to be altered or changed. This has been termed 'strategy formation' when for some reason unintended results, actions or emergent issues results in a different realised strategy than originally planned. In other words the process of strategy formation encompasses both formulation and action.

Strategy formation is the entire process leading to strategic behaviour in practice.

The activities associated with strategy formation can be divided into four principal areas as follows:

1) Identifying;

Identifying strategy formation activities include mission setting and agenda setting. What the organisation sees as an issue will in part depend on its mission i.e. the enduring set of fundamental principles outlining what purpose the organisation wishes to serve, in what domain and under what conditions. An organisation's mission encompasses its core values, beliefs, business definition and purpose and forms the basis of the organisation's identity. It also sets the basic conditions under which the organisation wishes to function.

2) Diagnosing;

Diagnosing involves the scanning of both the external and internal environments and analysing in which direction and from what source that external circumstances are developing. This is often times called environmental scanning.

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3) Conceiving;
Strategy conception activities refer to all activities that determine what course of action should be pursued. This includes option generation and selection.

4) Realising; involves recognising that a strategic problem can only be resolved if concrete actions are undertaken that achieve results.

Deliberate strategising: involves an intended course of action and includes :
- Directions – plans should give an organisation a sense of direction.
- Commitment – plans enable early commitment to an intended course of action.
- Co-ordination - plans tend to co-ordinate all strategic initiatives into a single cohesive pattern.
- Optimisation - plans facilitate optimal resource allocation.
- Programming – plans are a means of programming activities in advance.

Strategy Emergence: involves the process of becoming apparent. A strategy emerges when it comes into being along the way, without advance planning or where people diverge from their original plans but their behaviour is still strategic. It basically includes the following principles.
- Opportunism – availing of unforeseen opportunities as they emerge.
- Flexibility - keeping options open.

- Learning - learning what will be successful, utilising and learning from the past and from others in the market place.
- Entrepreneurship - people within the organisation will have different entrepreneurial skills, these should be tapped and exploited.
- Support - a major strategic shift generally requires a major shift in the political and cultural landscape, this usually involves building coalitions, blocking rivals, convincing the wavering and confronting the opposition.

All in all, the paradox of matching deliberate strategy with emergent strategy is striking, but ultimately vital for organisational well-being.

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Computer Crime

Professor M Cassidy

Thompson and Wildavsky (1986) identified the information filtration mentioned above as a form of information rejection. Although it ensures information relevance, and prevents the problem of too much data, it may filter out some necessary information, which would still need communicating in some manner.

Using the grapevine does not allow management to abdicate from their organisational communication responsibilities. Regular management contact with honest reliable information can ensure that the grapevine increases its accuracy.

CONCLUSION

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Large-scale organisational change is likely to become an integral part of organisational life for many years to come. Communications is a key component of successful change strategies. More and more organisations have developed a corporate communications function to safeguard their position.

It is imperative that each member of the senior management team clearly understands how reorganisation relates to his or her area of responsibility. It is to these senior managers that employees turn to for official information on change issues.

Research suggests that you cannot rely on middle management to consistently cascade large-scale change information downward. Information gets diluted and implemented in a variety of ways. The use of printed or electronic communications material alone will not change behaviour. Understand what they achieve and apply them accordingly. Use them to target senior management and to support face-to-face communications. The majority of people prefer face-to-face communications and they prefer to hear change messages from their immediate supervisor. However there is likely to be a communication skills gap among front line supervisors. An important source of information, in many organisations, is the grapevine. Acknowledge and use the grapevine as part of the communications strategy. Ignore it at your peril.

In order to overcome the inherent difficulties in communicating change messages, it is necessary to select communications champions as a ***support*** to local management but not as a replacement for their communications responsibilities. A robust mechanism for measuring the communications effectiveness must also be put in place.

Change programmes usually last longer than anticipated. Similar to an ocean wave that leaves unsettled waters long after it has passed, the impacts of change can last for years. There may still be a tendency to revert to old ways. Therefore it is important that when the organisation achieves the transition to the required state, the communication programme clearly indicates that there is no going back to the status quo.

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*Detective
Superintendent
Eugene Gallagher*

The State's response to the threats posed by cyber-crime – is it adequate or ineffectual?

Detective Superintendent Eugene Gallagher

The Red Queen's race...

"Well in our country, said Alice "you'd generally get to somewhere else if you ran very fast for a long time".   The Red Queen replied, " Now, here, it takes all the running you can do just to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!" An extract from *Alice in Wonderland. (Lewis Carroll, 1865)*

INTRODUCTION

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The above words penned by Lewis Carroll can be associated with the pace and the enormity of developments in the computer industry over recent years.

Computer technology means that national boundaries become meaningless and so, the traditional methods of crime investigation are substantially reduced in effectiveness. The criminal now has at his or her disposal the most powerful tools for committing crime ever invented. Imagine being able to defraud someone of millions of Euros without stepping outside your own hall door! That's possible – that's real. That actually happened to a Financial Institution based in Ireland in 2003 when over a million Euro was defrauded remotely by a criminal based in another EU country.

In this article, the question of "The State's response to the threats posed by cyber-crime – is it adequate or ineffectual?" is presented. In considering this question, research was conducted by the author towards a BA (Police Management) and forms the substantive context of this article. It sought to establish the current state of knowledge on the issue of cyber-crime in this country. Seven experts in different fields were interviewed to assess the extent of current threats posed by cyber-crime and the adequacy of the response by the State and the other stakeholders concerned. The key stakeholders are Government Departments, An Garda Síochána, the IT industry, the business and commercial sector, NGOs and the Criminal Justice sector.

The seven (7) experts interviewed came from three (3) areas, which have a very different focus or perspective on the issue of cyber-crime, but yet are very much interdependent on each other in gaining an overall understanding of the topic. Three (3) of these interviews were conducted with leading experts from the IT industry in Ireland. A second set of interviews was conducted with two (2) experts from An Garda Síochána and a third set of interviews was conducted with one Irish and one English expert in the field of criminal law and procedure.

SOME KEY FINDINGS FROM INTERVIEWS WITH THE EXPERTS

The view from the IT industry is that there is a real need for stronger liaison between all the stakeholders and there is a burning requirement for some independent research and analysis into the extent of reported and unreported computer crime. It would be extremely useful to have concrete data on the extent of computer crime in Ireland. It was also felt that Internet security issues are being dealt with without a crime focus as Government responsibility primarily lies with the Department of Communications, The Marine and Natural Resources. The experts from industry also felt that Ireland needs an enlarged structure for computer crime enforcement.

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The experts also noted that the single biggest impediment in concluding a successful investigation within organisations is senior management's lack of awareness and understanding of key issues. A recent survey produced by *Espion*[1] demonstrates how open to attack computer systems are.

The experts from within An Garda Síochána agreed that the current investigation of computer related crime is reactive and fragmented in nature. Currently, the Garda response is delivered through two separate units; The Computer Crime Investigation Unit and the Paedophile Investigation Unit.

The UK operates a single high-tech crime unit for investigations in this area. An Garda Síochána has researched this concept and in 2004, the Organisation Development Unit produced a report on the concept of a dedicated National Cyber-Crime Unit. This report is currently being assessed by senior management.

The legal experts noted that Irish law on cyber-crime already covers most of the harms committed on the Internet, but there are weaknesses in applying criminal procedures. It was noted that the Irish law on computer crime is a very shaky foundation on which to build. The ratification of current EU instruments[2] presents an opportunity for comprehensive reform of the law relating to computer crime. The existing rules of evidence allow for admissibility of computer based evidence, but *"…making a jury understand that evidence – now that's a whole different question…"* As the above extracts reveal, the three areas covered in the interviews must be considered in their totality rather than separately if we are to effectively address the challenges presented.

[1]*Espion* conducted research as part of the "Make IT Secure" 2005 campaign. This showed that during a two-week period a sample broadband computer located in Ireland was attacked 3119 times. Further details can be found at http://www.honeynet.org.
[2]The Council of Europe Convention on Cybercrime (CETS No. 185) and the EU Council's Framework Decision on Attacks Against Information Systems (COM (2002) 173 final).

WHAT IS CYBER-CRIME?

Opinions about the impact of the Internet are by no means cohesive.[3] Consequently, the Internet is causing us to reformulate the ways in which we understand societal change (Wall 1997:209), albeit there are a number of different views about the precise nature of this change.

SOME POINTS OF CONVERGENCE: THE MATRIX

Wall[4] (2003) puts forward some points of convergence to facilitate an understanding of Cyber-crime. Views about the impact of the Internet on society range from those who believe it has had a wholly transformative impact upon social behaviour and those who believe it has not, and that existing bodies of knowledge can be applied to these behaviours. Wall again argues that both positions are, in fact, entirely reasonable. The Internet is so encompassing that it is possible for it, simultaneously, to have a transforming impact within one context and not within another. He puts forward his arguments in the following matrix:

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Table 1 The Matrix –Levels and types of Cyber-Crimes

	Crime Types			
Impact Level	*Trespass*	*Theft/Deception*	*Obscenity*	*Violence*
Enhancing existing opportunities for old crime (e.g. through communications)	Phreaking/ Cracking/ Hacking	Frauds-pyramid schemes	Trading sexual materials	Stalking
New opportunities for old crime across boundaries	Issue based hacktivism	Multiple frauds -trade secrets thefts	Organised paedophile rings	Hate speech campaigns
New opportunities for new types of crime	Information warfare	Intellectual property theft Cyber-gambling	Cyber-sex/ Cyber- pimping	Organised bomb talk/ Drug talk

SOME COMMON CYBER-CRIME EXAMPLES

The Council of Europe, "Organised Crime Situation Report 2004– focus on the threat of cyber-crime (2)[5]", has identified some of the more common examples of Cyber-crime committed within Europe, a selection of which are outlined hereunder;

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[3]Classification of the various forms of cyber crimes is a subject of debate, but most authors recognise a distinction between those crimes, which are unique to computers, and other crimes, which are merely facilitated by the use of computers. See, for example, Burstein, "A survey of Cybercrime in the United States" (2003) Berkley Technology Law Journal 313, 318 -320. This distinction is also recognised in the European Convention on Cybercrime, which categorises crimes as follows: "offences against the confidentiality, integrity and availability of computer data and systems", "computer related offences", "content related offences" and "offences related to infringements of copyright and related rights".

[4]Taken from Insecurity and the policing of cyberspace by David Wall published at pages 186 -210 in "Crime and Insecurity" (2003) edited by Adam Crawford and published by Willan Publishing, UK.

Deceiving Computer Users
Internet Banking & Phishing Attacks
In these cases the perpetrators send e-mails to numerous Internet users, which purport to identify the perpetrator as a trusted Internet Service Provider or other service institution (e.g. credit card company). The e-mail states that the institution is experiencing technical problems and the user must disclose, add to or correct his/her user ID and password, personal account information or other sensitive data such as a PIN number. The e-mail contains a link to a fraudulent Web site. Unsuspecting victims who supply their personal information are liable to be defrauded as the criminals now have access to their credit card and bank account details.

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Identity Theft.
Perpetrators not only abuse the credit card information of their victims, but also other personal information and documents. The phenomenon of hacking or illegally obtaining personal information and using this information together with stolen or copied credit cards has become known as "identity theft" and is a cause of considerable concern in many countries. According to the US federal Trade Commission, more than one hundred and sixty thousand (160,000) cases of identity fraud were reported in 2002 alone.

Content-Related Offences
In Ireland the primary content-related offence is the possession or distribution of child pornography. There is no end in sight to the development of this heinous process. On the contrary, the number of cases is rising annually and experts predict that the expansion of the Internet, particularly into Eastern European countries, will further exacerbate the problem.

In Ireland alone, Operation Amethyst led to the search of some 111 centres around the country and the seizure of 2,000 items of computer media including hard discs, compact discs, digital cameras and related media.

Soliciting, Inciting, Providing Instructions and Offering to Commit Criminal Offences

Soliciting Murder
Examples of solicitation to commit crimes, especially murder can be found on the Internet. The recent murder case before the Irish Courts, *the DPP –v- Colin Whelan*, revealed how the accused had sourced information on the Internet on strangulation methods and subsequently exploited this information to murder his wife in a manner, which he hoped would conceal this criminal act from investigators.

POLICING OF THE INTERNET

Jurisdiction

The trans-jurisdictional capability of the Internet, and therefore of cyber-crimes, creates problems for the police in the following three ways;

Firstly, resource management is an issue because police decisions are made at local level, directed at the most efficient use of finite resources (Goodman 1997: 486). Multi-jurisdictional crimes complicate these decisions and compound the resource issue.

Secondly, cross-border investigations complicate the investigation process and lead to non-routine investigative difficulties (Wall 1997: 223; Reiner 2000). For example, the uplifting of evidence from one jurisdiction for use in another can be a cumbersome and legalistically problematic process.

Thirdly, problems arise from inadequacies in criminal procedures, for example a particular harm can be a criminal offence in one country and a civil wrong in another. This is the case for the theft of trade secrets, which is a crime in the USA but not in the UK.

Models of Internet Policing

There already exists within cyberspace a multi-tiered structure of governance to maintain various levels of order (Wall 2001b: 171). This model progresses from maintaining order to the enforcement of law, whilst also seeking to achieve public and private models of justice and is represented in the following table:

Table 2: The multi-tiered structure of policing

Level of Policing	Primary Policing Outcome	Prevailing Model of Justice
State-funded public police	Law enforcement	Public
State-funded non-police		Public
Corporate security Internet Service Providers	Private	
		Public/private
Internet users/user groups	Order Maintenance	Public/private

The application of this model in Ireland is reflected as follows:
State funded public police contribute towards the overall policing of the Internet. In Ireland, An Garda Síochána has established the Computer Crime Investigation Unit, which operates under the organisational democratic mandate of government. An Garda Síochána operates within

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an international tier of police organisations supported by agencies such as Interpol and Europol.

State funded non-police organisations. In Ireland these include organisations such as The Department of Justice, Equality and Law Reform and the Department of Communications, The Marine & Natural Resources which either have or enforce Internet infrastructure protection policies that exercise a strong influence on monitoring and reporting harmful behaviour and material discovered on the Internet.

Corporate security organisations. Following the growth of E-commerce during the late 1990s, the security departments of commercial, telecommunications and other related organisations have been strengthened to ensure the protection of their own interests.

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Internet Service Providers. While ISP's are physically located in one jurisdiction, they tend to operate in a more international manner (Walker et al 2000: 6).

In 1998, a government report, on the illegal and harmful use of the Internet was published. It recommended that a system of self-regulation by Internet Service Providers should be established. This led to the establishment of the Internet Advisory Board (IAB). The role of the IAB includes responsibility for the implementation of self-regulation and to monitor developments in this regard.

In response to these developments, the Irish Internet Service Providers (ISP) set up their own association in January 1998, called the Internet Service Providers Association of Ireland (ISPAI). In November 1999, the ISPAI introduced an Internet hotline dealing with illegal child pornography on the Internet.

Internet users and user groups. Internet users and user groups are the mainstay of policing the Internet. Within user groups are a number of subgroups that have formed around specific issues in order to police websites that offend them. Largely trans-national in terms of their membership and operation, these groups tend to be self-appointed and possess neither a broad public mandate nor a statutory basis. Consequently, they lack any formal mechanisms of accountability for their actions which themselves may be intrusive or even illegal. Nevertheless, they appear to be fairly potent.

SUMMARY

We have seen that a multi-tiered structure of governance already exists within Cyber-space (Wall 2001b: 171). The interviews with the three experts from industry suggest that An Garda Síochána as the state-funded public police service currently lacks profile in a law enforcement role within this model.

Another finding from the research conducted with the IT industry was the real need for a much stronger liaison between all stakeholders involved.

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There is a lack of reliable data as to the incidence and extent of cyber-crime[5] . The data currently available is usually in the form of reports and surveys that purport to estimate the extent of cyber crime by the cyber-crime security industry. These surveys and reports tend to lack a standardised conceptualisation of "crime" and also a systematic reporting or recording methodology. Media sensitisation of cyber-crime is another factor, which can easily perpetuate false levels of public anxiety as to the extent of cyber-crime (Smith 1998: Taylor 2001).

> *"…Despite the outward appearance of cyber disasters waiting to happen on a global scale, the anarchy and widespread criminality that were widely predicted by the media and also by the (cyber) security industry have yet to materialise…"* (Taylor 2001:69).

Accordingly it is suggested that there should be independent research and analysis conducted into the extent of reported and unreported cyber-crime.

The international nature of cyber-crime dictates that there is a necessity to standardise the definition of cyber-crime on a worldwide basis. The Council of Europe Convention on Cyber-crime appears to be a basis upon which this standardisation might be achieved and it is recommended for consideration as the international standard in this context.

Irish substantive law already covers most of the offences committed on the Internet. However, the real weakness in law arises in the application of criminal procedures[5]. The opportunity presented by the ratification of the Council of Europe Convention on Cyber-crime and the EU Framework Decision on Attacks Against Information Systems[6] provide an opportunity for Ireland to codify the law on cyber-crime as a specific area of law and procedure it its own right.

[5]Taken from Organised Crime Situation Report 2004 – Focus on the Threat of Cybercrime prepared by the Council of Europe pp 59/60

The existing admissibility rules on computer-based evidence have not been exploited to their full potential by prosecution services. In this context, it is suggested that research should be undertaken to examine what categories of computer based evidence can be admitted within the existing laws of evidence as they apply to criminal trials, and that any shortcomings identified should be introduced by way of amendment to the Irish law of evidence (Murphy: 2004).

To ensure that the human rights and natural justice principles of accused persons are upheld, it is suggested that a legislative framework should be introduced to ensure the reliability of computer based evidence in accordance with the principles set out in the UK Association of Chief Police Officers Good Practice Guide for Computer Based Electronic Evidence[7].

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Finally, the technical and complex nature of high-tech crime prosecutions is evident. The issues, which arise in high-tech crime cases, are very similar in nature to the issues, which arise in serious fraud trials. In 1992, the Government Advisory Committee on Fraud[8] put forward a number of recommendations concerning pre-trial procedures in serious fraud trials (chapter 7) and juries hearing serious fraud cases (chapter 8). The implementation of those recommendations are now applicable to the prosecution of high-tech crime cases before the Irish courts.

CONCLUSION

The question posed in this article is *"The State's response to the threats posed by cyber-crime – is it adequate or ineffectual?* It is clear that Ireland's dependency on information systems is increasing[9] and with it our vulnerability to cyber-crime attacks increases. We are seeing organised criminal gangs from Eastern Block countries locating in Ireland and demonstrating highly skilled knowledge of computer systems. Dealing effectively with the threats of cyber-crime requires a response from all the stakeholders concerned in the manner set out in this paper. The suggestions made are few and the costs are not significant. Failure to recognise these issues will leave the door open to organised crime, which will become increasingly difficult to close as time goes by.

Therefore in conclusion, as we are all under starter's orders for the Red Queen's race, can we run fast enough to get somewhere else?

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[6] The Council of Europe Convention on Cybercrime (CETS No. 185) and the EU Council's Framework Decision on Attacks Against Information Systems (COM (2002) 173 final).
[7] Available at the UK National High Tech Crime Web Site: http://www.nhtcu.org
[8] Government Advisory Committee on Fraud (1992): published by Government Sales Office.
[9] "Survey Assessments of the Information Society in Ireland" published by ESRI, Dec. 2004.

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Forensic Policing - CSI: Dublin

Professor Marie Cassidy

Professor Marie Cassidy

INTRODUCTION

Exotic locations, fast cars and intelligent blondes, CSI eat your heart out; this is death investigation Irish style.

The public perception of crime investigation, and in particular the investigation of murders, has been shaped by the media. Death in Ireland is not hidden or avoided but is celebrated and regarded as an essential component of life. Because of this, there is a huge fascination with death and particularly those deaths not due to natural causes. Murders are widely reported and still headline news, whereas in Britain such deaths often only merit an inch or two of print. As a result, we the death investigators, find our actions being scrutinised and the subject of public debate.

Up until ten years ago, murders in Ireland were more akin to 'Murder She Wrote', an unusual but interesting occurrence, involving persons not known to us, living remote from us, and probably only happening in the big cities. And as with 'Jessica Fletcher' or 'Miss Marple', the story unfolded over days or weeks as the police uncovered the evidence piece by piece, eventually bringing the perpetrator to trial. The avid news reader would follow this with as much enthusiasm as if it were a 'soap opera' or a crime novel.

Alas, those days have gone, and murder is a weekly occurrence. But, rather than the public enthusiasm abating, thanks to the modern television programmes such as 'CSI' and the new genre of crime novel, the public seem to have an even greater appetite for information and, unfortunately for us, are now more knowledgeable than ever. Their expectations have increased and we would have been at risk of falling short of those expectations had the investigation of deaths not evolved and improved over the latter years.

In real terms murder investigation has not changed radically from the times of Sherlock Holmes; it still is 'elementary my dear Watson'. The practices and principles have been refined, the accessory equipment may be more 'high tech.' but the process is still labour intensive, the main change being that now five or more people are doing what one did before.

ADVANCES IN FORENSIC PATHOLOGY

Forensic pathology, although perceived by the public to be the lynchpin of murder investigation, has undergone the least transition. The advances in the pathology of trauma are few. We may have a greater understanding of mechanisms of death in head trauma but essentially we are more aware of our limitations e.g. as regards 'time of death' and 'shaken baby syndrome'. However, that may be as important an advance. As a result, we now actively seek input from our sister specialities on a more formal basis. It is now common for anthropologists, paediatric pathologists and neuropathologists (bones, babies and brains) to be consulted in relative cases.

Meantime, policing has become more stringent, but as we are all well aware, solving crimes is down to a lot of hard work and good investigation. The major advance in crime detection has been with forensic science. Again the general principle remains the same, 'every contact leaves a trace', but the methodology has improved to such an extent that this part of the investigation is crucial to all investigations. The major breakthrough in forensic science was the discovery of DNA.

In my early years this was a cumbersome test, requiring excessive quantities of body fluids or tissue. It took forever and a day to complete, and stretched the budget just a bit too much. All of that has changed in the last few years due to the increased ease with which DNA profiling can be undertaken.

This is now relatively inexpensive and can be carried out within twenty four hours. Even more startling is that a profile can be obtained from a single cell. Woe betide the person at the scene who sheds a hair or flake of dandruff. All persons are now expected to cover up completely and leave no trace behind.

DNA is now established as a useful tool for crime solution, not just in murders, but rapes and all other crimes where a link between the crime and the perpetrator requires to be confirmed. This has been the argument for compiling a database for comparison in such crimes, a subject not being debated in this article, but perhaps those attending crime scenes on a regular basis should be on a database for elimination purposes!

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DNA has changed the dress code for investigators, the forensic pathologist included. But, what other events have changed our practices? The single most important person who changed death investigation was Dr. Harold Shipman.

Dr. Shipman was responsible for the death of a great many of his patients, far more than even the most careless doctor would be expected to kill, even accidentally. In fact the exact number is still not known. But at any rate, it was in excess of two hundred, making him the UK's most prolific serial killer. Dr. Shipman's Modus Operandi (MO) was a lethal injection of Morphine. For the most part his patients were carefully selected for this 'special' treatment. Most were middle-aged and elderly women, often with chronic complaints some of which would not unreasonably be expected to cause sudden death.

However, he appears to have become a little careless. There were more patients dying during visits to his surgery than would normally be expected. He also was close by or had just visited many of the others before their 'untimely' death at home. In the UK there is a N.H.S. system, which provides free General Practitioner (GP) visits. This encourages the mildly ill to venture to their GP for a consultation, the more seriously ill settling for a free home visit. Those who are about to die are not often found in the GP's waiting room.

Many of those patients dying at the hand of Dr. Shipman were cremated and other doctors were coerced into signing the forms required in order that a cremation may be permitted. One of these doctors became aware that the death rate in Dr. Shipman's practice was higher than expected, even allowing for an ageing population.

The final mistake was altering the will of one of the patients he had dispatched. After a long reign, Dr. Shipman was eventually brought to trial. Several bodies were exhumed and Morphine was identified in some of his patients who had never been prescribed Morphine. Dr. Shipman was convicted of multiple counts of murder but hanged himself in prison.

How on earth could such events have any effect on death investigation in this country? One word the 'Coroner'! Any death, which is not due to natural causes e.g. an accident, suicide or murder, or where the doctor attending is

unable to provide a death certificate, or no doctor has been in attendance, must be reported to the Coroner.

The Coroner will then decide whether or not there should be a post-mortem examination and in some instances will request a full Garda enquiry. Pre-Shipman in the UK, if the patient's doctor was willing to issue a 'death certificate', and they had not seen the patient within the last month, but had been treating the patient for some chronic illness, the Coroner would accept a certificate in good faith.

In Scotland there was an even more outlandish system; the forensic pathologist could issue a death certificate based on the medical examination and an external examination of the body.

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Post-Shipman the Coroners are now more likely to insist on post mortem examinations on all deaths reported to them, in case a 'Shipman' slips through the net. As a result the post mortem rate in the UK has increased. Will this prevent another 'Shipman' situation? Only if all deaths are subject to a post mortem examination, including toxicology - a prospect the Coroners, even in this country, have to face.

From the pathologist's point of view how would this impact on death investigation in Ireland? In order to find out, two hundred deaths were reviewed prospectively. The majority of these deaths would have required a post-mortem examination under the current guidelines. These included homicides, suicides and accidental deaths, as well as natural deaths. All the former modes of death were excluded and only the 'natural' deaths were analysed. The majority of these were in the elderly age group i.e. over 65 years.

The majority were found to have died from an illness that they were previously diagnosed with. In a few cases the cause of death was unexpected, even though natural e.g. having a long history of heart disease but dying from undiagnosed lung cancer. While this anomaly is of little relevance to the pathologist, such an unexpected finding would be important to the Coroner.

Death certificate statistics are useful in epidemiological studies and therefore may have some effect on the future allocation of resources to fund research and treatment of various diseases. In effect, if the cause of death is inaccurate, for example assuming that the majority of deaths were due to heart disease, future funding may be allocated only to research in this field rather than to other important disease processes such as cancer.

However, of major importance to the forensic pathologist was that 2% of post-mortem examinations on those thought to have died from natural causes identified unexpected internal injuries, most commonly subdural haemorrhages, fractures of the larynx, rib fractures and rupture of the spleen. All of these required further investigation and in two of the cases enquiries confirmed that the deceased had been assaulted prior to their death. In Scotland we would say 'looks like we've got a murder…..'. It is gratifying to know that the post mortem examination does what it says it can do, uncover concealed homicides. Therefore, post-Shipman I will be supporting the Coroners if they decide on a blanket post-mortem policy.

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In truth, the true value of the role of the forensic pathologist in death investigation is in the 'suspicious death' which may or may not be a murder. From the pathologist's point of view, most cases of murder are fairly straight forward, usually stabbings and shootings. The only problem may be in determining whether these are definitely murder or if they could be suicides or even accidents. Generally the findings at the scene and the background information can resolve any potential difficulty.

However persons with head injuries and other blunt trauma tend to be more problematical. In many cases the injuries are incidental and did not cause death. But in some cases the role any injury, or injuries, played in the death may not be so clear. The forensic pathologist, unlike the hospital pathologist, is better able to assist in these cases, and with more confidence, due to their training and experience. This can mean the difference between aborting an investigation after a few hours or continuing for days or weeks, 'just in case', which obviously has massive cost implications for the Gardaí.

This brings me to another change in procedure which has evolved over the last few years; partly due to senior Gardaí recognising the value of forensic input in all 'suspicious deaths'. The most important change has probably been in the Gardaí's definition of a 'suspicious death', which has widened considerably in the last few years, particularly following the death of Richie Barron. This change has been assisted by the public's perception of what we should all be doing to solve the riddle of their loved one's death. Now, some families are not content to be told what we think, they prefer to apportion blame, in other words someone must be held responsible for the death. It is obviously difficult to know which death will be the subject of such scrutiny and so more and more deaths are being referred to the State Pathologists.

As a forensic pathologist I agree that this practice should be encouraged, but help, there are too few of us to go around. The number of cases now being dealt with by the office of the State Pathologist has more than doubled since the late 1990's and is continuing to rise. There has also been a change in the ratio of homicide to non-homicide deaths being investigated by the State Pathologists, from 1 in 2 deaths in the early 1990's to 1 in 4 deaths in the last year. Also, we, the State Pathologists, are now practising 'defensive' forensic pathology as families and others are more likely to seek a review of the post-mortem findings; in some cases even requesting a second examination. As a result cases are taking longer to complete and every 'i' must be dotted and every 't' crossed, not once but twice.

CONCLUSION

And so the population keeps increasing, murders abound, our assistance is being sought more and more often and all of us are struggling with the resources we have to make ends meet. Life goes on and so does death. All we can do is keep smiling and hope we all get some 'Rest In Peace' over the festive season.