

# CHANGING TECHNOLOGY

## A Contrasting View of Two Organisations

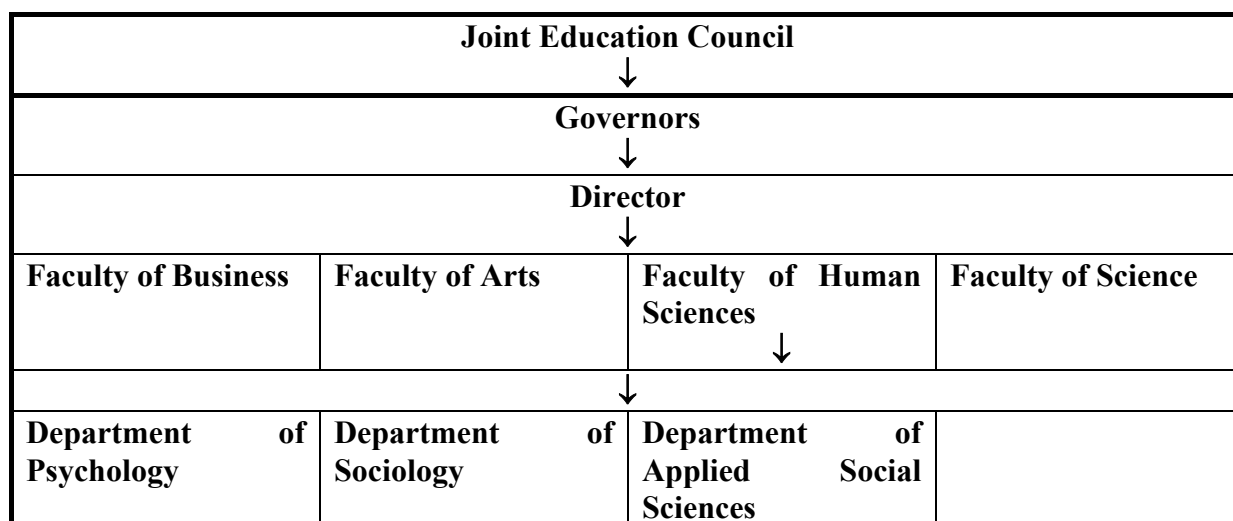
### Introduction - Setting the Scene

Firstly, a brief word to explain how the organisations were selected - simply, I worked at that time within both! This dual-organisational role, whilst not unique, is certainly unusual, particularly at secretarial level.

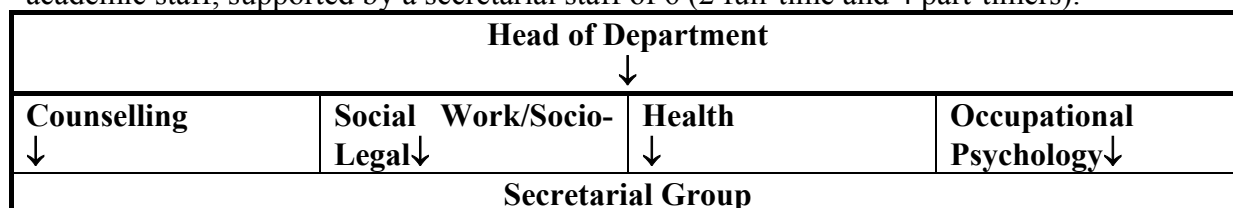
Any comments I make on the two organisations must, inevitably be biased by my own role in each, and one major problem in writing the paper is that the introduction will be written from an overview of the organisation as a whole, and the perceived effects of change will be written from the standpoint of one member within it.

### Institution 1

In the first institution (a London Polytechnic) I was a secretarial assistant within the Department of Applied Social Sciences. To give you some context in which to place this department I show below a diagram of the hierarchy of the Polytechnic as a whole, followed by a diagram of my own departmental organisation structure.



Within the Department of Applied Social Sciences there were 4 workgroups with a total of 33 academic staff, supported by a secretarial staff of 6 (2 full-time and 4 part-timers):



## **Institution 2**

In the second institution I was a research assistant in an autonomous research project, staffed by three people who held participatory management functions, with the director having overall control. This triad was responsible for everything from the direction of research to fund-raising. The underlying assumption was that we are whole people, not limited by narrowly defined functions or roles. Consequently, if any task required doing, whichever one of us could (or thought they could!) do it got on with it.

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## **Methodology**

As the title of this paper implies I am going to try to describe the possible or actual introduction of new technology in the two organisations, and compare the methods and effects that were involved. I shall attempt to describe the situation prior to any intimation of change, the decision-making processes and the effects [planned or otherwise!] on both the people concerned and on their working environment. One of my underlying hypotheses is that the introduction of any kind of change in working conditions, either physical or technological, exposes the implicit assumptions of the organisation.

In September 1981 the Polytechnic was considering introducing Word Processors to its secretarial backup facilities. However, the research project had actually introduced Word Processing technology in two stages during the previous three years. I will be discussing the level of management that makes decisions regarding technological introduction, the degree of consultation with the potential operators, the background economic climate within which the technological introduction is placed, and finally the motivation and morale of the staff concerned.

## **Background to Proposed Changes**

In the Polytechnic I was a secretarial assistant. A few brief words are necessary at this point to describe the skills and resources within the secretarial group, their attitudes to existing technology, and prior attempts at change in the working environment.

### a) Skills and resources within the secretarial group

Most of the secretaries in the Department at that time were over 30. They had started work when all the office machinery they were likely to come across was a manual typewriter and a (perhaps electric-powered) duplicator. Not all of them knew how to take shorthand, but over the years most of them had taught themselves to use audio machines. The basic office equipment remained comparatively unchanged until about 8 years ago when first electric typewriters (basically only a manual typewriter driven by electricity) and then self-correcting golf-ball typewriters were introduced. Finally automatic collators, staplers and photocopiers have been added to the office equipment. All these changes have been slow, have built upon the skills already within the group, and have been seen as introduced to meet a perceived need within the group and to lighten the secretarial load.

b) Attitudes of the secretarial group to existing technology

Most of the secretaries did not, however, like or understand machinery. Provided the machine worked, that was enough - an understanding of how it worked, and why it worked was not regarded as necessary by anybody - the secretaries themselves, or higher levels of management. This did lead to some difficult situations, in that simple things like adding toner to the photocopier machine to make the copies darker was not the first thought when the copies started to lighten - the first thought was "Do we need the mechanic in?"

c) Prior attempts at change within the working environment

There was a long history of disruptive change within the working environment for this group. Over the preceding 5 years it had been reorganised 3 times and had had its physical environment badly disrupted by building works and office-moving strategies. Feelings of distrust and anxiety lay just below the surface regarding decisions taken about them without prior knowledge or consultation. There had been a high turnover of personnel during these reorganisations and at that time only two people in the secretarial group had been there for more than 5 years. By 1981 there was a feeling that things had at last begun to get straightened out and everyone knew where they were going. However, at this point the government cut-backs started to affect the office. Two of the secretaries were only temporary (i.e. their jobs could disappear overnight) and another had left. A replacement for this secretary had not been found due to the economic climate, in which all jobs within the Polytechnic had been 'frozen' pending a decision regarding 'essential' and 'nonessential' posts.

## **The Research Project**

Over the years technology had been introduced by a variety of means. When the manual typewriter proved too slow to do the task required, I had provided my own self-correcting golf-ball typewriter. When duplicating produced inadequate copy a small second-hand off-set print machine was obtained to enable the printing of workbooks etc. At a similar stage when smaller numbers of copies were needed, a second hand photocopier was bought. Finally, even the golf-ball typewriter proved inadequate for the task of producing workbooks and reports without endless retyping and, once the problem had become apparent we sought actively to find a substitute. A Word Processor seemed the answer. The director and myself went and physically picked up the second-hand machine, installed it in the office and then I proceeded to teach myself how to use it - it came without an adequate manual, but trial and error produced a very good system.

[The difference between an academic department able to call upon the monetary resources of a Polytechnic and a small research project are also apparent. Second-hand equipment was installed in the Project for economy reasons. Economic necessity also required that the equipment was repaired and maintained by us.]

From this it will be seen that, far from being suspicious or frightened of new technology, an inquisitive and welcoming attitude was present in all members of the unit, once the advantages of the change had been spelt out.

## **Level of Management regarding decision making and degree of consultation**

It was very interesting indeed to see what myths were present within the workforce regarding power to innovate change. **Within the secretarial group** in the Polytechnic (particularly in the light of its past experience) power to innovate was seen as vested in either the Head of Department, or the Faculty Administrative Officer, or a vague amorphous 'them' (which covered the rest of the Polytechnic hierarchy, and included government or local authorities when questions of pay or continuance of job-security were discussed). Most of the decisions regarding the secretarial group's working conditions, or technological innovations, were decided at a level higher than that group. In the event of a Word Processor being purchased and operated within the Faculty, it was unlikely that any of the secretaries of any of the Departments would have been consulted regarding type, model, manufacturer, etc. These decisions would most likely have been made by a Faculty-, or even Polytechnic-wide, senior management. The secretaries saw themselves as powerless.

Decision-making **in the research project** was very different. After 3 years operating the first word processor the decision was reached that a more advanced screen-based Word Processor was essential. The triad scanned the available literature, visited two word processing exhibitions and finally had a trial of the best machine. After this machine was installed I went on a two-and-a-half day course to learn how to use it, with on-site backup from the manufacturers. It was decided that only one of us needed to go on the course, so I subsequently acted as 'trainer' to the other two members, teaching the basic operating skills. The office was completely redesigned to provide optimum working conditions on the new technology for all of us (lighting and height of operating the machine are quite crucial decisions).

## **Morale of Staff**

One of the main blockages to the introduction of new technology and/or changes in working conditions seems to be "who benefits?". Should the workforce see its management as ultimately exploitative and out to "screw them into the ground" any task-enhancing machinery will be seen as an attempt to get more work out of fewer people for less money, rather than as a supportive endeavour to make working conditions more favourable. In the economic climate **at the Polytechnic** at that time everyone was feeling slightly uneasy about whether their job was going to be axed (rumours, without the backing of hard facts, circulated freely regarding the fate of any redundancy/job cover agreements). The introduction of a machine which could, possibly, enable one person to do the work of two raised anxiety about which people were going to be declared 'unnecessary' and either not replaced, or asked to leave.

Another factor **at the Polytechnic** was the relationship between academic and secretarial staff. Over the preceding few years into this relationship had been fed the deeper splits and divisions within the Department as a whole, and also a sense of paranoia and resourcelessness as academic staff felt overburdened and consequently handed in work later and more badly presented than they would otherwise have done. Most of the academic staff

would not use a dictating machine, preferring to write out all their notes, letters, etc. in long-hand, sometimes taking several drafts. For a secretary [attempting to read someone's badly written notes, under pressure to produce perfect copy in record time], the relationship with academic staff could become highly fraught indeed.

The introduction of yet higher technology would require relearning of a host of items, not simply by the secretarial group, from the most basic way of handing in work to be typed through to the layout of the finished product. Until and unless all staff in the department felt competent about technology in the office, the introduction of word processors would result in a degrade rather than an upgrade in the standard of work produced - at least for several months and possibly longer - while the secretaries concerned struggled to both understand the new technology they worked, and also communicate its advantages to the academic staff. In the absence of any in-built support structures to both secretarial and academic staff the relationship between them would be likely to deteriorate.

The interface between dictation and finished product was also fraught **in the research project**. Considerable confusion was at first experienced until finally a "flow-chart" was conceived, enabling all to understand the set of hierarchical steps necessary between dictation of text and finished product coming out of the printer. A lot of re-learning had to be done by the whole triad, raising to the surface the unconscious assumptions underlying this perceived hierarchy of job steps. For instance how were decisions going to be taken on editing and by whom? I think this came out particularly in the research project and would not necessarily occur in other organisations because it would not normally be seen that the typist would have any control over the **content** of the document being produced.

In **the research project** extra support had to be given to whichever member of the triad was having to relearn skills - whether author of text or operator of the machinery. Whilst I was relearning how to 'type' my levels of pre-occupation and my inability to overview even a complete piece of work meant that errors were much more likely to occur (and my ability to cope with perceived criticism was a lot lower!).

## **Motivation for Work**

Motivation for work is very complex. From general discussion with the secretaries **in the Polytechnic** it would appear that to enable the Department of Applied Social Sciences to work smoothly in its task of teaching professional students and to enhance of the community's learning as a whole was not the prime motivation. Most went to work for private reasons - extra finance; a highly supportive working group within easy reach of home; a place to earn money thus enabling them to do what they wished to do with the rest of their lives. The subject matter they were typing, the institution for which they were providing support back-up, all were seen as background to work rather than the most important aspect of it.

In **the research project**, however, motivation for work was on a different level. The task in hand was seen as very important [although, again, investment in that task varied from person to person, and from time to time within one person]. Overall, however, anything that enhanced task-performance was seen as a good thing. Hours spent working were not seen as somehow 'stolen' from life, but an investment in what was seen as really satisfying and

enjoyable. Consequently, the number of hours invested in that institution by myself were approx. 40 hours per week (part-time!) compared with 20 hours per week in the Polytechnic, although monetary rewards were lower in the research project.

## **Subsequent Events**

Events at the Polytechnic overtook and overshadowed any technological innovation. Late autumn 1981 and early spring 1982 were times of increasing stress within the Polytechnic and the Department as a whole. Due to the government cut-backs biting even harder into education it appeared at one time that the Department could not survive. Its main 'money-spinning' operations were in non-full-time courses, which overnight had been costed differently. At one point it appeared that several academic staff would be made redundant and that the secretarial jobs were also in danger. Hastily convened meetings and survival plans were the order of the day. In January 1982 a new director was appointed to the Polytechnic and it appeared that courses and departments were going to be reorganised and rationalised - which many saw as a covert attempt to **close** courses and departments. Another secretary left, and was not replaced. Temporary staff were now filling 1 full-time and 2 part-time jobs, with contracts that were renewed monthly, usually at the 'eleventh hour' following representations to the personnel department. The workload on the secretarial group increased and the internal resources declined in the face of insecure working conditions.

At Easter, 1982, I left the Polytechnic. I had been offered another part-time job in a local health centre. My replacement was another part-time secretary who had transferred from another department within the Polytechnic. At the time of my leaving it appeared that the Department was 'safe' and was moving to better accommodation on another nearby site. In the event, this did not take place as planned. Late June was the date for the move. Unfortunately not all staff (or unions) were happy about this move. On phoning the Polytechnic to speak to some of my ex-colleagues I discovered that instead of a smooth transfer of personnel and effects, a nightmare had taken place. Small hesitations over the move had mounted until, on one Monday, the office staff had packed all the departmental records and furniture and prepared to move. The unions had 'blacked' the move and for one week the secretaries had been sitting virtually on packing cases while the office furniture and equipment was 'in store' between sites. The final resolution of this was that the Department was split into two sites - half of the staff remaining where they were and the other half moving to the new building.

## **Conclusion**

From my perspective a number of points were learned from the above. Change of any kind raises to the surface the underlying dynamics of a group. It was fairly obvious from the way the secretarial group (as representative of the Department as a whole) reacted to any perceived change in working conditions that a major change, such as change of site, would be perceived as a threat (rather than a resource), with power seen as vested in others rather than the self. People tend to react to threats in several different ways: they fight; they opt-out of any way of influencing the working environment and possibly leave; they go along for peace and quiet and subsequently sabotage any gain that could conceivably arise. Consultation and involvement in the decision-making process enables the lowering of the perception of threat

by lessening the feeling of helplessness and raising to the surface the underlying fears, and in a supportive environment, a way of dealing with those fears enables a higher take-up of technological or environmental change.

In any institution, the work satisfies one or all of the following needs: individual (self-esteem, etc.); group (social needs etc.); and task (dedication to job in hand). Concentration on only one of these needs leads to imbalance. Any task enhancement technology which is seen as detrimental to the individual or social needs of the workforce will lead to degrade of performance. Consultation and involvement in decision-making would restore balance to the three needs, but it would not eliminate resistance to change in those members who go to work to satisfy only individual or group needs. The Polytechnic, by its very size, would be likely to meet greater resistance because a higher percentage of the workforce go to work to satisfy individual and social needs.

Work provides a major framework to life for the vast majority of people. Social life is organised to take account of the time spent actually working. At present society as a whole is going through quite massive changes [in family organisation, lifestyle etc., coupled with a technological revolution], therefore people tend to look for 'islands of stability' somewhere. If the workplace is seen in this light then any changes in working conditions will contribute to stress in an individual's life, with consequent very high resistance to change. This emphasises the need for people, and society as a whole, to gain skill in adaptation to change.

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