VOCATIONAL EDUCATION AND APPRENTICESHIP

A study of vocational education in the 20th century in England, Australia and the United States with special reference to the role of apprenticeship training and with recommendations for the modification of that training

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My thesis outlines in brief the sorts of traditions and practices on which the institution of apprenticeship has been built, both as a form of craft training and as a social device to provide both moral guardianship and continuing education for the trainee. Although there is considerable evidence that the system has failed on both these counts since the decay of the old system three hundred years ago, apprenticeship continues to survive as the usual method for contracting training in exchange for service in England and Australia. It even receives official sanction and subsidization.

Nevertheless, even on the mundane level of job practice, apprenticeship may be an unsatisfactory arrangement for both trainees and instructors, and the fact that the system has long been exposed to the hostile influences of labour and management still further hobbles its effectiveness as a form of training and of work induction.

With the development of systematized and institutionalized technical instruction in the twentieth century, especially in the vocation-conscious United States, youth has even more opportunities to achieve vocational potential outside the cramping service status of apprenticeship. There may even be some doubt whether there should any longer be a place for apprenticeship in modern industrial societies where many
sorts of skill must be newly developed and where a spirit of versatility will better ensure the tradesman continuing employment in the last quarter of this century.
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PART 1
APPRENTICESHIP - A CLINGING TO TRADITIONAL HABITS OF THINKING?

What is an apprentice?

Most young people believe, or are led to believe, that their choice of vocation counts among the most important decisions in life. Even the least philosophically inclined among youth know that most of their life will be spent working and that their future status in society is linked with their type of employment. In a special way, then, the whole system of job preparation may contribute as much to the individual's personal well-being as to his long-term economic security and vocational expertise. As far as trades are concerned in Australia and England, the usual system of job preparation involves becoming an apprentice which the Shorter Oxford English Dictionary defines as

one who is bound by legal agreement to serve an employer for a period of years, with a view to learn some handicraft, trade etc. in which the employer is reciprocally bound to instruct him.

Despite claims to the contrary, it seems to be the case today that apprenticeship is no longer a satisfactory vehicle for the sort of thorough and varied training required by modern industrial societies, where technical expertise and personal capacities must grapple with new trade problems. Apprenticeship in fact so labours under the rigid forms of medieval practice, that it cannot provide for the vital needs of the next generation of tradesmen. It is neither a satisfactory system of training,
nor a viable base on which to build more up-to-date systems of vocational training.

Uncertain rewards, rigid obligations

To opt for an apprenticeship is too often to opt for a system of restrictions and anomalies in training and in terms of economic rewards. If the average adult 'white collar' workers were to be paid a wage equivalent to forty percent of the current award and yet be compelled to attend lectures while training, they might feel such conditions scarcely worth enduring for any period of time. Added to the fact that they would be without job mobility, they could protest that such working conditions were an invasion of their right to contract freely for their labour. Yet such restrictions are the common lot of trade trainees, who may also find that they have bartered their rights to work for training that is restricted in scope or out of date, and may consequently be an inferior guarantee that they will find employment after serving their time.

These restrictions have not grown up out of some deep-laid plan to discipline those fortunate enough to obtain an indenture, or because such restrictions supposedly contribute to a better training environment under the system. In fact, during his* apprenticeship, the trainee remains an outsider among his fellow-workers. He belongs neither to the ranks of labour, nor to the levels of management; his bond prohibits taking part in industrial action on any issue.

* While most apprentices have been male, this situation is changing in contemporary employment situations. The argument throughout my thesis applies to trainees of both sexes.
or his trying to contract for improved conditions. He is even burdened by the knowledge that, unlike so many others, he was 'fortunate' to find an employer; he is told in the official literature that the best trainee is content with his lot and does not complain.

It is clear then that, compared with the lot of the majority of the work force, especially those in service industries, the trainee labours under a typical work situation, which of itself contributes nothing to the supposed guarantee that he will be instructed. Although all interested parties, governments, unions and employers, pay lip service to the advantages of apprenticeship, there has been little said or written to show that the superiority of the actual training justifies its onerous restrictions or questionable assessment criteria. In an arbitrarily-determined serving period under an employer is encapsulated the single criterion for a youth to satisfy trade competence expectations.

Thus, in Australia, service alone assures the journeyman's entrance into the tradesmen's rank in terms of state awards. Despite tendencies overseas favouring training by age, if not by stage of competency, so that less pressure is put on school leavers to make irreversible decisions, traditionalists still rule that the procedure for entering a trade is to spend the prescribed time at a proclaimed trade under any accepting employer, after fulfilling the customary legal formalities of an indenture, recorded with bureaucratic tidiness.
So highly is the serving period, for example, regarded in Australia that an apprentice's effort and ability in school trade studies carry no weight in deciding "when" he is trained, even though, in Victoria, results over 70% carry monetary rewards. In fact, the skilled tradesman is given credit for training modules he did not attempt or failed; he may even work in craft areas he knows nothing of, provided they come within the orbit of the trade's demarcations.

No one would question the need for training regulations to ensure, for example, regular class attendance and practical minimal evidence of craftmanship, but apprenticeship authorities still seem overly concerned with legal niceties and traditional practice, while failing to regulate the day-to-day running of what is virtually a voluntarist training system today. The old Elizabethan pattern of decentralized training has been watered down to what is almost a "catch as one can" situation today, disguised thinly as a sort of trades' noblesse oblige.

This assumption that proper training is freely and gladly given may derive from the traditions of the old manufactory's master craftsman freely imparting the finest skills so that they can be preserved by his understudy and of the gild's desire to nurture public expectations of apprenticeship's supposed "work idealism". However, as in olden times, it remains the youth's responsibility, not society's, that he make good under the system.
Apprenticeship today has totally lost these "social parameters" of training by which people at large could once appreciate, through the visible expression of apprentices working, the real value of such training to their youth and their town. In medieval times, it was the settled and accepted system of "further education". Today, it is a system seemingly without social relevance, with no clearly defined vocational goals. Discussions on the system in Australia, for example, often revolve around the numbers of indentures in relation to manpower requirements, the capacity of the labour market to absorb new trainees, or the possibility of perpetuating apprenticeship by paying employers to take more trainees. Most spokesmen in Australia shy away from the larger question, the evaluation of apprenticeship trade training as a whole. Such critics of training have failed to realize, as did Frank Sublet (1976), that apprenticeship has, in industrialized economies, ceased to have any longer any real educational significance, having become simply a process for transmitting manual (and no other) skills. But why has such a tradition, tied to the old artisan workshop, been so slow in disappearing?

Reasons for apprenticeship's retention not clearcut

There seem to be no clearcut reasons for the system's continued existence. Perhaps, it has certain roots in an age-old moral tradition of youth guardianship joined with the long-felt determination of trained men to control entry into their craft lest the labour market
for skills be flooded or standards fall. Whatever the real reasons, I would argue that this old training system cannot be allowed to survive merely by default, while inter alia national policies in regard to industry and manpower are drawn up only in economic terms, especially in Australia and England. Related social questions, such as those of vocational education, are left unresolved, and the present status quo persists.

Traditional training drifts on though a sort of inertia, a failure to analyse problems in other than terms of profit and loss, or in terms of advantage to one group or another. Joined to this inertia is the habit of preempting what the needs and aspirations of the next generation ought to be. John Dewey once noted:

By a peculiar superstition, education which has to do chiefly with preparation ..., for teaching, and literary callings and for leadership, has been regarded as non-vocational and even as peculiarly cultural.

while

The education of the masses (has been) distinctly utilitarian. It was called apprenticeship rather than education, or else just learning from experience.

The continuing existence of apprenticeship as a training system suggests that it still provides not only this sort of 'second option' for the unsuccessful student, but that it protects the short-term interests of both the managers of industry and the organizers of labour. (I shall further examine these matters in Part 3). Yet the public seems indifferent, at least in Australia, to the
system's educational inequities. Is it that any sort of training institution which satisfies some concrete procedural expectations for the school leaver is allowed to remain without reevaluation? Even when apprenticeship was clearly more closely related to the training needs of earlier societies, its longevity had been guaranteed because its operation preserved the interests of its patrons, the masters and the gilds, rather than for any supposed intrinsic efficiency.

**Influence of self-interest in the apprenticeship tradition**

If self-interest and apathy towards youth's needs is responsible for training's neglect today, this is in fact nothing new. The history of apprenticeship is remarkable less for the educational idealism of the system's managers than for their frequent displays of self-interest.

Too many commentators on and defenders of the traditional system, such as Reginald Bray (1911) or W. McLaine (1948), seem to miss the point that it flourished in the middle ages largely because it served the interests of the gild monopolies. The European tradition of craftsmanship was certainly not built on a purely altruistic base; apprenticeship was not regarded as a free educational system for the less privileged. In fact, the gilds preserved their economic sovereignty by various restrictions and regulations on members and learners in the trade, much as happens today. No doubt we may admire in retrospect a universal master-to-man relationship existing within the supportive atmosphere of a traditional
and largely static society. However, an undue weight of responsibility was placed on a child in the system: he was expected to equip himself with hard-earned skill to the glory of the "mistery" not of himself. The boy accepted the fact that his master knew more than he, and that he, the boy, had to reach a standard of skill his gild, jealous of its reputation and conscious of the interests of its other members, would justly or unjustly require. The tradesman, no less than the apprentice, had to bow to the gild's interests, whether in questions of quality, or in economic matters of price and fair competition.

Even with the decline of the gilds' economic hegemony, the principle of managerial self-interest still operated in England. The Statute of Artificers (1563), which signalled the large-scale intervention of the state in trade training and which tied boys to particular trades, also institutionalized the Tudor rulers' apparent intention to create a stable work force for an economy dependent on overseas trade. Not only were the 1563 regulations designed to ensure that the potentially mobile and idle poor would be permitted to reside permanently in a parish only if they were placed in a useful trade, but they provided that a boy be properly bonded to the trade and the town for a full seven years. The Elizabethan Justices of the Peace, entrusted with the enforcement of the training ordinances and the setting of wage levels, would hardly have been indifferent to skills casually acquired or to
poor standards of conduct or work. For economic and political reasons the Tudors and Stuarts were as much concerned with the system of apprenticeship as the gilds had been. However, while the old gilds' interests had revolved around local markets, the post-medieval period saw the expansion of the zone of economic competition to take in export markets\textsuperscript{11}. The control of training gradually passed from the hands of the gilds to those of the state; apprenticeship's new managers did little to sustain the old social climate that had given a certain relevance to the old gild traditions.

Dunlop and others have examined the old apprenticeship system in detail and demonstrated that its success owed much to the medieval social milieu in which it operated\textsuperscript{12}. It may even be said that, before the seventeenth century, society and its universal system of training were, in economic and vocational terms, mutually sustaining. As Dunlop points out in her introduction, the gild regulations supplemented the laws, in that the economic and educational outcomes of apprentice training were determined by the gilds. Once their power was ended, there was little real justification for retaining the training system which belonged to the gild era.

Yet, despite even the industrial and technological revolutions of modern times, the customs and habits of the old system have remained little affected. It was as if a nostalgia for the age of the craft gilds had made it difficult for tradesmen to make a realistic assessment
of new conditions of practice and new interest groups. In this connection it is worth looking at the arguments advanced for and against the repeal of the Elizabethan Statute of Artificers, by which apprenticeship had been made compulsory.

It is significant that the views put by the laissez-
faire industrial modernizers in 1814 are little different in rationale from those of many managements today. For the modernizers, Adam Smith argued that even a clock-maker could learn to use his tools effectively within a few weeks. Nasmyth, too, who was far from being a stereotype of the unsympathetic nineteenth century entrepreneur, remarked that he would hardly employ a worker who was "so stupid as to require seven years teaching" (then the term of apprenticeship)\textsuperscript{13}. The opposing traditional case, put forward by the weavers, petitioned vainly for the enforcement of the old serving regulations. They argued that long service prevented a labour market glut, even though many of the weavers themselves had not served so long. It is significant that neither their arguments, nor those of the utilitarians, took any account of the trainee's economic welfare. Questions of training were discussed in terms only of interests being endangered, not in terms of educational ideals being protected. It seems, indeed, that the weavers were possessed of a sort of fearful self-protectiveness; present survival was the stronger motivation over any felt obligation to the next generation of craftsman.
Such a fear played as large a part as the malice of employers in making a nineteenth century indenture too often little more than a sentence to forced labour under poor conditions in England and Australia. (Because of harsh application of Masters and servants' Acts, Australia inherited the unredeemed English system.) It is strange then, that the would-be social reformers at the end of the century regarded the stern surveillance of all-powerful masters as providing a commendable protection of the otherwise idle youth from 'dead-end' jobs. The old Tudor economic expediency and concern for order were once more resurrected for totally different social circumstances. For, while the reformers' enthusiasm in the late nineteenth century and early twentieth century for better training, especially in England, was prompted by more humane motives, the determination to protect youth from the 'dead-end' job and place him in a suitable social niche was taken with little consultation with trainees themselves, or with little regard to evaluating how useful contemporary trade training was for further education, or to tracing an explanation for apprenticeship's decline at the turn of the century. As one advocate of training, Reginald Bray remarked:

The old apprenticeship system has broken up and there is nothing come to take its place (1911).

Yet people like Bray looked for a parallel system of tied labour and traditional obligations to take its place. Apprenticeship owes its continued existence as much to this long-held adult view that apprenticeship, like any
other form of institutionalized education, could play a useful part in the social protection and betterment of youth, as to the cynical opportunism of various interests.

McLaine made this realistic assessment (1948) of apprenticeship's supposed value:

In the main the world is an adult world and most of its institutions are organised for the benefit of adults. Even apprenticeship is an adult conception of what is good for the apprentice and for industry.

**Duty and dutifulness as a virtue**

One of these values, or social expectations, may be characterized as a proper dutifulness, an unquestioning acceptance of the total design of training and personal relations between man and master. Thus, in a tightly-heirarchical and tradition-bound medieval society, neither the apprentice following in his master's footsteps nor the journeyman, dependent for his employment on the gild's goodwill, had had any option about assuming such a dutiful manner to their superiors, who dealt arbitrarily with any irregularities. Dutifulness did not necessarily signify job contentment; it may have sprung from the realization that, for the privilege of service and training under a master, he stood socially higher than the landless labourers, villeins and farm hands, the 'unnaturalized' alien tradesmen from outside the area, and those without family links or local ties. Until the eighteenth century, the trainee did often live on the job, under his master's protection and roof. Thus, even before the nineteenth
century, the spirit of acceptance was a virtue of economic necessity in that, while the master may have had a sympathy of purpose with his charge, the gild's good will was paramount, and the boy's work and manner had to please its representative; a poorly-trained boy was a 'great disgrace to the mistery and to his master's repute. The strong tradition of moral guardianship lasted several centuries. (As late as 1801, a Judge Grose declared that an apprentice beater had best abandon his trade, for society's sake.)

In the nineteenth century, an unidealistic pragmatism entered in, with the neglect of training and horrific abuses committed in apprenticeship's name. Forced apprenticing and gang labour made the ancient gild regime seem benevolent. As with the recognition of other evils of industrializing Britain, public shock set in motion legislative reform of the system's worst abuses, though not of the system itself. Emotions of concern did not lead to a reappraisal of training's effectiveness, merely of human work conditions. Thus, limitations on the hours children worked, the age of workers, and the jobs that could be done by children, formed a major part of the English regulations of industry and manpower until 1938.

Apprentices have undoubtedly benefited by the improvement in the wages and conditions legislated for their fellow-workers. However, their image as docile boys serving out their indentures whatever the circumstances is still
strong in the minds of many commentators. Thus, at the turn of the century, the supposed moral advantages of trade training had spokesmen in writers like Reginald Bray in England and F. T. Carlton in America who felt that current rethinking on the means and ends of elementary education should include an educational reappraisal of vocational training.

Attempt to use education and apprenticeship as reformers' tools for social betterment.

Already in England at the end of the nineteenth century, legislation affecting the conditions of child labour and limiting the hours of work spent in factories or 'sweatshops' had made possible the enforcement of universal elementary education. The question still remained of how the school should best serve the purposes of this industrialized society. Some writers argued that the work of the school be unabashedly linked with the needs of factory production. For example, Carlton in America argued that the school was too often in the position of vainly attempting to catch up with the car of progress whereas it should be lighting its path.

By contrast, the school's aim should be to produce:

more than the intelligent citizen; it also seeks to produce the efficient worker, the efficient consumer, the morally and physically-well-developed man or woman.

Here was a morality tinged with the social progressivist optimism of a Herbert Spencer. Reginald Bray represented the more altruistic view of the guardianship and socially integrative role of the school and apprentice work bench.
He realised that any link established between school and factory would obviate conflict between the child's social needs and the demand of industry for training and so serve the ends of democratic societies. For the boys lost in London's industrial squalor, education first in the school and then in the work shop could provide a path to the status of proud and independent tradesman. With proper supervision, apprenticeship was not servitude, but service. It was exploitation and a poor social environment that threatened the boy's long-term welfare, not the teaching ability of his master. Bray's Studies of boy labour and apprenticeship was a pioneering study demonstrating how little parental supervision was being exerted by working class parents. The thirteen year old wage earner's assumed 'freedom' amounted to little more than a prolonged absence from what was often a cramped and dismal home.

So widespread was the desire of London children and youth to break out of a depressed home environment that many sought freedom in employment, who were below leaving age. In London, for example, twenty-two percent of workers (1911), were under eleven, fifty six percent of these did over twenty hours work after school, and thirty eight percent were engaged in the 'transport industry' (i.e. running messages and deliveries), the area with least scope for permanent employment.

While no immediate remedy could be applied to improving the child's domestic milieu, Bray argued that something could be done in the way of 'continuing education', for
what he saw as a too rapid release from school discipline, and the wider horizons of restless adolescence. Job training in a work shop characterized by 'law and order and constructive thought' would help ensure that the boy approaching manhood should not be cast aside as worthless and unskilled and therefore unemployable, but should become 'willy nilly' a respected tradesman. At least, on this matter of deliberate social remediation, Carlton agreed with Bray. He warned:

too much money is spent upon the diseased tree, but not enough on the growing twig

and recommended job training because it led to

the diminution of these forms of moral disease i.e. incorrigibility and delinquency

Carlton even conceived that, in view of the school's 'preventive' role, industrial schools take on the responsibilities of what we today call youth training farms.

The humanitarian Bray would not go so far, though he clearly supported direct state interference in job selection and training in the manner of the gilds. Want of supervision, want of technical training, want of an opening for which special preparation has been given - these are the three great and characteristic evils of the present industrial situation. Apprenticeship could thus become the key to vocational reconstruction. The state's system of further (higher elementary) trade education should (Bray contended):

reinstate in a changed form the principles which underlay the old apprenticeship system.

Employment before fifteen would be prohibited; training
would instead give the youth the social adaptability to demonstrate a 'general handiness' or an 'adaptability to grapple with new unfamiliar conditions'.

Supposed basis for trust in apprenticeship and conclusion

While Bray and Carlton's enthusiasm for the benefits of training may now seem less than justified, perhaps they were overstating their case to put at rest the prejudices of some parents. If the picture given of the character building and custodial role of apprenticeship was not well-founded, neither were parents' fear of workshop environments. Today children are often put in academic streams only because parents consider practical industry too unpleasant a prospect for their child; they prefer the social cocoon existence of office or bank. In Bray's view too many youth have tried to set at rest the minds of parents whose acquaintance with the shop floor or bench was non-existent, and forego the risks and privations of carving out a worthwhile trade career in favour of taking an anonymous clerical position. Did Bray foresee that authorities would always seem to be arguing for trade vocations from a defensive position, and that employers would expect something close to university entrance qualifications for many white-collar anonymous jobs? Prophet or not, he realized that the dearth of skilled tradesmen in his time was hardly accidental. Some school leavers were being hurried into the nearest available 'white-collar' niche, their moral right to vocational satisfaction ignored. However misguided he may have been in his view of apprenticeship, he saw clearly that a
vocation is not something grown out of a casual whim felt after school is over, but is an important decision from both the individual's and society's point of view. He regarded the traditional training as the most direct way for society to guide youth in making the vital choice for a fulfilling work life.

It must be said in fine that apprenticeship continues to survive as a system of training as much by a supposed efficacy in exerting such moral sanctions over possibly recalcitrant youth as by the supposed belief that, being 'tried and true', it may continue, after half a millennium, to provide an appropriate practical experience in the manual trades. Its effectiveness either as a social nostrum or method of trade training has never been thoroughly investigated, and its continued existence owes as much to public apathy in England and Australia to the problems of vocational education, as to its defence by spokesmen responsible for its maintenance who are not familiar with modern educational alternatives more relevant to the needs of complex industrial societies. For their part, governments appear to lack adequate policies on industrial training, at least training based on educational criteria. As I shall show in the next chapter, public apathy on the question is undisturbed by government policy of continuing support for all ongoing systems of training whatever their defects.
Notes

James A. C. Brown. "Work, its nature, conditions and motivation" in his Social psychology of industry (Harmondsworth, 1954) warns that modern research shows that money is not the prime motivation for working and that work is a social activity bound up with one's concept of acceptance and success.

2 P. D. Brereton in his Origins of the Victorian Apprenticeship Commission: a history of apprenticeship regulations in Victoria 1896 - 1927 (M.Ed. Melbourne 1971) p.160, terms of service were prescribed irrespective of differences in training. By 1921, service was generally for 5 years.


4 Jocelyn Dunlop English apprenticeship and child labour (London 1912) c.1., shows that the very spirit of autonomous separateness and jealour craft authority in medieval times ensured that trade training would take on a decentralized pattern.

5 P. Brereton, op.cit., p.45 & p.48 observed that in early twentieth century Victoria lengthy arguments about making the indenture compulsory were based on the doubtful assumption that such a legal contract would somehow become a concrete assurance of adequate all-round trade instruction. Otherwise, it would seem that, if no concrete decisions were made about specific courses or methods, indentures would be merely 'toothless gums mumbling against expediency'. (ibid., p.45).

6 Frank G. Sublet. Education for industry and citizenship (Melbourne, 1936) p.42.


8 Reginald Bray Boy labour and apprenticeship (London 1911) W. McLaine New views on apprenticeship (London 1948)

9 See e.g. Australian Tripartite Mission. The training of skilled workers in Europe 1968-9 (Hobart, 1970) p.238 and p.47, where it is reported that, in Holland, a "masterpiece" is still required by all 13,000 Bemetel apprentices.
See e.g. W. McLaine, New views on apprenticeship. (London, 1949) p.28 ff. where the writer lists some of the new restrictions. These prohibited the tradesmen transferring to new crafts and enforced demarcation in trades e.g. the coachman could not make coach wheels. In this period, the myth of the 'saving power' of apprenticeship first arose whereby churchwardens and overseers could bind pauper children as apprentices and almost as slaves until they were twenty-four.


Jocelyn O. Dunlop. op.cit., Dunlop speaks of apprenticeship's "eugenic value" before the seventeenth century, p.21, of its supposed educative and protective role. As indicated in note 4, however, there is evidence suggesting its social benefits were greatly curtailed by the Statute of Artificers.

McLaine, op.cit., p.12, 19.

R. A. Bray. op.cit., p.176. The system of apprenticeship was also in a state of decay in Victoria. See P. D. Brereton. op.cit., c.1.

W. McLaine, op.cit., p.176.

Jocelyn O. Dunlop. op.cit., p.85.

ibid., p.45

ibid., p.43 An attempt was made to establish agricultural apprenticeship.

ibid., p.44.

ibid.

ibid.

Jocelyn O. Dunlop. op.cit., p.36.; R. Bray, op.cit., p.28 (Jouvaux case).

ibid., c.15 and c.16.

See e.g. R. Bray, op.cit., p.23 - 25.

Parallel movements in Victoria both to abolish 'sweating' (especially in clothing trades), and to afford training that would combat the social problem of untrained talent in such work, were supported by the reformist groups. (P. Brereton, op.cit., p.17ff) on the legislative level, the Commonwealth Court allotted differing trainee ratios in different trades to limit dependence on cheap boy labour. (ibid., p.157).


Quoted in R. Bray, op.cit., p.96 - 103. "The boy of school age" and "The boy after school days".

ibid., (The book incorporates much information from practical research)

ibid., p.212 ff.

ibid., p.103

ibid., p.167 (Few actually existed)

F. T. Carlton, op.cit., p.52

ibid., p.247. As his discussion shows, he too saw universal education as having moral dimensions (See especially, p.84 - 90).

R. Bray, op.cit., p.175

ibid., p.29

ibid., p.214
APPRENTICESHIP KEPT ALIVE BY GOVERNMENTAL ADMINISTRATION AND PUBLIC APATHY

The reformers Bray and Carlton (discussed in Part 1) supposed that a revival and refurbishing of traditional training would hopefully provide alternatives to dead-end and the safe unimaginative job, as well as providing society with the much-needed skilled labour to keep industry's wheels turning. Whether their desire to see training reestablished came second to solving immediate problems of industrial manpower remains a moot point. Certainly, they never seem to have considered whether a boy himself would in general choose to spend his whole working life in industry. However, they did have some ground for arguing that the sort of work a person chooses to do is not a totally private or parental matter; it does have social repercussions. Consequently, training could not be allowed to go along on a casual or imperfect basis; it should be a matter for governmental concern.

Unfortunately, both writers misread the trend of training developments, and seemed not to have taken account of the decentralized character of much trade training, with as many standards of training and of moral responsibility as there were apprentice masters; apprenticeship's sheer amorphousness really made it unsuitable to provide a basis of a universal training system. Admittedly, in olden times, it had provided the sole source of training and umbrella of adult guardianship
for youth, the master exercising educational and protective jurisdiction in his work place. However, by the twentieth century, this state of affairs had long gone. What is strange is that, while governments today feel less concern than did these reformers with the vocational welfare of youth, they seem no less convinced of the peculiarly nostrum-like qualities of the ancient system.

Management of apprenticeship today

The system, while still exuding the air of craft gild authoritarianism, has little claim to being an effective practical training. Yet the bodies controlling trade training accept the view of Bray that long-standing tradition somehow guarantees the suitability of apprenticeship, whatever be the economic conditions for the tradesman; their principal objective is seemingly to ensure the undisputed perpetuation of the system and to justify its perpetuation to the public. Consider the situation here in Victoria, where the body responsible for such training has been in existence since 1928.

The Victorian Industrial Training Commission (VITC), previously known as the Victorian Apprenticeship Commission, has seemingly no brief other than to administer the system. Its literature apparently espouses the view that apprenticeship is the ideal path to lasting and
worthwhile employment to be preferred to more lucrative, but less respectable, 'dead-end' jobs. Most trade booklets do not even discuss, by way of comparison, alternative vocational courses to apprenticeship, even though some important trades do not have apprenticeship schemes e.g. earth-moving, cranedriving.

There is a lamentable dearth of realistic job assessments in such vocational literature, not just the Commission's. Victoria's boys and parents, for instance, are rarely given an adequate picture of life in the trades. There is scarcely any reference in its literature to the problems of trades which become unskilled when the machine replaces the man, nor any frank treatment of the many tedious tasks which fall to the lot even of the established tradesman. Nothing is said of the safe but tight niche of precision work, nor of the comparative advantages of working for others and setting up one's own business. Yet these sorts of issues must come under consideration before a boy decides what trade he will follow. Too often vocational literature takes little regard of the vocational welfare of the single individual; whatever advice is forthcoming is couched in moralistic generalities, for example:

Apprenticeship is the only sure way of attaining the degree of skill and knowledge required of a first class tradesman.

While a cynical critic of bureaucracy would expect any government body to advance simplistic arguments for
justifying the operations which it orders, even the more open-minded may be upset when the same body has publicity-wise a monopolistic role in trade training. Worse still, if one is to judge from the Beattie Report conclusions, the VITC system was regarded as the most suitable pattern of administration for New South Wales to adopt. Unfortunately, the Report is no more objective or pragmatic about training realities than the VITC. While justifiably criticizing the common New South Welsh practice of upgrading experienced but untrained workers to trade status, the Commission's support for apprenticeship appears uncritically eulogistic.

Apprenticeship provides far and away the best and most reliable means for producing ... tradesmen.

The same uncritical commendation of the system came at about the same time (1966) from the Victorian Apprentice- ship's Commission's president, A. C. Eldridge who, in a report coming in the wake of a trip overseas, further demonstrated that the body he represented felt it had nothing to learn from European vocational education systems. Geographical insularity would be paralleled by one in training methods. He said in part:

Our own practices do not suffer in comparison with those of other countries and our system has strengths which other systems do not have ... employers are legally obliged to apprentice minors employed in proclaimed occupations and to give them the opportunity to receive systematic training ... we have achieved a greater measure of cooperation between industry and the vocational school than appears to be the case in other countries ... Any deficiencies ... are not due to failure to recognize principles or to adopt effective methods, but to limited resources.
Eldridge, it should be noted, emphasized that the basis of the apprenticeship working is the continuing cooperation especially between the school and the work place; it is a state of peace (or truce) between the educational and commercial institutions that is crucial for the continuance of the system, not the solid guarantee of legislative enactment. The rubric of employers volunteering their training services in trades, that are declared and proclaimed acceptable, is the only substantial earnest that an antiquated system for recruiting trainees and inexpensive labour at the same time is still alive. Eldridge was alive to the peculiarly tenuous life the system has, a life that may be cut short by reluctant employers with few qualms. Yet his organization had been forced to 'hold the ring' as it were, between the will to power of capital and labour, and the innocent desire of the teenager to find a secure job at any cost. Perhaps, the gloomy realism of such a government body must be tempered by the optimism for the future reflected in his comments.

Unfortunately, in the overall public stances taken both by the Victorian Commission and the investigating committee in New South Wales, one detects the same naive hope Bray and Carlton cherished that larger schemes of apprenticeship would solve social problems of vocational insecurity as well as industry's needs for skill. A blind faith in apprenticeship is, in other parts of the Beattie Report, attached to the efficacy
of various Victorian practices in working the system.

Take, for example, the formal declaration or 'proclamation' by the Governor-in-Council that such-and-such is an apprenticeable trade, which overnight and magically confers higher status on any sort of process or technique, irrespective of the skills involved. The New South Wales committee approved its introduction into their state, without any questions being asked about the arbitrariness of such a system of professionalizing jobs.

Public apathy in training matters

One may well ask if public criticism is dormant in the question of trade education in Australia. Certainly, the mass media rarely criticize the working of the system, except in regard to the number of apprenticeship openings made available. Significantly, the large number of applications to the Commission would seem to indicate that apprenticeship continues to be popular with parents and trainees, anxious to leave school early. At the same time, considerable reluctance to train is evident from available figures. Thus, while the number of apprentices and probationers employed in toto in 1972 in Victoria was 4311 for engineering and 3038 for carpentry, and the Commission granted 1182 and 1008 applications respectively for these trades, only 977 engineering trainees and 665 carpentry trainees gained indentures. Rather than people criticizing only the indifference of managers to the need for training
broad a target anyway for effective attack) they would be better looking into what makes the system of apprenticeship, the commonest sort of trade training here and in England, unpopular with employers and not really favoured by boys or girls who find openings at tertiary education level.

In practice, even apprenticeship's critics in government circles stop short of recommending its replacement or drastic overhaul. Thus, when Sir Henry Bland headed the then Department of Labour and National Service, he commented on the fact that, where other vocational alternatives were available, youth shied away from apprenticeship. He went on to point out some of the characteristics that discouraged people from embarking on training. He spoke of apprenticeship's "innate conservatism", the rigidity of age of entry, and the problems of union demarcations which severely curtail any attempt by trainees to get proper practice in trades. Nevertheless, he did not come out in favour of the system's being overhauled or abolished. The reason for his reticence, and that of other investigators, is not hard to guess. Governments, and their human representatives, are not anxious to replace any universally-accepted institution, unless it is glaringly inadequate and there is a strong popular outcry for 'something' to be done. Neither governments nor public services are innovatory by nature. Hence it is not surprising that, especially in Australia and England, the post-war industrial revolution has been more visible on the level of private management.
and technological change than in training modernization. In the community's terms, 'progress' has generally been defined in terms of standards of living and affluence. It is the visible outcome of economic growth that has impressed people, rather than what has gone into its production, either in terms of skill or investment or training.

It would thus be churlish to blame only organizations like the VITC or Britain's Industrial Training Council for the continuing existence of antiquated training systems, when public opinion at large is set by the same economic priorities as those influencing the interest groups that dictate the terms of apprenticeship training. On the one hand, 'controlling' bodies endorse the ideal of the youth's right to good training and work conditions; on the other they are forced to acknowledge that other hostile interests must be satisfied or mollified. Furthermore, the bodies controlling vocational education may be governed by ideals which constitute a low priority in the economic planning of the government that has appointed and funded them. It seems that, while governments are not averse to the needs for vocational education, their interest in it is limited to financing rather than supervision. They rarely tie subsidy to efficiency.

Undoubtedly, governments have been more impressed by strident demands of management for trained or untrained
industrial manpower in terms of numbers. There has been less heard about the value and quality of the training from the individual's point of view. Especially in the post-war years, the question of placing manpower to the best advantage has revolved too exclusively around the massive problems of worker rehabilitation and the conversion of wartime industrial plant to peacetime production. However, the growing social pressures of urbanized living and the expanding potential work force have made job placement all the more difficult and restricted. New industries demand new skills; larger populations mean a larger work force to service them and a multiplication of goods and services. Thus, even Australia, which in world terms is accounted a primary producer, has experienced both a "flight from the land" and large-scale immigration, and has had to develop policies of manpower deployment more typical of countries having a larger industrial base to their economies and larger service areas.

National funding of existing training schemes whatever their demerits.

Unfortunately, all these massive changes in the post-war economic scene have not necessarily entailed a modernization in training facilities or a review of policies. While latterly there has been an increasing readiness by governments to fund trade training, in harmony with the general expansion of educational opportunities and the impact of technology on training
requirements, the questions about why people are trained, and how useful their training is, remain unanswered. There is ample evidence that, on the contrary, while modern industrial nations appreciate the impact of technology on production processes and the importance of training managers for the massive financial and technical juggernauts that constitute the modern corporations, they seem to treat lower-level training as a piecemeal process - merely making the ordinary worker less of a liability either to the employer or the taxpayer. The worker's own educative good is not a prime consideration. In this regard, neither training authorities nor private management set a high priority on training.

Thus there is continual conflict between training needs and economic planning. Training schemes are either neglected or set up without planning in advance or clear educational objectives. The need for training personnel may become apparent only after an enterprise is a going concern. It is hardly opportune then to find out whether the staff can actually carry out the operations of this firm or whether management must turn to 'on-the-job' instruction, with its implication that nothing is lost if the trainee gradually learns from his mistakes.

In today's training situation, especially in Australia, too many authority groups appear to shirk their responsibilities: the parents leave training to the school, government and management to the parents, and so on. On a larger scale, we still witness the
customary but embarrassing dependence on overseas labour and expertise not only for unskilled or unpopular jobs, but even for filling higher managerial and skilled positions. Instead of widening the opportunities for training, Australian private and public sectors leave to Europe and America the responsibility for producing sufficient qualified people to fill our needs.

It is a characteristic of this same absence of training policies that governments have tended to support the systems of vocational education in existence whatever their drawbacks, or that they are less ready to expand job opportunities. Even the admirable American practice is geared more to financing ongoing systems, than to evaluating them or developing innovatory programmes. Thus, in the flurry of post-war legislation found necessary to bring about a sudden expansion of a trained peacetime labour force and place war veterans in employment, there seems to have been no thoroughgoing attempt in Britain or the United States, let alone Australia, to replace or rationalize existing training schemes, nor initiate research into the effectiveness of vocational education.

In the United States, in fact, the usual modes of training, as, for instance, in the long-established factory schools, continued along traditional lines. High schools, which had run vocational courses for over three decades, offered much the same studies as before the second world war. The Federal government offered
funds for such courses; the George-Barden Act of 1946 and the Vocational Act of 1961 extended the funding provisions for the classes of occupations coming under the aegis of the old 1917 Smith-Hughes Act, without there being any sort of detailed educational accountability written into the legislation. Later 'lifesaving' legislation has attempted to assist the previously 'unemployable' or disadvantaged groups like Negroes, but without trying to change the pattern of training available.

In Australia, the most important piece of training legislation on the federal level till 1970 was the Australian Tradesmen's Rights Regulation Act (1946). However, this Act was not aimed at implementing anything new in training; in fact, in guaranteeing tradesmen against unfavourable dilution agreements (e.g. to curtail serving periods) the legislation acted to deter the initiation of those training schemes that would seem to harm the existing jobs of unionists. The Act did not even protect apprenticeship, because employer and trainee could presumably agree on a dilution of training conditions, provided no one else's job was directly affected. Since 1970, federal governments have also initiated some regional employment schemes with limited success. However, their main role has been only to provide funds not to restructure training designs.

The British Industrial Training Act of 1964 must be regarded as a far more radical measure than any Australian or American legislation. The legislation inter alia
subsidizes training by a universal industrial levy, and has set up a Central Training Council (CTC) to improve the administrative machinery for trade training and reimbursement of employers. Moreover, trainees are encouraged to undertake the trade examinations set by the City and Guilds of London. While the 1964 Act goes further than legislation in Australia or America to encourage individual employers to take on apprentices, it does not attempt to break the nexus between apprenticeship and industry's control of training, nor does it prevent backdoor entry to skilled worker status through local or industrial agreements. Because of the operation of a 1954 'peace-keeping' Agreement on the issue of upgrading, and partly because of the need for the government to keep unions complaisant about those adult trainees attending Government Training Centres, dilutee entrants to skilled ranks may still be employed without craft opposition.

While national bodies like Australia's TAFE (Technical and Further Education) Commission may provide a useful "think-tank" for the many problems that trade education poses, a greater degree of direct governmental intervention in job training may be necessary, especially if the intervention is aimed at guaranteeing the individual's rights to proper vocational training (See Part 5). In fact, if training schemes are to become more relevant for a more highly educated intake of trainee craftsmen, either youths or adults, there must
be comprehensive attempts to upgrade the skills and abilities of the community as a whole. In Australia, little has been done in this regard. Countries like ours must develop a reservoir of skills, rather than rely on fruits of migration programmes.\footnote{17}

Conclusion

Training policy is still in a state of suspended animation, coming alive in ad hoc solutions to meet manpower exigencies. Whatever the reason, public apathy or seemingly higher economic priorities, governments have tended to administer and fund all forms of vocational training whatever their suitability or efficiency for modern industrial needs. As long as there is no strong movement to remodel vocational education policy so that it may better meet the present social needs of trainees while providing sufficient initiation into job skills, inadequate systems of training will not only survive, but, strengthened by the respect accorded them for their longevity, may prove even harder to reform at some, more enlightened, future time.
PART 2

Notes

1 See e.g. the Apprenticeship Week advertisement in the Age, 9 August, 1974, p.25.


4 Beattie Report, ibid., p.7.

5 Cited in K. G. Mortensen. Planning for technological change (St. Kilda, 1971) p.54 See also Victoria. Education Dept. Education for industry: a survey of state education in Victoria in its relation to apprenticeship training. Presented by A.C.I. of Technical Schools to Commission of Enquiry into Apprenticeship, 1952. (Melbourne, 1952) p.9, 12. The Department emphasized the role of guidance to trainee tradesmen lest they be chary of entering unpleasant jobs. A campaign of advertising and film documentaries was suggested. Unfortunately, the Department seems to have done little to examine the broad issues of contradiction between education and apprenticeship.

6 Beattie Report, op.cit., p.37 (Victorian criteria for formalising apprenticeships)


8 W. A. Bland. Apprenticeship: can we expect it to supply the need for skilled workers? Offprint, 1961. (Obtained from Dr. S. Murray-Smith, Melbourne University). The title of this talk, given when Bland was head of the Department of Labour and National Service, may once more indicate the customary preoccupation of authorities to fill out the industrial ranks.

9 Creighton Burns (Age, 19 November 1975, p.9) summarizes the causes of Australia's earlier prosperity after the second World War. Throughout the 1950's and most of the 1960's, the Australian economy flourished as never before. The reasons for this remarkable boom were complex. But it was largely the product of industrial skills and managerial training during the war, the post-war revolution in education, the massive injection of migrant labour and entrepreneurial talent, the beginning of the mineral boom, and pent-up demand throughout the world for primary products and consumer
goods."

10 N. Peffer. *Educational experiments in industry*. (Macmillan, New York, 1932). He argues in his introduction that American industrial education cannot be analyzed by educational objectives it does not seek (p.4 & 5) even if, in the long term, the objectives may not be worth the effort (p.195).


13 See e.g. Australian Tripartite Mission, op.cit., p.6.

14 The Relaxation of Existing Customs (Dilution) Agreement.


16 The Commission on Technical and Further Education, whose very title reflects the newfound importance of technical education in Australian Federal Government eyes, has been established by the Department of Education to assess achievements and suggest initiatives in the broad field of tertiary education. There has, however, been no evidence in its reports of there being any intention by the Federal Government to make radical alterations in trade training or in fact to intervene as extensively in any tertiary educational field as it has done in social welfare. (The above remarks refer particularly to the 1972 - 5 Labor Government).

17 Graham Holmes in 'The supply of building, fitting and turning tradesmen in Victoria 1962 - 1972' in *Apprenticeship News*, no. 32, September 1973, p.79. Migrant labour supplied, over a ten year period, half the skilled electrical tradesmen and almost 75 per cent of skilled building tradesmen.
PART 3
REAL PROBLEMS AND MYTHICAL ADVANTAGES IN APPRENTICESHIP MANAGEMENT TODAY

As I indicated in the last chapter, many of the supposed advantages of apprenticeship from the point of view of training or further education are questionable. It seems in fact that if we are to use the term 'advantage' in this chapter we must use it in its competitive sense, which implies not only that there is a 'winner', but also that there must be several 'losers'.

The continuing advantage to employers

In discussing the fate of apprentices in the nineteenth century, reference was made to the abuses committed in training's name. Although the lot of the apprentice has vastly improved in terms of wages and conditions, it is questionable whether the balance between the period the youth spends in routine production or unskilled work and the time when he is being properly instructed has been properly redressed. The standards of job training today in England or Australia rely just as much on employers' attitudes as on the policies and supervisory effectiveness of controlling bodies. Unfortunately, there is room for concern here; many commentators seem content with the nineteenth century utilitarian view that provided that a man performs certain tasks satisfactorily, his services may be profitably retained. It seems to be a matter of indifference whether the learner or tradesman
brings into play the full repertoire of his skills. Far from the Victorian I.T.C. disabusing employers of such a limited and short-term outlook, the then Minister for Labour and Industry, in an introduction to the Commission's Handbook of apprenticeship, apparently endorsed the same ordering of priorities, whereby manpower needs come before thorough training. The Minister commended those employers who participated in apprenticeship schemes in terms of their having recognized the truth of the old adage "the tradesman you train yourself is the one who will best suit your requirements".

Not only did the Minister apparently ignore the fact that most foresighted tradesmen take up their craft so that they may themselves exercise a choice in employment, but he assumed that apprentices are employed in the first instance to serve their employers. The training responsibility of the employers is by comparison understated; is their civic duty done largely in signing an indenture? Does the simple fact that employers have young trainees on the payroll demonstrate that they have fulfilled their obligations to the next generation of tradesmen, and that, in course of time, these young trainees will automatically be added to the ranks of skilled labour?

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Unfortunately, this image of the dutiful apprentice duly transformed into an excellent tradesman does not always reflect the reality of today's training procedures.
Despite the plethora of legal formalities, there is no adequate machinery for the regulation of entry qualifications nor of assessment even at the lowest level. If the boy is "of age" and under twenty three, he may be apprenticed, even if his training has no relation to his aptitudes, but is tied only to the production needs of the employing firm. There is often no whiff of idealism in the service arrangements. By the indenture, the boy signs away his right to work where or how he will for a firm, which may think it has done more than its civic duty by taking him on. Despite the Beattie Report's argument that the bonding had no overtones of servitude and simply guaranteed its owner was a craftsman, there remains the suspicion that the indenture is intended to surround apprenticeship with an aura of legislative authority, awesome to both trainee and parent.

Training in modern industrial conditions

Not unexpectedly, there are few cases of apprentices expressing public disapproval of their lot under this rigidly enforced and yet casually operated system of training; unlike other workers, apprentices are constrained by inequitable regulations. However, there have been serious demonstrations in West Germany by apprentices, who felt aggrieved about the conditions of their work and the adequacy of their training. The German case is important in demonstrating that, even within a large-scale system supposedly working satisfactorily (which is more than can be said for apprenticeship in England or Australia)
and coping with most training needs, the innate weaknesses of traditional training based on medieval norms appear.

German apprentices, in the early seventies, staged marches with brooms (a protest against sweeping floors) and held demonstrations. Their main complaint: 'Training years were dead years'. A third of them worked in poor conditions and often only as cheap labour in Handwerke (small businesses). In Frankfurt for example, twenty-five per cent worked without any proper work supervision. According to Wickham, the 1969 Technical Education Act (Berufsbildungsgesetz) had no policing powers and there were many breaches of training and employment; even beating was not unknown. What is also significant in these demonstrations is that the boys were less interested in extreme political action than in getting adequate training, even if their wages remained low.

Unfortunately, there seems considerable evidence that industrial conditions elsewhere are even less conducive to thorough training than Germany's, where the government has at least an active training policy. In fact, as the American theorist, David Snedden (1929), pointed out several decades ago, modern industry's exploitative concern with cost-cutting and quick profits could tend only to training's neglect. The stress of competition, according to Eaton, another American writer (1926), may not only accelerate the decline of the all-round tradesman's role in the factory, but also stifle the creative and exploratory drive of professional endeavour, which training programmes should foster.
Even today, the best most apprenticeships offer is practice in traditional methods at a simple face-to-face level, joined with day release schooling that may have little to do with the youth's work.

Worse still, this mode of trade training is relatively difficult to reform in that it is dependent on many unwritten compromises between interested parties and operates along fixed lines of service and instruction. No one group accepts the onus of imparting adequate training, or even of taking a clear cut public role 'for' or 'against' training. No would-be reformer can readily take on a widespread opposition, particularly when the opposition largely springs from organized labour or its appeasers.

Unions' attitude to training

Unionism and the system of apprenticeship have never really co-existed happily, especially in Australia and England, and the growth of the unions' power has been at the expense of apprenticeship. Only an outline of the confrontation can be given here. Nevertheless, this mention must be made, as the conflict provides one of the most serious obstacles to non-institutional training.

As I pointed out in chapter one, the craftsman surrendered considerable independence to his guild in the middle ages, in exchange for its protection of his conditions and wages, and its insistence on the 'singularity' of his trade, that is, the demarcation of his precise abilities and
of the guild's own boundaries of authority. Modern unions are no less jealous of their hegemony over their members' working lives, and this hegemony is supported at grassroots level by a tight-knit social organization based partly on camaraderie and partly on the fear of peer disapproval.

Thus, unfortunately, it seems inevitable that the social acceptance of the young trainee must influence the practice and teaching of apprenticeable trades, especially of those linked with militant or jealous unions. The trainee's treatment on the shop floor depends on many variables besides company manpower policy and the quality of supervision. However, the repercussions of extreme union clannishness may appear the most threatening to him, for his basic right to work, as in olden times, may involve the sacrifice of many other liberties. Whether the adult employee is efficient or not, he has per se a special role as the union's man. Even if he has in fact no real union protection against upgraded semi-skilled rivals, he must "carry" the union torch against the industrially defenceless apprentice. Indeed, even though the lifetime of a craft may today be of shorter expectancy than that of its practitioners, unions still seem more concerned with the problems of their immediate rights vis-à-vis management, other unions and non-unionized labour, within a turbulent industrial arena, than in the long-term issues of the tradesman's right to work at his first specialty for the whole of his working life, or of the trainee's right to
receive sufficient training to protect his employment from all the gales of economic or technological change.\(^8\)

The attitude of suspicion of British unionists to apprentices is the fruit of a long history. The craft unions were born after the repeal of the Combination Acts (1825) in defence of workers' rights not only against management, but also against the threat of cheap child labour posed by the uncontrolled practice of a pseudo-apprenticeship which grew up after the repeal of the Statute of Artificers (1814) referred to in Part One. Astryx has commented:\(^9\)

> the craft structure of (British) industry is a product of union politics and industrial history rather than any rational division of labour.

English and, in consequence, Australian unions have grown up out of amalgams of trade and industrial unions, which have combined for greater industrial strength. Their goals often constitute deterrents to proper training, not only through setting up ludicrous job demarcations, but through the insistence on lengthy time serving for all trainees, no matter how gifted. Trade education is not rejected by unions per se, but the feeling among workers is strong that training institutions cannot be allowed to set up as non-partisan bodies in the "no-man's-land" of the industrial arena, where the interests of labour must automatically be opposed to those of management. Thus, the unfortunate apprentice is unrepresented; he must work along-
side and with unionists, posing a threat, real or unreal, to their bargaining powers\textsuperscript{10}. At the same time, he works only at the pleasure of the company which, unlike some others, took him on as an employee tied to an indenture contract and forbidden to join in an industrial dispute. His ambiguous position in the work force is clearly unenviable.

Unions' indifference to craft standards in Australia and England

The defensiveness of British and Australian unions about working rights is joined with an apathy about the standards reached by the so-called 'skilled' members of their unions; they have not perpetuated this commendable feature of the guilds' regimen. Our modern unions rarely ensure that enough skilled men are being supplied to industry, nor that tradesmen continue to update their skills\textsuperscript{11}. Any sort of restriction of entry to skilled ranks is employed today not from the motive of taking only the best trainees but from the two-century-old instinct of economic self-preservation against an influx of dilutees of any age. It is an instinct with only short-term value; the unions have yet to realize that their economic leverage can only be enhanced if their future members are properly trained and thus in a better position in contracting for labour.

In Australia, however, the unions contribute little to fruitful training, even if they do not directly interfere.
Sir L. Hewitt, when New South Wales Minister of Trade and Industry, pointed out that unions, in adhering to the outdated views of training, that justified apprenticeship's continued operation, were guilty of a lack of social justice in prohibiting adult entry to trades and barring the training of sufficient men to meet critical shortages.

In the last matter, he praised the Commonwealth Reconstruction Training Scheme's work, obviously hoping for its revival. While he clearly sought a 'New Deal' in training, he stopped short of suggesting that the root cause, apprenticeship as it exists today, be abolished. A change in 'machinery' would be enough, he felt; the implication was that he did not care to 'take on' the unions, when they were threatened with losing their control over skilled manpower.

Significantly, in America, where the relations between management and unions, and government and unions, have been less acrimonious, trade training is not a pawn of industrial politics. Thus, despite misgivings, the American Federation of Labour did support the revolutionary Smith-Hughes Act (1917) subsidizing nation-wide trade training programmes, and the Federation still undertakes the certification of members' qualifications. Although some craft unions have, since the 'boomers' (young unattached labourers) period, been forced to enrol those with doubtful skill proficiency, for fear of losing members to the large industrial unions, Fawcett points out that unions have never opposed funding
for outsiders' vocational education. Ida Hoos also documents unions even supporting remedial education for workers, whose jobs are threatened by automation or other changes, and promoting better standards of job proficiency. Some unions, says Hoos, have signed agreements with management of institute training, and it is significant that, in times of recession, some American workers are prepared to accept lower rates or a shorter working week to 'spread the work around'. American unions have at times gone to the trouble to initiate their own training programmes. (One of the most interesting is the Santa Rosa Marine Cooks and Stewards Training School in California. The School's certification is actually a pre-requisite for union membership).

In Australia and England, by contrast, it is sometimes the case that unions openly interfere in apprenticeship training if they think it necessary to protect their supposed hegemony over job allocation or the demarcation between jobs. The English Typographical Union, for example, has set a most extreme example of obstruction to thorough training and freedom of employment. Through a tight control on entry and training courses, the Union has created excessive divisions of labour and inhibited the updating of British printing processes. The antiquated hand composing is still taught, and the smaller firms with outdated machinery are protected by the Union paying larger firms to take on a multitude of differently-trained apprentices under the same roof. The Union is apparently
content that its newly-'skilled' men practise their single trades, as if automation were far away, or firms were quite happy to rearrange their production schedules to suit any particular set of "specialists" the Union has sent them.

British printers are not alone in hindering training. Astryx quotes some joint research done by the University of Newcastle's Institute of Education and the Charles Trevelyan Technical College on the lack of attention given to training in the building industry. The researchers, for fear of union displeasure, elicited much of their information through informal inquiry, and found many deficiencies in training in this peregrinating industry. In fact, if the Newcastle research team's experience is at all commonplace, suggestions in the literature that apprentices be apprenticed to 'the industry' (especially unionized ones) seem forlorn. It has been argued that such schemes would spread the burden of cost and training more widely, and discourage poaching, while the craftsman's wider deployment would broaden his experience. Can we imagine that the Newcastle building unions would gladly endorse the possibility of truly itinerant journeymen, free to practise different skills where they were needed?

For, while many British unions may not be as restrictive in training matters as the printers or builders, few seem to favour compulsory assessment of a 'graduating' trainee's competence. Frequently, they depend on external (college-type) qualifications.
Managements no less ultra-cautious about training

Employers are hardly more enthusiastic about co-operative systems of training like 'apprenticeship to the industry'. Some firms hold jealous monopolies on certain goods or processes and would without legislative sanction hardly allow their most gifted former proteges to carry their knowledge to the next participating employer; others remain hamstrung by demarcations which make efficient use of labour impossible. Remember too, the attractiveness of traditional apprenticeship for training stems partly from the comparative length of the tied serving period. Thus, while from the educational angle, broad training in different firms may be a worthwhile idea, the Realpolitik of apprenticeship practice bound to the interests of organized labour and competitive industry makes the likelihood of such training remote.

If it would need an unlikely change of heart among employers and organized labour to permit apprentices the freedom to move from one master to another to get a better 'all-round' training, it would seem to be an even more remote possibility that either employers or organized labour would readily support seminal changes in vocational training, such as would reduce the dependence of the aspiring trainee on the good graces and enthusiasm of employers or unions. Yet, as I shall show in the next chapter, a closer analysis of the present training situation at shop floor level indicates that the efficiency of instruction and even the willingness to train varies considerably, and make it
difficult to determine how skilled any particular 'skilled tradesman', who has served his time, really is.
Notes

1. Even before the Second War, W. Phillips and K. S. Cunningham Education for livelihood (Melbourne, A.C.E.R., 1936) p.48 - 49 criticised the assumption that dull routine was an unavoidable characteristic of a modern economy; they argued that there was not enough fitting jobs for men, and all were entitled to appreciate work processes.


7. See e.g. Marie Jahoda. The education of technologists (London, 1963) p.24. The voluntarist apprenticeship system in Britain contains, it appears, a strong element of 'having to work and shake hands' within an atmosphere of restrictiveness.


Of Victorian unions' attitudes during the early discussions on apprentice training, Brereton points out that their enthusiasm for technical education waned when it appeared that skilled men, trained 'outside' factories, could threaten their control of trade entry and practice (p. 93 - 94). The 1905 Factories and Shops Act had exacerbated the cheap labour threat by rescinding the Wages Boards' rights to limit the ratio of apprentices to tradesmen (P. Brereton, op.cit., p.87). Union enthusiasm waned further after the severe 1924 slump, especially in the building trades (ibid., p.205 - 207).


Ida Hoos, Retraining the work force (Berkeley, 1967), p.104 ff. where retraining programmes are briefly noted.

Ibid., p.107 ff. (Marine Cooks and Stewards School).

K. Leipmann, op.cit., p.170. (Strict demarcation and ratios allotted to specialized printing tasks).

Ibid., p.73 - 74. Written entrance examinations act as "trainee sieve"; they don't test proficiency properly.

Ibid., p. 98 - 99. (Linotype vs. Monotype training)

See note 9.


Ida Hoos, op.cit., p.95 ff. quotes the case of an American firm, 'Company X', which retained an antiquated system of disparate job training units, lest rival firms learn trade secrets.
Training as a priority

Training today should depend neither on the outworn traditions of the old craftsman age, nor on the vagaries of casual instruction dependent on time taken from production scheduling. Although many modern industrial enterprises, even in Australia, are not disdainful of practical and creative trade experience, there still seem to be considerable pressures in industrial practice which militate against good training milieux for apprentices.

Nathaniel Peffer (1932) bitterly attacked the role adopted by factory superintendents in relation to training, accusing them of setting boys to fixed routines and ignoring the need for the boys to get a wider view of their trades. Peffer felt that there was a strong inclination to plug gaps on production lines and merely keep trainees busy, without proper learning programmes. His judgement on factory superintendents was that they:

would prefer, if given uninhibited choice, docile... unambitious workers who would learn an operation quickly and be content to perform it until death. Then there would be a stable labor supply, an even flow of production, no turnover, no psychological problems of management, no labor problems, an idyllic economic system.

Peffer may have overstated his case against "on-the-job" training, but his opinion does point up clearly the problems faced by trainees in modern industrial situations, and apparently overlooked by defenders of present practice.
When, for example, the prestigious International Labor Organization issues a curious statement (1950) defending "on-the-job" training, and apparently assuming that the best sort of teaching could take place only under production conditions, the ILO statement displays a poor appreciation of the fact that youth needs systematic and comprehensive training; to be sympathetic to the trainees' difficulties is not enough while the implication is there that they make a virtue of present-day industrial necessities. The ILO statement reads in part as follows:

"(On the job training) is done in the true atmosphere of production and under real industrial conditions. It is sure to be given in terms of the industrial technique then in use. It will be directed towards a well-defined type of work, or even a specific job and no time need be lost on adaptation, technical or psychological, at the end of the training period."

Good training conditions or only good intentions?

As the action of the German apprentices and the attitudes behind the ILO statement suggest, there is very often a broad hiatus between the theoretically-beneficent ideals and the practical realities of training systems, whatever be the country considered. Following on this chronic failure of social communication between trainers and trained is the difficult reality of undergoing training at all in modern highly differentiated economies.

The economies of the United States, England and Australia are serviced by working populations possessing a range of skills increased and refined year after year.
Yet in England and Australia the construction of trade courses, by which the meanest practice of the trade may be assessed, is frequently determined by employer-union committees, whose expertise in the trade may not compensate for their ignorance of educational curricula planning. Nevertheless, such committees must make such decisions on curricular matters for technical schools and apprenticeship day release courses, as will properly take account of the present needs of the trade, and the maturity in the craft, of the adolescent trainee.

Not that such decisions necessarily determine the sort of work that trainees carry out in their respective work places. No matter how conscientious these committees are (and my discussion of overall union attitudes may prompt some misgivings), there is no mechanism for policing or protecting standards in every firm. From an educational point of view, training must inevitably suffer. Imagine if every school taught pupils only the aspects of subjects it regarded as important, and even arbitrarily selected its own subject areas. Would parents or the public be overly impressed at the end of the year, were the schools to announce that, even though the subjects varied and there were no examinations, all their pupils had attained the same standard?

Worse still, trade subjects, unlike many of the subjects on academic curricula, are more exposed to the influence of social and technological change. Yet the groups responsible for training apprentices, are least
sympathetic to the aspirations of trainees and the principles of vocational education. The able learner should not be treated as the unquestioning copier and routine worker, who accepts things as he sees them. He should be encouraged to be professionally critical, to analyse new problems in terms of the basic possibilities he is given in his course. (In the author’s experience, the narrowly-trained and unadaptable library staff member, whether clerk, technician or professional, may work dutifully and even reliably, but only within a rigid pattern set by ‘authority’ (either a person or a manual)).

Even if physical facilities are limited and there is a considerable degree of specialization in tasks, there is no call for the trainee to adapt to a narrow regimen, to make a virtue of necessity (as the TLO recommended), of doing certain operations, whose significance is lost on everyone except perhaps the works manager. It is a sorry state of affairs if apprentices work merely as routine operatives, while their governing bodies argue hypothetically about what should be taught in "proclaimed" trades that the trainees are rarely given an opportunity to practise anyway! Where such a creative spirit is not encouraged, vocation can become stereotyped routine.

In fact, in modern industry, the firms concerned with quality (and therefore) expensive products are in the minority. In many companies, market economics does not conduce to the trainee being thoroughly grounded in various aspects of a trade, nor with his being given proper models
to imitate. Production exigencies may not only reduce the teaching scope of shop floor practice, but may also, by a policy of "cutting corners" in workmanship, bring into question the ethical justification of teaching those methods common in a market-oriented and "planned-obsolescence" style of mass production. Certainly, many procedures today reflect standards implicit in "honest workmanship" images. Parts of car bodies are put together with self-tapping screws, cheaper but less watertight than the "obsolete" bolted fixtures; corrugated fasteners instead of morticed joints are used in cheaper furniture. If the trainee is not to be left either with poor attitudes to performing quality work as a tradesman himself, or with a sceptical attitude to his master's order of priorities in standards, the processes of production should be made technically and economically justifiable to the apprentice. He should not be fobbed off, nor given totally different work in a training annex, as though the ethics of production standards did not concern him. Moreover, he must do such significant work training and practice under a competent, full-time instructor.

Good instructors a rarity

The choice of instructors also remains a serious problem. Can a hard-pressed employer or hypercritical foreman, divided between setting good training standards and overseeing general production, be always available to see that requisite practice is done according to a meaningful pattern of tasks, and that the trainee reaches an
objectively-satisfactory standard in each? Whatever the apparent "immediacy" of the "hear and do" methods of "on-the-job" instructions, its lasting effectiveness would seem to depend on the frequent availability of one skilled and interested person to give the trainee not only adequate instruction but the motivation to succeed. Are there many instructors capable of assessing work not just according to local production specifications, but according to the boy's actual level of trade experience - or inexperience?

Too often, a foreman's attitude to apprentices may be less than welcoming, especially if he is already burdened with heavy responsibilities for general production efficiency. No matter how capable or enthusiastic his charges may be, he may rightly regard himself as ill-used, especially if office executives seek the kudos and monetary rewards of taking on apprentices, while washing their hands of all training responsibilities. Even board room executives may be tempted to leave important but complex industrial or training questions to be solved by people further down the "chain".

Thus, the foreman or instructor, whose knowledge of proper practice may have been gleaned only at company conferences or by experience, ends up as the "man in the middle" to solve all the technical and job relationship problems of the trainees. Can one expect him to create single-handed a favourable situation for job learning?
Generally, it would seem that shop floor experience may be an unreliable form of instruction, if only because the methods adopted would differ greatly from firm to firm. There is little evidence, at least in Britain and Australia, that there is much interchange of ideas, such as would contribute to improving its effectiveness.

In interviews conducted by A. G. Peace of Boulton Technical College, apprentices described shop floor work as a bitter coming down to earth from what they had learnt at trade college. Fortunately, few spent their time in menial tasks, a complaint of the German apprentices. Nevertheless, there was still an attitude abroad, even among comparatively conscientious firms, that "If they think you will fit in, they carry on with the training". Presumably, if a personality clash were to develop, training opportunities would diminish. One youth in fact admitted that, had it not been for the friendly fellow on the next bench, he would have learnt nothing. Another complained that few "trust you with a (skilled) job". Some instructors also lacked understanding of the trainee's limitations or inexperience. On one occasion, a surface grinder was started up, and terrified apprentices were asked to step forward to use a machine they had never seen before. On another, a boy was asked to "file this", without the instructor making sure he could file properly. It is curious that, while apprenticeship's custodians make fetishes of records of service being kept, they seem unaware that shop floor communication is limited to the unreliable "hear, see once and remember" approach.
Even with competent and sympathetic instructors, the trainee may not enjoy an accepting work milieu. In difficult times, workers' attitudes too often reflect the less admirable attitude of "to hold what we have" irrespective of the young learner's interests. In the interviews he conducted, Peace was told of a craftsman who deliberately left the bench in disorder lest the trainee displace him at the same job. Undoubtedly, the training of many apprentices and government short-term dilutes is unfairly penalized by workmen for anomalies intrinsic to overall company policy on labour, poor training design or from the fear that the new arrivals will show up real or imagined deficiencies in their work. It is also unfortunate that too often a clannish "union spirit" may exacerbate the distrust between the workers and the trainees.

However, the sociological problems of placing youth in industry go beyond the unionists fear of job displacement or of being "shown up"; they arise also from the xenophobic fear of the new worker that may be dispelled only by an enlightened and concerned management, which is prepared to extend worker employer relations beyond the industrial bargaining table. In the meantime, antipathies on the work floor may constitute the most destructive factor to effective apprentice training.

When is a youth 'qualified'? It is clear how difficult it is to establish objective criteria to evaluate the 'hidden' shop-floor work for the
apprentice, and to make any valuable comparisons between the work practice of trainees in the same trade but at different firms. It seems to be even more difficult to elucidate how employers, unions or training authorities, determine that British or Australian apprentices are capable of carrying on their trade successfully; that is, there is no clear-cut distinction established between the learner and the skilled man. It is no less difficult to set up useful criteria for deciding how effectively a training course is in giving graduates both a competence in applying techniques and a mental adaptability which will help them contract successfully for a good position, even in a period of changing economic conditions.

Researchers would find that competency or 'skill' is often artificially tied to awards on wages and conditions for tradesmen out of their training period, so that the designation 'skilled' may have little to do with actual professional expertise. In fact, such is the present confusion that it is often difficult to determine what are the essential differences between jobs and how a worker's competency is to be decided. Just as there may be serious anomalies between the theoretical teaching of a trade and its mundane practice in a host of firms, so there is little common ground between the meanings attached by educators and apprentice employers to the term 'skilled'.
Even the all-powerful gilds used to turn to the courts to rule on what skills constituted certain trades and to fix awards, especially for crafts established after the 1563 Statute was promulgated. Unfortunately, even the practice of industrial litigation has done little to protect the standards of trade competency, although it has resulted in the setting up of boundaries, often arbitrarily-defined, between crafts, that today too often lead to demarcation disputes. In general, the courts, which have so often tried to establish or restore a balance between the interests of parties (government, management or labour), have spent little time either in putting on a legal footing the youth’s civil right to be properly trained or in establishing the levels of expertise to be expected in tradesmen.

Proper job skill profiling would not only help guarantee that the trainee is not an unhappy misfit in his work, but would reduce the level of prejudice against trade training in general, that it is not remedial in design but provides a career just as worthwhile as the professions. The false assumptions that, status-wise, trades rank below professions or that every activity associated with the professional demands an esoteric expertise, must be dispelled. The whole question of vocational competency needs revamping, as does the problem of deciding the characteristics of professional work, and the tradition of job status. These issues I shall discuss in talking of the conflict between vocational education and the goals of apprenticeship in the next section. Here I would address myself to
considering the practical effects of job categorization and specialization that have followed the gradual diversification in types of industries and the accompanying division of labour.

Doubtful categorization of workers obscures the problem of skill evaluation.

Just as the available number of occupations has increased, especially in the last few decades, so the level of expertise in skilled occupations and professions has risen. There was at the beginning of the twentieth century, a clear demarcation between skilled and non-skilled labour, even in the comparatively advanced technological societies of England and America. The skilled tradesman, still the pride of Britain, was in theory a man of trained sensitivity, with highly efficient eye-hand coordination, and an intuitive non-scientific knowledge of the properties of certain materials, and of machines, learnt as an apprentice. The tradition of intuitive know-how was still strong; the foundryman, for example, knew he must wrap his thousands of needles up in canvas with emery powder and soft soap and revolve the bundle between rollers to brighten and sharpen them. So heavy was the veil of craft secrecy thrown over the heat treatment used in Sheffield steel processes that the water used was profitably exported to Japan in kegs. Thus, there was in those times, an aura around the skilled man's ability, and conversely, the unskilled man was clearly without know-how; he was the "ox-like" worker, capable of heavy and prolonged toil, but without intelligence or
powers of self-direction. Certain expectations in apprenticeship training seem to assume that, in many work areas, this clear-cut division between skilled and unskilled still remains.

For example, the old Victorian Apprenticeship Commission once defended the work restrictions inherent in apprenticeship by assuring the trainee that only by aspiring to the status of the 'all-round' tradesman would he escape the cramping effects of specialized work:

... the apprentice must, under the contract..., do all in his power to learn both the theory and practice of the trade (and) to faithfully carry out the orders of his employer... (Apprentices should be) masters of their craft, not workers with a partial knowledge of some phase of it (and so) resist the cramping influence of an age of specialization by a sound general training...

(Victorian Apprenticeship Commission, 1949).

In fact, the continuing differentiation of industrial economies in terms of goods available and the services required to make those goods available, has led both to a specialization of tasks and to a division of labour for all workers on an unprecedented scale. Moreover, the initiative for work patterns has passed from the shop floor to the laboratory and planning office, and the know-how of the individual, equipped to cope with temporary 'bitches', is less common and less useful than the patterns of standardized methodologies operated by cooperating teams of workers of varying skills.
In the last fifty years, argues Kate Leipmann, production methodologies have divided the work force into four recognizable categories of skill: those with nominal absence of skill, not incompatible with intelligence and handiness, those with 'one job' skill, the majority of the labour force in industry, craftsmen in the old sense with precision skills and all-round competence, who are in reduced demand, and technicians, trained in the polytechnics. However, because of technical training being available at least on a part-time basis, and because of management's tendency to poach on preserves of potential talent inside or outside a firm, the worker's job status is never fixed. He may take on jobs, which through a standardization or rationalization of procedures, are manageable by low level staff; he may develop new uncertificated talents. (Thus in the author's profession, librarianship, the clerk searches national bibliographies and prints off catalogue copy for books, which the professional cataloguing librarian need only edit, before cards or punched tape are produced for the library's catalogue.)

There is probably now a greater degree of work or process delegation than ever before; furthermore, the inclination to guard professional knowledge jealously and to buttress one's more senior status is lessening, at least in those enterprises where project-type work is undertaken and where advice comes from those closest to the work problem instead of being handed down from the highest level.
Nevertheless, while there is no escaping the truth that this differentiation or "democratization" of vocational activities must breed specialization on all levels of work, it need not simultaneously signify narrowing routines. In work where engineering standards have set fine tolerances, for example, there is a natural tendency for managements to devise processes economical in terms of time and the manpower required. Consequently, apprenticeship service or even genuine craft experience may not seem to enhance one's working status, and it is true that the standard work problem demands only efficiently-settled techniques; after all, even the inspecting foreman may need to know only enough about his micrometer gauge to test "that" particular production item. However, if skill is to be significant, the apprentice's skill must consist not so much in applying theoretical knowledge to every possible work problem, but in being prepared for those occasions when his 'higher training' becomes relevant, when some situation lies outside ordinary procedural patterns and where, as a professional tradesman, he succeeds in areas where the improver by repeated experience cannot. With the expansion of specialist jobs, profiled and established, the trade trainee today must rely less on some sort of secret revealed knowledge that will, like the Sheffield cutlery water, protect him from challenge in the job market, than on developing a higher, more professional appreciation of industrial processes than the experienced operative has.
Not that apprentices should be left to their own devices, to seize the opportunity for creative instruction or learning when some problem out of the ordinary routine of work appears. It is management that must assume responsibility for training and establish workshop patterns to enable learners to practise their higher specialized expertise. There must be less 'playing at skills' by, for example, too rapid a circulation in trade experiences, and more consideration given to fitting his learned skills into a context of professional abilities. Total industrial planning is incomplete unless the role of the learner is fitted into overall concepts of deployed skilled labour. Leipmann makes the point that it is frequently easier to involve trainees in the procedures of small firms, doing more specialized work, where a narrower scope in planning is possible and procedures operate within narrower geographical areas. Thus, a small "feeder" workshop supplying parts for bigger companies may afford the trainee an insight into the necessary inter-relations of mechanical and economic problems.

He, the trainee, must realize that his specialization need not denote merely a mindless repetition of identical techniques on ineluctable assembly lines, but is a necessary feature of modern processes, where no one person can be the total expert. Of course, standardization typical of the large enterprise's assembly line may be a two edged sword. While the creation of a degree of mechanized uniformity in material and methods as against the unevenness
of standards in a jobbing firm may fit market priorities and customers' "f.a.q." expectations, long-term production schedules may be costly in terms of instilling in the trainee the sense of craftsmanship in work done well, or the sense of corporate responsibility whereby the company feels unwilling to risk its good reputation with the consumer. Hence, an absurdly-narrow repertoire of process techniques makes specialization into human automation, the theft of responsibility.\(^\text{15}\) (Consider the case of the 'expert' Glasgow wooden rings specialist encountered by R. H. Tawney (1909)\(^\text{16}\)). However, if the repertoire of work activities can be seen to be creative and, in a sense, done as a contributive part of a many-faceted project, demanding many sorts of skills, specialization may be seen as a constructive aspect of overall planning.

**Conclusion**

Vocational adjustment in a work force situation may be defined in part as a sense of contributing one's measure of expertise, of being part of a group organized to accomplish goals beyond the range of single individuals; it is not characterized by a sense of dehumanization or loss of identity such as might be experienced on assembly-lines, where human activities are automated into procedures. No doubt, the social problems of such working conditions have yet to be properly tackled, but to argue a "pre-apprenticeship" case against specialization in the trades on assembly-line terms is to confuse the problems of dehumanized but relatively unskilled labour with the
different problems of the most effective way to organize a modern work force of skilled men, able to take initiatives when required, while at the same time funnelling their own efforts into concerted enterprises.

It should be said here that I do not think that the apprenticeship system up to now has provided satisfactory practice for any kind of joint enterprise, and, in my next chapter, I want to consider the goals and practices behind systems of vocational education other than apprenticeship.
Notes


2. Ibid., p. 190 - 191.

3. Quoted in K. G. Mortensen, *Planning for technological change* (St. Kilda, 1971), p. 72. Shows how training should mitigate the 'deadening effects of over-specialization' (p. 180), while the extract 2179 'The worker and his job' in Schools Council/Nuffield Humanities Project. *People and work*, (London, 1971) quotes research, which shows that many craftsmen are quite prepared to use their initiative and to bring both specialized skill and natural experience to the job problem in hand.

4. J. Wellens. *The training revolution from shop floor to boardroom* (London, 1963) p. 69 was appalled that bodies representing vested interests made such decisions on courses.

5. Mick, an apprentice interviewed by R. Christie ('Apprentices attitude to apprenticeship' in *Apprenticeship News* (Melbourne) no. 31, March 1973, p. 36 - 30) pointed out that while he was given scope for initiative, there existed the sort of confusion in training that suggested a shirking of responsibility by his employers.

6. An example of the meticulous thoroughness required in teaching skills is brought out in the method given by T. Eaton (op. cit., p. 249 ff.) for teaching boys how to tie a Texas bowline. Similar techniques, especially those requiring sequential processes, must be taught methodically. The Association of Principals of Victorian Technical Schools in their *Education for Industry* (1945) gave some significant figures on how apprentices themselves rated the adequacy of levels of instruction given by foremen. I include a summary:

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<th>1st year</th>
<th>2nd year</th>
<th>3rd year</th>
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<tr>
<td>Very good</td>
<td>42%</td>
<td>42%</td>
<td>44%</td>
<td>31%</td>
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<tr>
<td>Satisfactory</td>
<td>40%</td>
<td>37%</td>
<td>40%</td>
<td>34%</td>
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8. As early as 1565, the gilds won a case against the unfortunate upholsterer Tolley that his was not a craft. See W. McLaine, op. cit. *New views on apprenticeship* (London, 1949) p. 34.
It is partly the legalistic "fixed procedure" approach to training apprentices that makes me suspicious of suggestions that shortening the servicing period may make apprenticeship more palatable to youth. See e.g. V. Sanders, Technical education for development (Perth, 1966) where V. L. Green in "The education of the apprentice" p. 133 suggests this. At the very least, this proposal assumes that every job requires a similar period of training (Green argues boys leave school too early).

See e.g. V. Sanders, Technical education for development (Perth, 1966) where V. L. Green in "The education of the apprentice" p. 133 suggests this. At the very least, this proposal assumes that every job requires a similar period of training (Green argues boys leave school too early).

A. Street. Metals in the service of man (Hammondsworth, 1968) p. 81.


J. Weilens. op. cit. p. 116 - 118. As the process of car driving shows, semi-skilled operations are not "unconscious" but geared to concrete valuable ends, he argues.


In Victoria, Judge Higgins (1909) bitterly criticized employers who claimed to be teaching boys a trade when they initiated them into 'the pognate mystery' of stiffener skiving. (P. Breton, op. cit., 122 - 3).

PART 5

ALTERNATIVES TO APPRENTICESHIP IN THE CONTEXT OF

VOCATIONAL EDUCATION THINKING

As explained in Part 1, there is behind apprenticeship a long European gild tradition, so deep-rooted that it has escaped thorough evaluation as to its relevance and efficiency, which has continued to enshrine the interests of employers and unions. In this chapter, I would like to look at the newer and perhaps more self-conscious tradition of the United States. While the practice of vocational education there is not without its anomalies, there are certain important characteristics in the style of vocational management that bear striking contrasts to the inertial processes of apprenticeship induction and training in Australia and England.

American vocational developments

American traditions of training have been much less influenced by the apprenticeship 'master and man' ethic, and have come closer to the pragmatic principle of excelling in one's vocation, as it exists at that moment in time. There may be no single historical explanation of this tendency. The respect for individual expertise may possibly have arisen out of the self-help tradition of an expanding frontier, or the exigencies and specialized requirements of a nation which, after the Civil War, underwent massive industrialization, and the accompanying massive deployment of American manpower. Whatever the reasons, in the present century, policies in vocational
education institutions have shifted from that of exercising a remedial role in job training for the new or unskilled worker to that of providing job opportunity at all levels of age or expertise. For example, the Smith-Hughes Act (1917) provided funds for wide areas of training (trade, industrial, agricultural and domestic pursuits) and involved the States in setting up programmes appropriate to their own local needs. An interest in training found support in America even at the grass roots level.

Theorists like Dewey, Snedden and Eaton in the twenties and Donald Super today, have made painstaking examinations of what personal vocation and job choice involve for the individual and suggested appropriate guidelines for setting needs. American views provide a useful critique of apprenticeship's deficiencies in vocational terms. David Snedden (1929) was especially concerned with the economic outcomes of proper training even if, at times, he appeared to adopt an extremist 'social Darwinian' view of training. He argued that, in the best future circumstances, a state of affairs should be reached when the vocational school was delivered from the cramping control of all governments and the hidebound influence of traditional school managers, and autonomous schools would take responsibility for training and assessing in all vocational spheres.
Stated baldly, such a state of affairs, where a vocational system seems to be based on 'schools for everything', may appear a frivolous goal from a viewpoint either of social desirability or economic feasibility. Still, Snedden has a case in arguing that it is only in training institutions that the rights of both learner and society can be equally protected. As the working of apprenticeship in Australia shows, the very separation of education and work training has created an unhealthy state of affairs, especially for the learner, whose training needs may compete with profit motives; society as a whole loses when training is inadequate or misplaced by mercenary interests. Consequently, as Snedden would argue, a society would seem to have an obligation to provide initial job training for its youth, even in preference to remedying practised lack of skill in adult workers, as the English polytechnics set out to do. After all, an American youth was not doing his country a "favour" in taking on a course; he was simply paying his way in the industrial scheme of things. Job training has been regarded as an essential component of formal education provision, not as a political palliative introduced to solve temporary manpower difficulties, as has happened elsewhere in post-war rehabilitation schemes, or in periods when skilled labour is short.

However, if training is to constitute a social contract between the learner and the society he serves, youth must be set on a career of educational value, discernible both to the learner and the training authority. Thus,
an educational authority, as society's contractor, must, inter alia, act as an honest broker of the contract between its students and the outside world, lest the mercenary values of the market place take too high a place in educational priorities. In reviewing Australian thinking on such priorities, D. Spearritt once wrote:

While it is desirable to provide secondary school courses... relevant to the occupational activities being taken up by adolescents, this should be accomplished without restricting the range of courses available to individual students. Economic determinism through limited scholastic opportunities should have no place in educational planning.

It may be doubtful whether Australian industrialists as a whole are even yet doing more than stimulating training in those job areas where labour shortages exist. Fortunately, American companies have a higher regard for overall vocational needs. Unlike many managers in England and Australia, they have come to appreciate what obligations society and its agents owe to workers; these obligations may be summarized as the achievement of work satisfaction at all job levels. To many enlightened American executives in charge of training, questions of work interest, of psychological attitude (to 'this' particular job), or of overall life style, are not merely of academic interest. It is such personal issues as these, not simply paper qualifications versus manpower demands, that must play a role in deciding the personal suitability of candidates for any sort of trade or profession. Can we assume for example, that the trainee mechanic, who has
a deep abhorrence of grease, or the psychological introvert who takes up teaching, will be suitable candidates for their work or will contribute to society, even if it has helped make the work available to them?

It was another American, Theodore Eaton (1926), who wrote of vocation as being a long-term realization of the individual's potentialities, that it was an essential link between school and later life, and that it gave broad schooling much of its significance, especially in a democratic society. If the vocational school were to fulfil its purpose, it should be a genuine vocational laboratory, wherein interaction between the child and the materials of his future work would take place; trade schools should not merely be staging grounds for improving the quality and output standards dictated by profit-motivated industrial society. If schools in democratic societies are to protect the vocational freedom of the individual, technical education must denote the fostering of work satisfaction as it appears in many vocational roles, not just the accurate transmission of a range of necessary techniques.

Change in social and vocational roles impossible in apprenticeship.

If technical education often falls short in achieving the best conditions for vocational education, even less perhaps is to be expected from private industry where apprenticeship is the only system in operation, and where
real reform would require a wholesale reassessment of the trainee's needs and rights. In fact, today's apprenticeship helps to keep afloat the elitism of skilled labour. Its procedures are completely predictable, non-innovatory, and therefore unlikely to upset the strong invisible hierarchies of trained skill. Indeed, one of the most inhibiting factors of training being effective is that the goals that are set for the trainees are related not to craft excellence, but to the continuing desire to protect the present practitioners' work status, even those who least deserve it. So tied to conventions in work status is apprenticeship that attempts to link it with modern educational training or values may tend only to expose the work shop's inadequacy as an educational milieu. In fact, the common practice in England and Australia of combining work practice with day release for trade lectures may emphasize glaring disparities between theory and practice. Not only does the youth often move from the rigid, possibly authoritarian atmosphere of the shop floor, where all is taken on trust, to the relaxed but critical atmosphere of the institute lecture room, but the modern techniques outlined in classroom or practised on the job may show up how hidebound are those practices presented to him either at work or school.

How then is the versatile, capable tradesman to be developed? Certainly, if what he learns is not to be "writ in water" (Dewey)⁵, there must be some reconciliation between work practice and theory. There can be no workable relationship between modern methods of training in trade
theory and "casual and usual", "look and learn" shop floor styles. A proper reconciliation of the two aspects of trades must provide the learner with the sense of conformity and consistency between theory and planning on the one hand and realization of his innate abilities on the other. In fact, the quality of our goods and services could even improve if this necessary conformity was 'fed back' to the employers themselves. After all, the latter provide the social and economic staging areas for the tradesman or professional to display his art and highly-skilled labour is a valuable investment, especially where the worker may have the expertise to develop useful initiatives and make innovations to industry's advantage. It is in the worker's interest to be sought after by employers, too.

The goal of self-improvement

For if job mobility is a fact of life, it is the marketability of skills rather than a jealour elitism that is a measure of the tradesman's status. Apart from apprenticeship, it is generally the less skilled occupations that offer less scope for the worker to change jobs. Apprenticeship, which ties the learner to the one employer for the stated period irrespective of the quality of his instruction, not only serves the educational interests of the trainee poorly, but bars his taking up any outside opportunities to use his skills more effectively. Moreover, in too many apprenticeships there is neither vocational challenge nor disinterested training to open up such freedom to change.
Yet vocational mobility is important because it implies versatility: one senses that, in the 1814 debate on the repeal of the Statute of Artificers, the weavers in clinging to long apprenticeships were obstinately unrealistic about the mechanization of their craft. Change demands an ability to adapt and to accept new sorts of responsibility for the sake of vocational survival. But self-improvement and versatility lie outside the charter of apprenticeship systems, which tend to put all power and initiative into the hands of cooperating employers, while assigning to youth only the negative obligation to work well and not change employers without special permission. Such a policy is reminiscent of the caricature of the nineteenth century bank clerk, whose suitability for his work was that he wore a clean collar to work and wrote clearly.

If however vocational training is to engender this capacity to achieve, to demonstrate a true and flexible professionalism in a young man's chosen trade, it needs thorough revamping. Training authorities often take a limited view of what 'professionalism' means, and false categorizations of future workers affect the expectations built into training programmes.

Defining "professionalism" in terms of improvisation

Eaton, for example, points out that plumbing is customarily called a 'trade' because it supposedly deals only with stable, controllable and predictable factors.
The plumber can safely guess why a cistern is overflowing. The professional on the other hand deals with the imponderables of human action. If, for example, the barrister questions a nervous eye-witness, his manner of person-to-person communication and his interpretations of evidence may differ greatly from his overall approach to interrogating an unscrupulous felon. In this case, he is swayed by unseen ideational and psychological factors, not taught directly at law school.

However, it is a fallacy to believe that such factors never intrude into trade practice; critical elements modify many work situations. The plumber may apply the accepted trade technique to repairing a pipe. However, if the repair of the pipe affects the health of the surrounding community, the plumber's decision about procedure must be made with the welfare of fellow humans in mind. To act within the social context is to act professionally. Thus, a "professional" is not merely one because press advertisements flatter his job with the term: the term describes the person's social attitudes, not his vocational group. Consequently, two practitioners, partners in the same occupation, with similar expertise, in receipt of similar incomes and accorded the same social deference, may entertain widely-differing views of their professional obligations. 'Professionalism' should be related to its proper field, capacity and craft versatility, in which it constitutes the essential element for the long-term prosperity of the tradesman.
In our times, professionalism should denote not so much the success in reserving practice from the supposedly uncertificated or in achieving status above the dutiful apprentice, or some supposed nationalistic work idealism, but a capacity to deal creatively with work situations that will change as much as do other aspects of living conditions. It is often overlooked that tradesmen, like any so-called 'professionals', are frequently called on to display initiative and apply their training to novel problems. Not only must all skilled personnel need preparation for Eaton's imponderable problems, but they must demonstrate a flexibility of mind to solve the new work problems thrown up by new economic or social conditions. It is often wrongly assumed that all forms of specialization are reducing many industrial tasks to a narrow set of routines, with the operator enjoying little discretion to modify such processes. In fact, new corporative initiatives, through which management is shared between the technical worker and office executive, demand that the shop floor worker be able to contribute practical expertise to the firm's overall planning. Within the guidelines set by progressive training curricula and intelligent authority, the best workers will improvise new responses to new production problems.

Such improvisation must, of course, be appropriate to the work problem in hand; it cannot signify only a resourcefulness, the 'making-do' of a pioneering environment. In fact, far from implying any slapdash or cover-up
attitudes, initiative and improvisation should characterize abilities to respond concretely to altered circumstances, a recognition through training that 'traditional' skills cannot be used irrespective of their suitability. The truly professional worker is a person 'liberated' from sets of work habits picked up unexamined and unmodified, a man prepared to undertake circumstantial appraisal of a case on its merits, rather than merely 'going by the book'. Hence, even if Reginald Bray (1911) may have shown himself a social optimist in believing apprenticeship could provide moral and educational surveillance, his confidence that, even in a highly mechanized economy trained intelligence still had a vital role to play, was not misplaced. The methods of apprenticeship hardly inculcate such a vocational maturity.

As I have indicated in Part 1 any sort of technical freedom allowed under apprenticeship must be regarded as extremely ambiguous or restrictive: contributing initiative is even discouraged. Consider the self-denying ethic behind the subjective assurance:

Apprenticeship provides job satisfaction in being able to do a difficult job well. (1973)

or the moralistic tone of the self-justifying work ethic behind Fleming and Pearce's exhortation to the workers of the Empire in the first World War period:

The greater the degree of skill, the greater will be self-respect and self-reliance, all of which make a good workman a favourable nucleus for further instruction in the rights and obligations of citizenship... self-reliance, accuracy, consistency... are found in the skilled workman.
This mystique of the skilled and therefore contented tradesman has still strong root in the public mind; it has helped protect and justify the system of traditional apprenticeship, even if it has seemingly been used to justify the introduction of systems of technical education in England and Australia. For, as I shall show in Part 6, institutionalized training was set up originally not to help realize the potential abilities of youth, but rather to provide sufficient docile tradesmen, who would contribute to the prosperity of their country, without kindling conservative fears of craftsmen aspiring above their stations in the labour force. While the tradesman, proud of his skill, should be able to do what the unskilled operative could not, he must not look beyond his last to doing something more stimulating; for his work life he should persevere in the trade he was apprenticed to. Such attitudes as these are long outdated both in respect to the ends of technical training, and to the sort of worker who will be able to find continued employment for the whole of his working life in the last quarter of the century.

No freedom to refuse training at an expert level

In David Snedden's writings, we find a crusading zeal for proper vocational education, so strong that like the English spokesmen cited above, who denied the boy rights lest he turn aside from his goal of becoming a useful tradesman, he too denied the boy the right not to be trained. (It should be noted that, to his credit, he was much more critical of contemporary training standards than were the English writers.) He argued that training
was part of a broader progressivist framework, and of an exalted work ethic. 15

The great social desirability of 'social evolution' - natural or humanity assisted ... producing human life 'more abundantly'.

Training should take place on a universal and compulsory basis, and be patterned on both future and present needs. 16 Every individual, when trained, was fitted for optimum productive power, 17 and returned an immediate economic good to his country. 18 The advancement of vocational education could not wait the slow evolution of traditional or reactionary systems of education, 19 for, through its total institutionalization, courses should always be currently relevant, 20 genuine practice being kept on an equal footing with theory. 21 If relevancy demanded totally-novel methodologies, it was the institute's responsibility to devise them.

In contrast to the traditional apprenticeship-bound English (and Australian) view that youth should somehow garner an "all-round" view of the trade, he supported systems of precise trade practice, with theory introduced to solve particular problems, or carry out certain projects, an approach reflecting the creativity of professional skill discussed above. 22 Mere orientation in a skill or a hobby approach was "pedagogic camouflage"; 23 the school's standards must be no less strict than industry's. 24 One's professional efficiency was terminally evaluated in economic terms such as are usual in Russian industry, 25 where the worker is in effect an instrument of a successful state economic policy.
Training could not in his view be at the individual’s choosing; he criticized the authoritarian Prussian training schools, not because their students were drafted into trades, but because they charged fees. Compulsion was to become part of a universal system; it was illogical that youth be given the ‘right’ to take any available job, for this permissiveness would perpetuate the chain of exploitation of junior labour, and pander to managements’ procrastination over designing training courses.

At first sight, his suggestion that governments make participation in vocational schemes compulsory may seem high-handed, especially for educational activities in a democratic society. However, when it is remembered that in apprenticeship many workers still pick up their trades casually and unsystematically, with economic cost to the community, there may be a strong case for this restrictiveness on unskilled employment. In Snedden’s views, strict criteria of practice had to be expected and imposed even at school level. (Thus, even the contemporary vocational innovations of the Gary (Indiana) school, where students assisted tradesmen or teachers in maintenance or agricultural projects, remained, in his terms ‘hit or miss’ learning affairs, no matter what their value was in social or educational terms.)

In similar vein, he attacked the prestigious Commission on the Reorganization of Secondary Education for supporting all pre-vocational courses at comprehensive schools; even
with differentiated curricula, dilettantish excursions into training without proper facilities or definitive goals were like attempting to teach locomotive driving in a cellar with an engine on a few feet of track. His criticism is not misplaced even today; courses may often still be forced into an inadequate teaching framework, merely to cater for timetable options, irrespective of the intrinsic difficulty of the calling. It is significant too that there are a growing number of skilled trades, some developed after Snedden wrote, that are in fact not even appropriate to traditional pre-vocational teaching by combinations of lecture and practice methods, let alone by apprentices 'learning on the job'.

In work related to heavy industries (transport, crane-driving, marine salvage etc.), practice involves work in less than ideal environments and some degree of natural facility at the beginning of study. While an eclectic 'unpacking of skills' from teachers or manuals is still a necessary part of some training, there seems to be little place for the series of tasks, simpler to more complex, which are traditional in the teaching of such trades as joinery, cookery or metalwork. Many distinctively modern occupations related to the needs of highly-technological societies call for a high degree of initiative if machinery is to be operated safely and with best advantage; there may be no second chances to remedy costly mistakes. Perhaps too, recent research findings in America, that suggest a low correlation between formal education and
work competence in either blue-collar or white-collar occupations, underline Snedden’s point that less-easily measurable factors of skill, initiative, personality or job satisfaction, may play a more important role in evaluating work competence than does formal school training, even if that be linked with practice. Clearly, such findings also raise doubts about the usefulness even of structured courses such as those offered in institutes. But what of apprenticeship where such educational parameters are so often grossly neglected or ignored?

Conclusion

Finding alternative training procedures to apprenticeship systems does not involve merely an updating of courses, or a better selection of instructors, but a complete reappraisal of the ends of trade training in the community especially in relation to a developed professional capacity to apply technical learning to novel problems, and to securing a depth in training courses that will best ensure that the graduate is equipped to compete successfully for employment over a long period.
Notes

1 Contrasting treatments of vocational education in terms of philosophy ('the individual') as opposed those of logistics ('numbers of skilled workers') can be seen comparatively in the overall treatment in the National Society for the Study of Education Yearbook no. 64, part 1 (Vocational education) (New York, 1965) and the British World yearbook of education, 1968 (London, 1968). Australian attitudes are close to British ones.

2 D. Spearritt Some activities of Australian adolescents. v.2 (The occupational activities of Australian adolescents) (Melbourne, 1958) p. 100.

3 See C. Sanders (ed.), Technical education for development (Nedlands, 1966), p. 38, where H. Williams points out that, in contrast to England, American industry and business are continually looking for the educational system to provide more occupational preparation for students and there is increasing emphasis in American education on producing students with 'marketable skills', the purpose of the Vocation Education Act funding. Consequently, there has been some attempt by schools to set up model work situations and to provide cooperative education under which students spend part of their time in employment related to their studies, receiving credits towards their qualifications (p.39). The work experience programmes of some Victorian technical schools, e.g. Heidelberg Technical School, are a similar sort of school and work mediation programme, even if they can only be regarded as a beginning.

4 See e.g. Theodore Eaton, Education and vocations (New York, 1926) p.23.


6 Cf. Dewey's idea about the social viability of work roles, ibid., p. 98 - 99.

7 That craftsmen are not indifferent nor oblivious to the needs created by economic change in work milieux and are not unprepared to take the initiative in updating their skills is shown by research quoted in J. H. Goldthorpe et al., "The worker and his job", from The affluent worker: industrial attitudes (Document 2179) of Schools Council/Nuffield Humanities Project People and work, op.cit. The main trend of worker opinion was that changes would lead not only to greater efficiency but would increase their own involvement in, and control over, the work processes with which they were concerned".
Eaton, op.cit., p.4) ff. ('Trade' vs. 'profession').

T. Eaton, ibid., points out that many skilled occupations are made up of different categories of abilities (p.40) and that there are few job situations into which only one of the "three critical elements" (person, idea, thing) enters. (p.46)

See e.g. A. J. Peters in British further education: a critical textbook (Oxford, 1967) pp. 108 - 113. He remarks in his conclusions to the chapter "Education for industrial skill" that job training had to be evaluated educationally, not just in economic terms. Thus the background of trainees and the need for occupational flexibility had to be taken into account when constructing courses.


A. P. M. Fleming and J. G. Pearce. The principles of apprentice training, with special reference to the engineering industry. (London, 1916) p.19. The attitude represented by the 'work as a civic ideal' is cogently explained by H. Gollwitzer Europe in the age of imperialism 1880 - 1914 (London, 1969) p.64 - 65. 'The imperialist state often enough used the economy for political ends and the economy put itself at the state's disposal for these purposes. Both state and economy achieved during the age of imperialism a greater range of operation and scope than ever before.' If Brereton's evidence is any guide a similar view of the workman's contribution to the nation's economic health was held in Victoria (op.cit., p.15). For example, Gillies, the Victorian Premier, praised Prussia as making every man both a soldier of war and a soldier of industry (Argus, May 7, 1887). Also Cf. F. Herzberg in Work and the nature of man (Cleveland, 1966) p.32, who observed "Virtue (to the Protestant mind) was defined as economic success and economic success was defined as evidence of virtue."
15 D. Snedden, Vocational education (New York, 1929) p.37. J. Wellens, The training revolution (London, 1963) holds the same view. His argument is based on a belief close to Snedden's of an overall control on the volume and disposition of new workers being necessary. (See pp. 34 - 37). His statistical table and discussion suggests a simplistic negative correlation between non-manual and manual percentages of the national labour force. As I see it, the element of deskilling may lead to increased numbers of non-manual workers, but not necessarily more "wanted" occupations.

16 He has not been alone in this view. See e.g. J. P. Walsh and W. Selden. 'Vocational education in the secondary school' in National Society for the Study of Education. Yearbook no.64, part 1, p.89.

17 Cf. D. Snedden, op.cit., p.38.

18 Ibid., p.67.

19 Ibid., p. 17 - 18.

20 Ibid., p.25.

21 Ibid., p. 27 - 28.

22 Ibid., p. 128 (Project method).

23 Ibid., p. 115.

24 Ibid., p. 23.

25 An inkling of the Soviet view may be gathered in S. Shapovalenko, Polytechnical education in the USSR (Paris, 1963). He cites Krupskaya who wrote that technical schooling would help create the basis for building a classless society in the Leninist mould (p. 38) and that only a combination of instruction with productive labour constituted a complete education; industry was an element for an initiation into the processes of social production (p. 33 - 34).

26 D. Snedden, op.cit., p. 68 and p. 481.


29 D. Snedden, ibid., p. 92 and p. 140.

30 Ibid., p. 97-98. See also R. Roberts, Vocational and practical arts education (New York, 1971) p. 93. on the import of precise aims in vocational training, as defined by National Society for the Promotion of Industrial Education.

PART 6

IMPORTANT FACTORS IN IMPLEMENTING EFFECTIVE VOCATIONAL EDUCATION SCHEMES IN THE LIGHT OF APPRENTICESHIP'S INADEQUACIES

In more recent times, there has been a growing realization among vocational education bodies that training facilities have a social function in providing the untrained or the older worker or even the handicapped and jobless with job protection in a rapidly changing world. This realization that everyone has the right to be trained is linked with the growing conviction that school learning must be linked with living and working and that the course graduate, whatever his age, must be able to apply his training to new conditions over the several decades of his work life. Furthermore, any system of vocational education (public or private) must be based not on unexamined tradition, but on the socially-responsible needs to make job training a rational procedure and to remain 'sensitive' to the economic and social changes of status within the community.

Selection and suitability

One of the most important factors in ensuring a course of training will be successful is proper selection; in this area, apprenticeship authorities have few recognizable guidelines. Yet trainees rarely fall easily into the category either of people obviously suitable, or of those for whom it would be a kindness to send away:
as Snedden's arguments suggest, youth must have shown some maturity even to offer themselves for training. Consequently, scholastic qualifications or supposed mechanical aptitudes should not totally and automatically outweigh all other forms of assessment, including personality ones. Careful selection must be based on the realization that candidates have come forward to be trained, and adult standards of speed and precision cannot be immediately expected in the beginner. All the same, the candidate must not have his hopes unfairly raised or dashed by poorly-tuned selection procedures.

In Australian apprenticeship particularly, there are many anomalies about selecting a trade both on the part of trainees and of authorities; there is little informative communication or adequate testing. While it is clear to the lay observer that the youth taking up an aircraft maintenance fitter apprenticeship would need to have more specialized aptitudes than another taking up hairdressing, there is little provision either for vocational guidance or testing, and no difference in the trade prerequisites. Clearly, the mere acceptance of a trainee by an employer is no guarantee that either boy or master has made a wise decision. Certainly, the absence of any adequate pre-training assessment helps perpetuate the public myth that trade training serves as a useful last resort for the less gifted to find a successful and secure job in adulthood.

Recent developments in Britain reflect a welcome
tendency to change the basis for selection from the totally 'objective' aptitude approach, or the equally unfair one interviewer or one opportunity sort of guidance or placement.

For example, the British Central Training Council has sought to replace probationary periods with more precise 'job predictors', especially by research to improve the predictability of personality and temperament measures. In 1971, the Scottish Council for Research in Education investigated the job motivations of vehicle and engineering apprentices, whose training was largely 'off the job'. Researchers found personality and character attribute measurement to be as useful predictors of success in City and Guilds Examinations as arithmetic or O-level results. While over-restrictive selection for job training may be unjust, unrestricted entry may be just as unsatisfactory. Ida Hoos points out that, in job ungrading programmes, many open-entry disadvantaged students failed or found it hard to reach employable standards.

Retraining

The question of adequate selectivity of training candidates becomes critical in retraining programmes, still embryonic in Australia or Britain, but common in America. If one justifiable criticism of apprenticeship is that it totally excludes retraining possibilities by fixing the upper age limit on indentures at twenty three,
it is clear that the opposite pole of 'open entry' training may raise many more problems of selectivity than does apprenticeship which affects far fewer people. Some difficulties have been avoided in America by an artificial delineation between adult education and genuine retraining courses. Certainly, in the case of the latter, many schemes have failed through an over-generous 'open entry' policy and a related confusion about realistic vocational goals. (For example, is 'this' course intended to make people professionally employable, or is it in reality a sop to social remediation?)

Ida Hoos quotes several cases of industrial retraining which involve such questions. In the example of older process workers doing an electronics course at the Smith-Corona factory, only nineteen per cent were successful. She suggested that their slow work pace and trained 'manipulative incapacity' had blunted their adaptability to learn new skills. In another case - computerization at the United States Internal Revenue Service - even though the IRS took staff into its confidence about changes, not all workers were prepared to be trained. As Hoos indicates, these were the people with most to lose, because of the narrowness of their customary training and outlook. However, their mental 'evolution' had long since ceased. They were content with the same humdrum work routine, year in, year out. Never before having been called to make decisions, even in their own behalf, they could not change, for changing involves
making decisions. Apparently, it was easier for such people to rationalize by arguing that training was not worthwhile, even though the IRS had taken care to minimize the emotional overtones of harsh technological change by careful explanation about 'logical technical advance', and providing courses at various levels of responsibility, some requiring only fourteen hours outside work time. IRS also gave job security guarantees to those who attempted courses, even if they failed. The only people not protected were those who refused job protection.

Why did the IRS scheme meet the same limited success as the even less thoroughly prepared Smith-Corona course? The problem may have lain with management's selection policy, or non-policy.

Did the organizers of these two schemes fully understand the need to select the able, rather than protect the redundant? Did they realize that courses appropriate for young trainees may require different structuring for people changing the routines of half a lifetime? Certainly, in the IRS case, the government body could not anticipate the reaction of staff to impending changes in work habits, but there may have been a need to sort out the individual problems of people, and even to seek support for the reabsorption of the non-trainee into other sections of the public service. Furthermore, these studies suggest that the most successful courses for youth or adults are those
entered from the outside, not organized internally by companies developing new work methods for their staff. It seems, too, that in any scheme, there should be neither automatic exclusion (e.g. by race or age) nor automatic inclusion (e.g. through threat of redundancy). Hoos cites a significant case where a course for adults was quite successful. This was the licensed nurse course at Berkeley, with a suitable curriculum, adequate MDTA funds and a selective intake; proper planning and a rationalization of training resources was joined to a necessary social sensitivity. 7

Thus, however urgent the social exigencies for retraining may seem, it is essential that candidates be admitted to suitable courses only after adequate counselling and testing. Even for adult retraining or job rehabilitation programmes, a policy of open entry may be disastrous, and training courses that are in antiquated skills or too limited in scope may be of limited value. Not only must courses be so structured that they suit the maturity of the learner, as the Krupp training-by-stages system does, 8 but courses should attempt to settle people into more responsible occupations as they reach trainable levels. It is perhaps in the large polytechnic systems of structured training, institutionalized in terms of theory and practice, that we come closest to the ideal of courses structured to the talents of the individual.
Forms of institutionalized training

In all three countries surveyed, there has, in the present century, been continuing progress towards the institutionalization of all training. However, it is evident from the different kinds of institution that exist that there has been no one solution by public or private sectors to the problem of establishing training schools or systems. Thus, 'technical education' may even have become a misnomer for institutionalisation, in that the colleges elsewhere often follow the American tradition of making many sorts of training, technical or not, available on every level to every person. Already colleges, even in England and Australia, diversify courses to anticipate or parallel the changing emphases of individual jobs, or the overnight creation of new ones, including those unsuitable for apprenticeship. Selection of occupations has been widened so that people must be helped to discover their own vocational talents. In many private firms too, even if only by accident or instinct, clever workers on the shop floor are found able to "handle" drawing board or "higher level" work. Resourceful employers will presumably sweep aside any barriers of paper qualifications or legal indentures to assign the promising youth to the new position, and get the real value of the youth's services.

It is hardly surprising then that, where the need is recognized, more progressive managements will in their own interests initiate training programmes usually for developing expertise in their own lines of production.
In more recent times, companies have even sent staff to tertiary institutions. The merits of policies I shall discuss briefly, making comparison to traditional apprenticeship. Besides trade school education, I shall look at 'training-by-stages' and at post-apprenticeship education in general.

The trade school

Many large enterprises, especially in the United States, have for many years set up trade schools to meet their special needs. Some have been linked to apprenticeship-type training, some not. In the latter case, there is often some attempt made to strike a balance between the work demands made on trainees, and training needs, and to relate all work projects to the general course of practical instruction devised by the company. However, the general problem remains in the trade school that the competences developed by the individual may not be transferable, and thus little scope can be given for creative trade work, outside the company's production needs. By making reference to an Australian apprenticeship trade school at the Government Ordnance Factory at Maribyrnong, Victoria, I can most easily illustrate both the possibilities and limitations of this 'semi-institutionalized' system.

Here, apprentices are taught by a system of work circulation, taking in the factory processes in their particular 'family of trades'. For further study, block
release to college may be granted. Assessment is more balanced than in traditional 'single' apprenticeship, because all practice is taken into consideration, and comparisons are made with state standards. Although foremen participate in shop training, they have no role in determining work in the trainees' annexe machine area, where the apprenticeship master is sole authority.

Nevertheless, the limitations on training to youth's fullest capacity arise, in the very fact that the scheme is based on apprenticeship forms i.e. boys become qualified by service rather than assessment, and there must be less than ample provision for higher training, still less for the humanistic studies than may in a real sense educate people for their leisure. Thus, while Maribyrnong does not discourage college 'extension' studies, it clearly is left to the student's initiative to rise from semi-skilled or trade to technician or diploma levels; such expertise may not be directly required by the employer. Nor does the ability to do one's job better necessarily involve learning about methodologies the company has not yet adopted or has not yet heard of. On the practical level, even the annexe system and trade 'circulation' typified by Maribyrnong may not solve the problems of poor 'hearsay' instruction spoken of before.

In short, while such schools fulfil a vocational need, and, short of an institutionalized and integrated system of education being available, provide a much more
thorough-going training than does traditional apprenticeship, their instructional goals must be largely set by the overall production goals of the sponsoring firm, with the trainee's eventual occupation set before training begins.

Training by stages

This more modern form of training was pioneered by Krupps in West Germany, but is now by no means confined to them: the system has been adopted largely in Europe. While having only its first feeble beginnings in England, the system represents an important breakthrough from the old apprenticeship of one man to one job, and from the narrower limitations of trade schools.

Krupps replaced the multitude of traditional vertically-separate trade courses by three families of trades - machine, metalworking and electrical. Under each scheme, even the least-skilled operator (Betriebswerker) does a year's training, including four months practice in his specific field. As the operative progresses after being assessed, his work becomes more specialized and more highly skilled. Thus, while the workers at Krupps are encouraged to rise to higher levels of trade responsibility, even those in the lowest echelons are trained in their own areas directly, not merely promoted by experience or upgraded as needs arise, as happens in England or Australia.
The Krupps system again bears out one or two facts about planning training schemes. First, vocational educators must bear in mind that people's abilities are affected by age and maturation, and secondly, that even the most unpromising may seize the chance offered. If training authorities assume that youth is indifferent to challenge, youth will 'live down' to this assumption; an opposite assumption may lead to surprising success. A case is cited, for example, of apprentice gas fitters who, while indifferent to a remedial education course in their first year, changed their attitude when offered in addition to their usual lectures, an eight-week block release for intensive study towards the City and Guilds Examination. They received certificates in less than normal time and achieved an eighty per cent examination pass.\textsuperscript{16}

Professional training and 'total institutionalization'

Few companies are large enough to offer a totally-articulated system of training as Krupps does. Hence, it may be better for public institutions to offer courses, rather than depend on the decentralized forms of experiments in training, represented by apprenticeship or trade school models. It is significant that, even in America's comparatively decentralized system, specialized factory schools and vocational colleges, particularly in the East and Mid-West, provide wide opportunities for training. In areas lacking such schools, "comprehensive" high schools, adult courses and advanced institutes (similar to Europe's polytechnics) provide courses with vocational training
being directed towards local industrial needs. It was the American David Snedden, who argued that the institutionalized form of vocational education was, through evolution, the most advanced approach to imparting professional trade skills, and was the system setting the highest standards. If his argument may not be sound history, it carries some conviction from a comparative training point of view.

On the question of professionalism, Snedden somewhat arbitrarily divided the history of vocational training into three epochs, later epochs being characterized by an ever-growing 'professionalization' of skills. In the first epoch, the craft was played at as a game or hobby (Cf. "Let's play doctors"). Nothing hung on the ensuing activities; there was no professional experience nor responsibility developed. When, through force of circumstances, the youth or slave made use of techniques picked up accidentally or by trial-and-error, the second stage ("vocational by education") is reached. Apprentices, for example, must learn only on the job, but with no sense of his training making him accountable to the community or of his being more professionally proficient in his work. Even if he intends to do the 'right' thing by the case in hand, and organize his present experience for future utilization, production must remain the prime objective of his labour, for in modern times, as in the middle ages, it is still the determinant of whether the youth’s serviceability is a worthwhile investment.
The medieval novice was hardly expected to set his own goals, but to copy and eventually produce efficiently his master's finer work. Even though production deadlines did not present the problem they do today in ensuring proper practice, apprenticeship was a system of by-education in that the master-helper relationship overshadowed the learning the youth managed to achieve. Even if his tasks were graded in difficulty, for example, the boy's materials and tools were the same as his master used, the techniques employed flowing from common sense judgements, not from official manuals. No precise educational design could appear in training which did not separate practice from final expertise, or deliver skills from the obscurity of the 'misteries'.

As Snedden shows, socially accepted 'professions' are seen by the community as having gone beyond the standards of such casual training to the third stage of training, vocational education. Defenders of apprenticeship have pointed out that, in fact, some professions like medicine and law were first studied as apprenticeships, and universities themselves borrowed the gild terminology for their regulations. However the comparison stops there. While apprenticeship training has changed little from the gild system of 'by-education', the practitioners of professions have established a comprehensive system of exact training according to settled standards. They have felt the need over the years to protect their craft, not merely by regulation, but by the development of permanent bodies of knowledge by which all their candidates would
be similarly assessed and, if successful, take their place in an elite as exclusive today as were the gilds long ago.

A professional solidarity, emanating both from the imposition of rigid standards and from the community's dependence on their services, ensures that the membership has a strong bargaining position in terms of remuneration and social influence. Certain medieval gilds cultivated an exclusive membership by imposing high entrance fees; professions today retain their elitist positions, not only by demanding a minimum competence of aspirants, but by ensuring that their services remain so indispensable that governing authorities must accede to demands made on behalf of the particular group. However, it may well be argued that the very institutionalization of professional training has contributed to a regulation of examination and practice which makes a professional graduate a person recognizably competent in his vocation. It is not surprising moreover that, as Sneddon points out, institutionalized training tends even to supersedes the more inflexible apprenticeship system of training, where they coexist.

When, for example, governments decided that teachers' work was no less important than that of physicians, the practice ceased of plucking apprentice or pupil teachers out of classrooms; instead, most teachers undergo courses at tertiary levels to prepare them for their tasks. The acceptance of teaching as a profession was enhanced by its wide-scale institutionalization of training, especially as theoretical training was closely integrated with periods of practical experience.
The rise of institutionalized training in England and America

College-type training for teachers was a comparatively early development, but the practice became popular in other occupations too, even if the movement in favour of college vocational education was sustained by different goals on each side of the Atlantic. The American schools represented an urgent response to rapidly changing economic and social needs, whereby an emerging world power in the early part of this century tried to train almost overnight its battalions of native jobless and migrant peasant workers.

Since the 1917 Act, large-scale vocational education budgeting has extended to grass-roots level, and has been continued by the provisions of the 1963 monumental Vocational Education Act with its amendments. (Prompted possibly by the independent frontiers-woman tradition, even homemaking training has long been heavily subsidized.) If American policies may be open to criticism for the widening dispersal of non-degree 'instant' training opportunities, unlike in design to the British and Australian concentration on trade training, it should also be remembered that facilities, organized largely for trade studies or to support apprenticeship practice only, often neglect the more general training needs of the community, including training for leisure, and the larger areas of adult retraining. In fact, the English and Australian polytechnics are apparently established to meet short-term training needs, as seen by the representatives of capital and labour, not to 'strike out' into neglected areas of training.
Victorian Britain’s industrial might was under challenge when the polytechnics were founded. Their founders held the view that education to take account of the European and American industrial exports. Better-trained craftsmen were to help resolve the deficiencies of tawdry merchandise at the Paris Exhibition. An increase in the number of craftsmen was necessary for goods for the colonial markets, where competition with the mother country of the Empire was still negligible. 

With the patent weakness of apprenticeship by 1900, the British government was happy to subsidize a partial substitute, the new polytechnics. As beneficiaries of funds under the City of London Parochial Act (1883) and the Technical Instruction Act (1889), the new colleges had need to put more emphasis on trade curricula than on general subjects, with classes often limited to skilled workers who attended to improve their expertise; trade training there, unlike in America, was not open to all. Consequently, neither those conservatives, who were chary of giving the lower classes “too much education”, nor those spokesmen for unionized labour who were suspicious of training alternatives to apprenticeship being offered, nor of college students showing up the incompetence of their elders, could justifiably complain. For example, the Artizans’ Institute stressed that its classes gave, as a follow up to theoretical teaching, thoroughly practical lessons both in the elementary and advanced branches of various trades.
Such training would not, of course, supersede "actual training in a regular workshop".20

At that time, there was little encouragement given to imaginative and independent educational reform in training. Thus, although Ruskin College was set up to train union leaders, so that fewer workers would be ill-equipped for dealing with social, economic or political questions, such as the rights or labour, education, cooperation, club and other movements

and the short-lived Trades Guild of Learning offered help in acquiring a knowledge of history, political economy and technical education, as well as of literature, science and art generally, 31

such broader educational ideals were not broadly accepted for years. There was in fact a remarkable similarity of sentiments between the English and Australian pioneers of technical education.

In Victoria, Australia, where a local secondary industry was growing up, it was said of the founder of the Working Men's College, Francis Ormond, that the residential college he had established at the University and the new technical college was jointly founded to "deal equally with the upper Ten and the lower Ten thousand".32 The then Minister of Education, Charles Pearson, expressed the hope that the college would become the "University of the working classes".33

These colleges were to continue the tradesman's education within his own field of expertise, but were not intended to be springboards for craftsmen seeking
higher status in society. As long as day-release systems remain a common device for giving such a theoretical gloss to the amorphous work practice in apprenticeship, the polytechnic or junior technical school is not fulfilling its most valuable role of providing a centre both for the institutionalization and development of trade theory, and, like a teachers college, for organizing work experience for its trainees. Day-release systems allow the trainees' employers to retain all initiatives in the form training takes and in what their charges should know.

Although it may be argued that, even under apprenticeship systems, trainees are usually exposed to the different educational values of the institute, and not prohibited from taking courses his masters may frown on as inappropriate or difficult, it seems that the polytechnic systems here and in England would better serve the ideal of integrated education if they were no longer called on to keep alive the antique system of apprenticeship by applying an educational cosmetic to outmoded and nugatory practice of on-the-job training, and their role in vocational education became as unrestricted as in American colleges.

Ending the dead end of 'one man, one job'

Not only would the open-ended nature of the polytechnic approach to community career needs fulfil parallel ends in redistributing the work force more favourably, but it would provide the vital links between seemingly-contrasted
levels of professional expertise, so the justifiably and realistically aspire to career; as happens at Krupps, the only careers would be personal ones.

In this connection, the remark of of the Sarich Orbital Engine Co., that should constitute "only the initial training that trade education should be open-ended, i.e. Colleges need to inform public thinking on of training; even expensive vocational education so organized that it has a high residual value to community. A figure of an additional twelve per cent return for three additional years of study to both the student and the public has been cited. For such reasons I cannot agree with Leipmann's argument against the legitimacy of an apprentice's aspirations, viz. that technical education may be good, but "too much" might sow discontent. After considering the National Certificate results from the ROAC's Apprentices school in Bristol, she had this to say in criticism of technical education:

pressure of circumstances and aspirations ... cause apprentices to attend courses which are too difficult for their capacity and also, it the opinion of many, (not named) on a higher level than is required for their future work.

However, if technical education comes to constitute an holistic and institutionalized concentration of vocational education resources instead of being merely, as Leipmann infers, the information first-aid station for poorly-analysed problems in current work activities, it
will provide a better prospect for more satisfying studies than do the doubtful gestures towards schooling like day release systems favoured by Australian apprenticeship authorities. The promotion of the work floor employees to executive positions and status betterment, one result of open-ended education, may lessen the incidence of theoretically-sound planning being found to be impracticable or misunderstood when production is begun. More engineers and managers of works should have had the first hand practice of the tradesman. In fact, the practical problems of the shop floor should not be neglected by a firm's economic planners either.

There is even evidence that apprentices themselves feel the want of challenge in unstimulating work practice cut off from the classroom. For example, an interview by R. Christie with three Australian apprentices not only brought forth criticism of the lack of set training, and some shirking of responsibility by management, but a complaint from "Pat", an apprentice working with his father in building, that even his parent did not seem to realize the frustration within the unchallenging sameness and mediocrity of much apprenticeship life. He himself was trying to seek higher goals by doing the Royal Melbourne Institute of Technology's Building Technician's Course. In the same interview, two trainee auto-electricians complained of the absence of incentive to pursue higher studies.
But such aspirations can become a reality only within schemes of integrated college training, which are not like apprenticeship, dependent on discretionary training obligations and are usually subject to minimal standards. In this respect institutionalized training is not only more easily evaluated than apprenticeship, but it can anticipate future occupational needs and develop policies, which will not become outdated by the march of economic or technological change. If college courses are not overloaded with the minutiae of technical description or explanation, college authorities may assess current but minimal competency for the occupation under consideration; in Dewey's terms, academic formulations of theory should, as "active facts", give an ordered rationale to workshop practice.

Becoming an "all-round" tradesman would then take on an even more vital meaning in college training than was visualized, for example, by Leipmann. Integrated courses could even offer a sort of New Deal in training for blue-collar workers. At the moment, the utilization of these depends heavily on the accidental local state of technological innovation, or, more specifically, on board room decisions on the comparative economics (not ergonomics) of balancing costly, uneven human resources against the more fixed, if high, cost of automation's alternatives. Flexible training opportunities for adults (discussed below) may prevent many workers falling into the state of economic dispensability.
Polytechnic training can be better integrated with broader technological changes.

A large training organization can more readily keep abreast of the latest developments in the trades, the lecture room becoming the channel of communication for adults trained in an earlier period. Take, for example, innovations in plumbing materials. While the new plumber must have the "retrospective" knowledge to replace the antique plumbing of old houses, even in lead, he must be familiar with the use of polyvinyl chloride (PVC) for guttering and pipes in contemporary housing.

Furthermore, in multi-faceted institutional training, college instructors with a broad familiarity with the customary standards of modern practice can translate the outside trade problems of the learner into the theoretical terminology of the lecture room. Thus, in Britain's Government Training Centres, the recent National Employment and Training Scheme in Australia, and in smaller projects like Western Australia's eighteen-week bricklayers' course, where adult training or retraining is given, the emphasis seems to be on the institutional control of both theoretical and practical training, with the government even subsidizing the trainee craftsman for the earning time lost during the course, and the training authority guaranteeing the competence of its graduands.
In the second place, integrated training, by British-style "sandwiching" of standard technological course work with appropriate practice periods (somewhat parallel to teacher training), provides a closer relationship between the learning milieux of school and bench; the system attempts to overcome the psychological barriers erected against the trainee by his workmates. Such difficulties are minimized by the fact that the trainee spends only short periods in one work place, and also by the fact that no single practice period becomes critical to his passing courses, and because his remuneration is controlled by the teaching organization.

The trainee, on his side, not only gets experience over the whole industry, but is attached to the college as an unbonded student; decisions on future employment remain his own. Within his trade, he may take on a number of specialities, for he is not trained according to any restricted pattern, and so is encouraged to develop his own talents in selected fields. While his training may furnish him with the essentials of his practice, his growing expertise and freedom to improvise will extend his talents beyond the scope of any realistically-based course design. In this respect, it is wellnigh impossible for apprenticeship instructors to provide anything like such comprehensive training without providing practice schedules which would make deployment of ordinary production staff impossible. Thus, an interchangeability of work practice to let trainees try various techniques (as may happen in factory schools) would seem an unjustifiable 'luxury' if
heavy order flow puts pressure on available manpower. Fossilized work patterns of "one man, one job" discourage such training variations anyway, or so curtail them that the youth may receive only superficial or fragmentary acquaintance with the various techniques.

By contrast, many tertiary institutions can set vocational competency levels such that various degrees of expertise may be attained, and assessment may include problem-solving or diagnostic testing. (For example, the case study or 'simulation game' are developing instructional techniques for problem solving.) Instead of the candidate giving fixed formulae of work procedures, he may be encouraged to volunteer the sorts of factors, constant and variable, that may be involved in the decision-making process. Thinking out a problem on its merits is preferred to the lesser facility to reproduce traditional theory. This concern among educational institutions to develop thinking workers is a considerable advance on the views of Snedden, who judged the success of college training programmes by the degree to which they reduced procedures to routines, and by the economic efficiency of the graduate. He argued that results should be judged "primarily in terms of results as found in the total productive life of the individual", and with the primary aims of vocational education being to "enhance directly (the learner's) productive powers".

Even if it is perhaps harder to evaluate on the
large scale how adequately educational facilities are
directed primarily towards the individual's welfare,
at least his vocational rights are now given almost equal
priority with those of society and the employer.

Today's greater stress on the individual's training
as opposed to society's or management's needs provides
a welcome change in thinking. Educational planning is
more often built around criteria of skills and theoretical
knowledge, rather than the absolute value of the worker
as an unthinking contributive economic unit, or as an
element in work demarcation or status conflicts among
industrial interests; that even 'original' youth
training should inculcate a vocational versatility and
job independence is not shared by all the managers and
masters of apprenticeship systems.

How many tradesmen-to-be have been given the best
sort of training recommended by the National Manpower
Council of America, which warned that, if training were
to avoid outdated

It is important that workers have a broad
foundation of basic knowledge and skills
together with attitudes that will facilitate
their learning new tasks as the need and
opportunity arise.

If a boy's training is seen to have both an economic and
social effect on the welfare of his community, his
training needs to do more than put him in a job and leave
it at that. The end of the boy's serving period is the
end of his compulsory training and, because of
apprenticeship's disadvantages, possibly the end of his
formal training. Thus, apprenticeship actually tends to defeat the proper aims of work training.

However, if a broad-ranging training alternative is to be found to apprenticeship, especially in England and Australia, governments themselves must set up new systems of training that will provide career opportunities for all who seek them. The role of governments I shall discuss in the following section.

Conclusion

Living and working are interrelated and, as Eaton shows, culture and vocation are different aspects of social activity.53 The cultural milieu gives our work the recognition by society or at least a relevance to society's immediate needs. If society is to create a continually 'accepting' environment for its young workers, their training must be in the hands of an educationally-oriented and socially-sensitized institution, not bound by the rigid and mimic systems of apprenticeship training. Nor is there any call for tertiary education to signify restrictive training in theory and practice. As Eaton points out, the intensive concentration of narrow specialization Snedden favoured was no more efficient in making boys into workers than a more stimulating 'blended' programme.54 (Too many countries, especially in the so-called 'socialist bloc' set up a dualism between a narrowly technical and expanded professional training, with the former run on 'Snedden' lines.)55
No system of education, whether within an institution or run on the apprenticeship pattern, can provide youth with a secure niche in modern society if it works on false or outdated assumptions about youth's needs or about the pressing needs of industrial or managerial interests. However, the integrated system of training, based for example on Krupp or sandwich-type course planning, may provide the most hopeful design for broad systems of trade training which will support both the vocational needs of the individual and the necessary external standards for his craft.
Notes


2. Except at the extremes of skill, it is not possible to grade jobs in an hierarchical order of difficulty. (Cf. I. Berg, Education and jobs (New York, 1970) p. 40 - 41). There is even a vagueness between educational achievement and job suitability (ibid. p. 79). In fact, in blue-collar work, achievement may be inversely proportional to work performance though related to promotional potential (ibid. p. 87 - 88, 90).

3. See e.g. 'Apprentices now' in Research in education. (Edinburgh) no. 12. If educational achievement is not easily correlateable with job success, it should not mean it is to be ignored (See I. Berg, op.cit., p. 92 - 93). Of course, some rather outlandish attempts have been made to bridge the gap between personality and sociological characteristics on the one hand, and job profile characteristics on the other. (Ibid., p.104). The socially-alienated may be actually better producers! (Ibid., p. 106). The whole problem can only be grappled in terms of a philosophy of education - the role of the individual and the reacting role of his society.

4. Ida Hoos, Retraining the workforce (Berkeley, 1967) p. 152 ff. points out that Neighbourhood Youth Corps found job upgrading projects not unqualified successes because of trainees' disadvantaged background and non-preparation for world of work.

5. Ibid., p. 22 ff. (Smith Corona)

6. Ibid., p. 59 ff. (IRS)

7. Ibid., p. 71 ff. (Nurses)

8. See below under section (iii) Forms of institutionalized training.

9. The principal of the Gordon Technical College in Geelong once observed that this social responsibility of employers, for job guidance and help, which was a matter only of personal integrity here, was enforced by legislative enactment overseas. (P. Brereton, Origins of the Victorian Apprenticeship Commission: A history of apprenticeship regulations in Victoria 1896 - 1927 (M.Ed. Melbourne, 1971) p.145).

10. Cf. F. Herzberg, Work and the nature of man (Cleveland 1966) p. 35. (The worker was to be treated well, not merely be an efficient and healthy tool on the Taylorist model).
See e.g. "Keeping them flying: an account of the apprenticeship schemes run by BOAC at London Airport" (anon.) in *Times educational supplement* (London) Feb. 25, 1966, p. 567 ff. The training system is highly articulated and proceeds at many levels of technological expertise; hence many of the rigidities in apprenticeship contracting and training methods have scarcely been issues.

Information was supplied to me in a telephone interview in 1974, with the master of apprentices, Mr. Miller.


This European practice of continuing trainee reassessment can be criticized, if it entails that those who fail to satisfy criteria during their course may be excluded without immediate hope of making up lost training time. Cf. Australian debate on relevance of matriculation examination as tertiary education prerequisite. See Kevin Silverberg 'Making them fit the system' in *Age*, August 10, 1976, p. 16.


See e.g. McLaine, *op.cit.*, p. 11.

See e.g. O. Dunlop, *English apprenticeship and child labour* (London, 1912) p. 43.

It is no accident for example, that a rise in standards of vocational assessment brings in its train a weakening dependence on the device of official trade declaration on which the New South Wales Beattie Report apparently put such store (New South Wales *Industrial Commission on the Enquiry Regarding the Functioning of Apprenticeship in New South Wales* (Sydney, 1965) p. 37) or titles of "dignity" (diploma or degree) on which employers judge. High assessment standards are linked with public and academic acceptance of the reliability of the institution's professional judgement, shown in their evaluation of work on its own merits, rather than a declaration that work is satisfactory.
D. Snedden, op.cit., p. 10 observes that, where apprenticeship and proper vocational training coexist, the latter will tend to be automatically preferred by the community, as more suited to its needs.

As Kathleen King explains in her article on "The role of technical education and training in developing countries" in C. Sanders (ed.) Technical education for development (Nedlands 1966) pp. 56-7, even where apprenticeship is retained, the term of service is modified, practice is systematized and other special training schemes are established, especially for unskilled adults, as an alternative entry to the trades.

As R. Roberts, Vocational and practical arts education (New York, 1971) c. 14 points out, technical or industrial education in the U.S. is equated with know-how in a particular vocation, not necessarily one associated with machinery or trades. It should also be noted that in the U.S. the high degree of mobility of labour has prompted research on the motivations for labour turnover. Higher education is apparently automatically linked by companies with higher rewards. See also e.g. Ivan Berg. Education and jobs: the great training robbery (New York, 1970) pp. 98 ff.

See e.g. D. Snedden, op.cit., c. 8 for the intentions behind the homemaking courses, in the 1917 Act. A summary of the 1963 Act's provisions may be found in R. Roberts (op.cit. p. 346 ff.) which discusses the effects of the Manpower Development and Training Act programmes up to 1968.

See e.g. H. S. Williams' comment on the perennial American social concern of affording sufficient job opportunities to all classes, in C. Sanders (ed.) op.cit. (Nedlands, 1966) p. 37.

An extract of contemporary opinion was discussed by D. M. Woodward in his Manual training in education (London, 1890) p. 144. The fear of a competition in technological skill obviously bridged the Atlantic.

In Victoria, for example, the declining Schools of Arts courses had only a tenuous relationship to trade training needs; the new Working Men's College in Melbourne was an attempt to redress the balance.

E.g. C. T. Millis. Education for trades and industries: a historical survey (London, 1932) p. 16 (building), p. 66 (metal plate work). In Victoria, in the early twentieth century, the Age warned that the time-honoured system of apprenticeship continued to be the best training system: colleges were to provide the icing on the cake of practical training. (Brereton, op.cit., p. 66 and p. 72).


32 Remark by Demos in *The Herald*, April 21, 1887 in article on the College.

33 Charles Pearson's comment on occasion of Governor's visit. *Argus*, 26 April, 1887.

34 Even an idealist like Ruskin felt that, at Maurice's Working College, student would be content merely to be told where they had made mistakes in their work in the simplest possible way. The college's role was purely remedial. (Joan Evans, *John Ruskin* (London, 1954) p.213.) Ruskin even discouraged workers becoming artists; he felt that the worker who tried to get on was deserting his class and leaving his destined path. (*ibid.*, p.215).


38 For the frustration of worker aspirations and expectations and its effect on overall morale, see e.g. I. Berg, *op.cit.*, pp. 128 ff. Berg discusses as well the effects of *comparative status* deprivation. Opportunity is a spur even for the low-educated, low-skilled workers in industries, unattractive to job seekers (*ibid.*, p.136).

39 See Part 4, Note 5.

40 Brereton, in analysing the attitudes of Victorian employers, suggests that they supported night school study, because the difficulty of attendance was seen as a virtue in itself, in addition to such study becoming an 'engine' against union obstructionism (*Brereton, op.cit.*, p.163).

41 Otherwise, the self-defeating situation arises where as in the early period of Victoria's technical education development, certification was debased by poor examining standards, and the licensed plumbers were not equipped to install the new Melbourne and Metropolitan Board of Works sewerage systems. (See e.g. *P. Brereton, op.cit.*, p. 82 - 85).
This state of contractual freedom would deliver the trainee from being a pawn in a controversy about government interference. In 1909, for example, McCutcheon opposed the provision in the Victorian Factories and Shops Bill inserted by John Lemmon that technical school training be made compulsory, on the grounds that it would be 'the beginning of more interference between employers and apprentices'. In the event, the issue was apparently not even considered in the final effective provisions of the 1910 Act. (See P. Brereton, p. 125 and p. 131).


Versatility is a rare quality.

W. McLaine, op.cit., p.106.


Snedden, op.cit., p.35 (quotations transposed to make point). The theme of education for usefulness also runs through much of Spencer's utilitarian thought. See e.g. Essays on education (London, 1911) p. 8.

See e.g. H. Borow (ed.) Man in a world at work (Boston, 1964), p.263. Donald Super's theory of vocational interest as an implementation of socially derived self-concept and the imitation of occupational stereotypes is discussed: i.e. vocation is seen as derived from a bundle of internal motivations, not just the outcome of internalized social expectations. The practical consequences (p. 307) include readily available flexible and functional classifications of occupations to meet the needs of demography, adolescent maturation and retraining situations. Such groupings would need to be comprehensible to counsellors advising youth. Super (p. 438) emphasized that people differed in abilities and interests and that occupations required certain patterns of abilities and personality. Life processes demanded compromise in role playing between self-concept and economic reality. Thus, e.g. different vocations may suit different ages.


Cf. T. Eaton, op.cit., c.10.

National Manpower Council, op.cit., p.93.

T. Eaton, op.cit., c.4.

54 T. Eaton, ibid., p. 268 ff. Jahoda points out, in the *Education of technologists* (London, 1963), c.9, that there was need to examine industrial organization as a whole as a total system and central task, and that "academic work" can be combined with practical experience to make both parts educational experiences or training experiences (such benefits I discuss in Chapter 2). She also reiterates the view of A. T. Wilson that the main distraction from learning at tertiary level was the student's felt lack of ability to earn a living after he graduated (p.195). This opinion bears out my contention that the basic dilemma in vocational education is the fruitful reconciliation of educational and workshop ends.

Governments have taken a considerable interest in vocational and technical education not only for the economic ends discussed above, in talking of the early polytechnics, and in part Two of subsidization policies, but also, on a smaller scale, for the more altruistic end of developing the possibly 'embarrassing' talents of the gifted. There have been, for example, the training centres in England, the adult vocational training in Europe, America's Headstart programme and the NEAT scheme here; these have at times been set up against diehard tradition represented, for example, in craft unions and other industrial interests which have a stake in youth training. While some of the schemes have been abandoned or modified (e.g. Australia's NEAT scheme), these comparatively piecemeal projects indicate that governments are conscious of the lacunae in established systems of training and, under the pressure of social or economic events, proceed post-haste to set up their own schemes.

However, the fragmentary or temporary nature of such projects seems to confirm my view that, while governments should control subsidies for job training and undertake to set standards for adequate training, the actual organization of courses and the supplying of staff is best done by colleges at the local level. In fact, for college-workshop integrative education to be a
reality, it is the training institute which should also
determine the kinds of relevant industrial experience
to be undertaken by their students. Moreover, since the
national governments can no longer afford to subsidize
all existing training projects irrespective of longevity
or quality, there must be a total reappraisal of training
needs in educational as well as economic terms.

In Australia, there has been little actively done
to involve the federal government in vocational planning
or to re-examine the sorts of youth training in operation.
Admittedly, federal governments have long been conscious
of the short-comings of such training. Thus, while the
1971 discussion paper *Training for industry and commerce*,
issued by the then Minister for Labor and National Service,
Billy Snedden, was couched in ponderous and generalized
terms, it raised several important issues.

First, there was the need to make the public aware
of the importance of training, and to conduct research
into industry's training proposals and real needs, as
seen from a broader perspective. There was also a
suggestion that there be a national manpower policy as
in the United States, lest projects be set up only to
satisfy temporary local interests rather than longer-term
national priorities. Why train more teachers, for example,
if the school attendances in the states were declining?
Why establish rescue-type trade-training schemes for skills
not in demand in a period of economic doldrums?
Need for vocational research and a national council

In more positive terms, the 1971 paper recommends that specialized research projects be set up to establish better dispositions of Australian manpower and training resources, possibly with ancillary vocational guidance and a policy of 'redirection' following expert prediction of labour market expectations. On the individual level, the paper suggested that, following the American example, analyses of job categories be devised: traditional designations like 'machinist' or 'fitter', although adequate for wage awards, are quite meaningless terms to cover all the possibilities of the work done in different specializations and craft evolutions.

The paper also support post-apprenticeship training, which the Labor Government (1972-5) supported in its NEAT scheme. The limitations imposed on this scheme suggest that vocational policy should be made by a permanent controlling body. Furthermore, an Australian educationist, K. G. Mortensen, suggests that such a body should have, on the German model, overall control of schemes in all Australian states, with the resources to make decisions on all available information. The English Central Training Council (q.v.) with its many training boards could furnish a model in terms of funding policies, though an Australian body would have to be adapted to vastly different Australian conditions. For example, our state-wide trade committees would have a better idea than would a national body of the labour market's needs in their own states and regions. Moreover, the constitution of these committees would need revamping.
to include experts in vocational education systems (not just apprenticeship) as well as the usual managerial and labour 'combatants', whose interests may not lead them to support significant educational innovations in training, although innovations may be of benefit to trainees. While state committees should offer expert opinion, the right to dictate training conditions and courses should rest with this impartial national body. K. Mortensen's proposed council could indeed have a standard-setting authority over state and national industrial committees, as in England. I would support even more power for this Australian body, if traditional apprenticeship is to be simultaneously phased out.

While Mortensen suggests that his council undertake thorough assessments on a national scale, he does not envisage its playing a role in the work of local industrial committees or work situations. In fact, while his council's functions would parallel those of the English body, he would seemingly leave the states' industrial committees with even more autonomy than the English Industrial Training Boards have. As I have already indicated, industrial interests must resist the temptation of overplaying their role, and of so introducing an unprogressive rigidity or authoritarian strain of management into trade teaching organization, for the sake of committee consensus. The case of West Germany is relevant here.

The West Germany Federal ministry responsible for
training shares its powers with the Länder, the former overseeing all vocational testing and courses, the latter controlling all schools, including vocational schools (Berufsfachschule) and day release vocational centres (Berufschule). Both bodies collaborate in organizing regional vocational schemes (Berufsbildungsplane). This system, which replaces the old Prussian trade schools (q.v.), is characterized by efficient job streaming and well-organized training schemes, with national priorities often coming before individual ones. With one eye on the enforced vocational deployment of the industrialized East, where ninety-five per cent of school leavers are trade trained, West Germany has tended to develop rigid systems of indenturing even for commercial occupations, and has reduced the personal role in vocational choice.

A national body in Australia need not similarly restrict the vocational freedom of the individual; the German paradigm of universal training should not signify the regimentation of wills or aspirations. Neither must a progressive national training council count success as simply equalling the fullest possible placement of school leavers, or become a body which would highhandedly dictate to local training authorities only in terms of national economic and social imperatives. Undoubtedly, any such new council would have to withstand the dire warnings of “free contract” critics such as W. Armitage, who argued that the British 1964 Industrial Training Act (q.v.) would set the scene for an Orwellian-style control of vocational
training, because inter alia industrial training levies would make possible a wider use of block release and sandwich courses, only at the 'expense' of the voluntary principle in tertiary education with supposedly 'useless' courses disappearing. However, the disastrous effects of the totally voluntarist principle on apprentices' training and the advantages of 'sandwich' or 'graded' systems for integrated training, have been indicated already; I would only add that any central council introducing reformist measures would have to bear the brunt of such attacks from the many non-educational interests with stakes in youth employment and training. Indeed, if Australia is to develop a well-trained work force, a federal authority must hold in restraint the influences which can be brought to bear on publicly-accountable systems of training.5

The question still remains about the extent of such an authority's discretionary powers. Certainly, most democracies would feel that universal vocational training on the rigidly-efficient and totally-enforceable East German model serves human values even less than do the practices and restrictions of apprenticeship; even allowing for the intrinsic moral sanction of vocational guidance services, most Western countries would be unwilling to institute reform that would deprive the individual of the liberty to choose his work; the doubtful liberty Snedden offers of being trained in the occupation that society thinks one should pursue is hardly a liberty at all.
Even though in theory Australia’s training authorities have the legislative support to give some protection to the individual trainee, in practice they deal only with de facto situations for which they rarely offer enforceable remedies. They are compelled to legitimize many traditional habits or teaching methods, stepping gingerly around the 'rights' of contracting employers lest the latter find excuses to dismiss the apprentices.

A national council could end this situation, creating standards of training and prompting initiatives for new schemes. Too often one gets the feeling that the Australian states are apathetic to reform training, because apprenticeship appears a 'cheap' system to administer; there is an apparent ignorance of the high rate of return on worthwhile training investment, both to the individual and taxpayers, an investment that has also been shown to have a high stock value, not so affected by economic tendencies as are other forms of investment. National governments, committed to the welfare of future generations of trainees, can no longer afford to tolerate training inefficiency, poor standards and the quenching of real motivation, characteristic of too many apprenticeships.

Conclusion

Money spent on training is money well spent, and central governments, as in England, can effect reform by
the control of subsidy. The problem is complicated in England by the large number of boards administering such funds. If, as Mortensen suggests, a simpler method of training tax could be devised, it would streamline funding. I feel that government subsidization would operate more justly through a tertiary education system, not under the control of union or employer, each institution subsidizing the education and living expenses of trainees through central council grants, while being totally responsible for training and practice. Such a system would compare more than favourably with flat per capita grants, which may be given out according to the lowest standards obtaining. Integrated training discriminates in favour of better, not just quicker, training.

Institutionalized and funded training systems can also cater for socially-deprived groups which it does not pay employers to train. Ida Hoos refers to the case of a welding programme, organized by the Bureau of Indian Affairs for ethnic minorities, which failed only because the unemployed for whom it was set up could no longer afford to pay for it out of social welfare benefits. They were forced to return to the 'undifferentiated' or unemployed laborers' ranks. Such groups could receive training protection from such a central council. Like the trainees they should be completely subsidized for fees and expenses, with firms providing training practice being paid by the council or institute, according to the worth of the instruction, not according to the learner's
aptitude, which, unlike apprenticeship, would remain a matter between college, supervisor and trainee. No longer need employers count costs of materials and time for training; training taxes would fall equably on all, whether training-conscious or not. In short, unlike the sort of German universalist system, which threatens personal liberties, an integrated system could well be introduced without the destruction of many already-existing training structures.

Conclusion to my thesis

New approaches to training must involve wholesale reappraisal and change in vocational guidance, selection and teaching methodologies. Thorough guidance and selection should ensure that youth are guided to proper careers, while teaching on a 'family-of-trades' basis and 'by stages' ensures that tradesmen versed in basic principles may be able to solve even new and untaught problems in the work situation. In Eaton's vein, there must be less telling and more informing, less showing and more doing. Fortuitous apprenticeship training must be replaced by a trade education that gives thorough grounding in the complex and inter-related technologies of today which are affecting even the old bench trades. Governments must recognize that trade training is no less part of the national education system than is tertiary education; as long as it is dependent on the unassessed and 'unseen' methods used in thousands of work benches and with thousands of
different trainees, there can never be any guarantee
either that any individual trademan is properly trained,
or that governments will ever take the initiative in
ensuring that there is an adequate supply of trained
men, and that national minimal levels of trade competence,
let alone versatility, are being achieved.
Notes


5. K. Leipmann suggests similar radical reforms for British trade training in Apprenticeship (London, 1960) c. 11.


10. Ida Hoos, Retraining the Work Force (Berkeley, 1967) p. 29 - 30. For the Australian government's concern about discrimination against aborigines in employment see e.g. Australian, May 27, 1977.
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