

Work as Key to the Social Question

The Great Social and Economic Transformations and the Subjective Dimension of Work



Job Design in the Perspective of Laborem Exercens

by [Helen Alford](#), O.P.
Pontificia Università San Tommaso, Roma

ROUGH
Not to be cited

DRAFT

Abstract

Laborem Exercens (henceforward referred to as LE) follows the social encyclicals before it in maintaining that “work is a key, probably the essential key, to the whole social question.” Furthermore, “if the solution – or rather the gradual solution – of the social question . . . must be sought in the direction of “making life more human,” then the key, namely human work, acquires fundamental and decisive importance” (LE n.3). Leaving aside the problem of defining exactly what the term “social question” means, it is clear that LE sees work as the focal point of any resolution of the social problems that society faces. This would suggest that the kind of work, how much of it, how it relates to other aspects of human living, how it is remunerated, what possibilities there are for personal development through work – all these factors are important not only in creating systems of work worthy of the human being but are also important in the resolution of social problems in general. In other words, solving problems to do with work does or should help to alleviate wider social problems.

These claims seem large and somewhat difficult to substantiate. How could the resolution of problems to do with work be so influential over other aspects of social life? By looking at the question of job design in the perspective of LE, however, I think it can be shown that many social problems can indeed be connected with the organisation of work, and that in this LE, and the social tradition of which it is a part, have continued to put forward an important insight, the consequences of which are often not fully realised. In this paper, we will look at the principles of job design that one can extract from LE, at what have

been recent developments on the job design front and, comparing the two, where job design needs to go in future.

The most basic level of LE is theological. In the perspective primarily of Genesis, work emerges as a fulfilment of the command of the creator to “Be fruitful and multiply, and fill the earth and subdue it” and thus as a participation in the creative activity of the Creator. This forms the “deepest essence” of the understanding of work in LE (n.4). In working, we act “transitively” on an external object, and therefore express our dominion over things. Even in advanced economies, where the work we do is very different from those obtaining when Genesis was written, these same basic aspects of work hold true, even if the dominant systems of work organisation can sometimes obscure our experience of these aspects of work. Interestingly, although it is briefly mentioned in an introductory way in paragraph n.1, LE does not deal more formally with the aspect of toil and the destruction of self that we also experience in work until paragraph n. 9. Work is not a necessary evil imposed on us as a result of the Fall, although sin impacts and damages us in our work, but it is primarily about the expression of our true nature as being in the image and likeness of God and of fulfilling God’s command to subdue the earth.

The subsequent paragraphs of this part of the encyclical, on technology (objective dimension of work), the subjective dimension of work, the right ordering of these two dimensions, worker solidarity and personal dignity and work and society develop these basic insights (more will be said about this in the paper). Similarly, the other parts of the encyclical, on the conflict between labour and capital, the rights of workers, and elements of a spirituality of work also further elaborate on the core ideas already presented on the theological level. However, we already have the basic insights necessary for understanding job design in the perspective of LE. Systems of job design need to respect and promote the nature of the person as made in the image and likeness of God and to allow those working within them to experience their dominion over the good things of the earth.

Unfortunately, the dominant forms of job design, which trace their systematisation back to Frederick Winslow Taylor do not start from these principles, and it is difficult to see how they could be reconciled with them. The paper will discuss the basic principles of Taylor’s approach and its more modern, modified versions, and consider them in the light of the basic principles already drawn from LE.

Fortunately, alternative forms of job design have also emerged. We will not consider job rotation, enrichment or enlargement because these still operate within the basic Tayloristic framework and therefore, from the point of view of LE, do not constitute alternatives at the level that really counts. More promising have been the development of skill-enhancing or “human-centred” approaches to job design which have attempted to overcome the technocentric and capital-dominating paradigm that informs Taylorism. The basic principles of human-centred design will be discussed, along with their limitations from the perspective of LE. Although there is a clear and self-conscious attempt to redirect job design so that it takes the capacities and needs of the worker into account from the beginning (and not as a residual after the technical design is complete), the problem remains for the human-centred school of defining what is a human being (which, from the

perspective of LE, is essential if one is to know what is human work). However, the progress made by this school is not to be dismissed; rather, what is needed is a dialogue between the church and human-centred theorists so that the general trends of human-centred design can be reinforced and set up on a stronger basis.

1. *Introduction*

Laborem Exercens (henceforward referred to as LE) follows the social encyclicals before it in maintaining that “work is a key, probably the essential key, to the whole social question” (n.11). Furthermore, “if the solution – or rather the gradual solution of the social question . . . must be sought in the direction of “making life more human,” then the key, namely human work, acquires fundamental and decisive importance” (LE n.3). Indeed, John Paul makes the link between the social question and work the core concern of the encyclical:

In taking up this question anew, we do not intend to cover every one of its aspects, still less is it our intention merely to gather together and repeat what is already contained in the Church’s doctrine. We seek rather to show, more clearly perhaps than has been done before, that careful study of human work in the service of man’s good shows it to be a key, as it were to the whole social question . . .(n.11)

It is clear that LE sees work as the focal point of any resolution of the social problems that society faces. This would suggest that the kind of work, how much of it, how it relates to other aspects of human living, how it is remunerated, what possibilities there are for personal development through work – all these factors are important not only in creating systems of work worthy of the human being but are also important in the resolution of social problems in general. In other words, solving problems to do with work does or should help to alleviate wider social problems.

These claims seem large and somewhat difficult to substantiate. How could the resolution of problems to do with work be so influential over other aspects of social life? By looking at the question of job design in the perspective of LE, however, I think it can be shown that many social problems can indeed be connected with the organisation of work, and that in this LE, and the social tradition of which it is a part, have continued to put forward an important insight, the consequences of which are often not fully realised. In this paper, we will look at the principles of job design that one can extract from LE, at what have been recent developments on the job design front and, comparing the two, where job design needs to go in future.

2. *What Principles for Job Design Emerge from Laborem Exercens?*

LE is a densely argued document which returns to themes in subsequent paragraphs that have been presented more schematically, or in another way, in earlier ones. The encyclical is split into five parts and twenty seven sections with Roman numerals; each paragraph has an Arabic number. No subheadings are given, though, many translations of the encyclical do subdivide the text with unofficial subheadings. For our purposes, the most important part of the text is to be found in parts one and two, though some subsequent sections contain some important additions.

There are five key points in the encyclical relating to work and job design which we can use in this paper, both for understanding what kind of approach to job design is implied by the encyclical and for evaluating classic and alternative job design approaches:

1. The word work means everything human beings accomplish, any human act which is or ought to be accounted work among the great number of different forms of purposive activity (opening paragraph).
- 2(a). It is a human duty to work, through which we achieve three things (opening paragraph):
 - we support ourselves
 - we contribute to the development of the arts and sciences
 - we raise cultural and moral standards (“particularly important”, says John Paul)
- 2(b). Work is a fundamental dimension of man’s life on earth, something which human sciences based on reason show to be true, and which faith confirms (opening paragraph).
3. Work bears man’s signature, the distinctive mark of human nature, acting within a community of persons. Like a signature, to some extent work reveals who the human person is. Furthermore, “it constitutes, to a certain extent, his very nature” (opening paragraph).
- 4(a). God commands us to “be fruitful and multiply”, and to have “dominion over the fish of the sea and birds of the air”. Work is part of our response to that command (n.13).
- 4(b). Work is a transitive activity – the human person works and produces an object. Dominion over the earth is thus “performed”, and through performance, developed. Subduing the earth includes the activities of discovery and understanding – it has “an immense range” (n.14).

5. Technology is a set of instruments for the human person to use in work (and thus an “ally” in production). The existence and development of technology manifests and confirms our ability and call to have dominion over the earth. However, it can also be used to dominate others; here technology is used to instrumentalise the person, reversing the right order of values and making the human person subservient to a created thing (n.19, nn.52 – 57)

Point 1 outlines what John Paul means in the context of the encyclical when he uses the term work. Point 2, (a) and (b), indicates what relation human work has to the human person; it is both a fundamental dimension of our existence and a duty. Thus, it is both something inescapable, part of our make-up as human beings, and something we must strive to do and commit ourselves to (a duty). This follows from the first definition of work – any purposive activity that can be accounted as work. Thus, children’s play is a most intense form of human work, through which they learn and become more fully human, but play needs also to be extended by a gradually extending commitment to particular forms of work at particular times (first, though going to school, subsequently in other ways) by which we take up the duty to work and achieve the three elements listed above as fruits of fulfilling our duty.

Perhaps the most interesting idea in this list is that work “bears man’s signature”. Through our work we reveal who we are. This is a very important point to consider in job design: what potential does the job give to human beings to put their signature on their work? In order for this to be possible, they have to have some “dominion”, some control and room for manoeuvre – some freedom. Hence the enormous importance of point 4, not only in terms of the view of the human person it gives us but also practically in the process of job design. The key point for job design arises in point 5 – technology is an instrument, and the human person the active agent. This has to be visible to all and experienced by the worker even in the most highly advanced technical systems. John Paul recognises the great help to human flourishing that technology can provide, but he also implicitly recognises the incomplete understanding we have of the relationship between technology and work when he says:

Equally, however, the lively development of these techniques has raised and continues to raise questions of great importance concerning the relationship of work to the subject, man himself. Of peculiar importance is the extent to which these questions throw up problems and disputes in the *field of ethics and social ethics* which constitute a challenge for many kinds of institution. . . (n.21)

It is to these ethical questions arising out of the interaction between human beings and machines in their work that this paper is addressed.

The importance of job design from the perspective of LE follows directly from these principles. One of the encyclical’s central tenets is the priority of labour over capital. Human labour is prior to, or more basic than, capital in the production of goods and services, so that it ought not to be treated merely as one more factor of production alongside

capital. [1] One when stops to think about this, it is logical that human activity comes before capital, since without it, capital would not get applied to productive effort (capital doesn't have a will of its own). Putting this into the practical terms of job design would mean that, if anything, the technical equipment of a production process needs to be designed around the workers who will be working in it, and not the other way round. In business practice, however, we largely see things working in the opposite direction, where people are just slotted in to fill gaps between machines. Such practice is clearly premised on the maximization of return on capital rather than on the promotion of the common good via human development.

Furthermore, we are “called” to work, [2] and in a sense, define ourselves in it. [3] We express and develop part of what it means to be in the image of God through working *creatively* and responsibly, in a “God-like” way, using our talents and abilities in a fully human way. A further consequence of understanding work as a calling is that it implies the presence of the “other,” and service to that person, as part of what it means to work. [4] If we are called to do something, someone other than ourselves must be calling us. It is primarily God who calls, but since each person is made in God's image, and because Jesus is recorded as saying, ‘As you did it to one of the least of these my brethren, you did it me’, [5] this inevitably involves our service to the human community around us. The communal and service aspects of our work can be considered as part of the *solidarity* that we should be promoting between all the members of the business. Translating this into practical job design terms, we could say that the possibility to serve others in our work, and, in general, the kind of relationships we have with others through our work are important considerations to keep in mind in the job design process.

All that we have drawn out of LE so far with regard to job design can be summed up by saying that the “subjective” dimension of work needs to be included, and in a certain sense, considered as the central factor in designing and organising work. In doing so, we will include the moral and spiritual needs of the person, along with a consideration of the kinds of relationships our job design permits, which should be those of service informed by mutual love and respect within work. Work must be an activity in which the person is seen and felt to be the “subject,” that is, the active “agent” who both transitively accomplishes a task through working on “objects” and reflexively accomplishes her own development by deploying and developing specifically human powers. Thus in John Paul II's words, “the (primary) purpose of any kind of work that man does is always man himself,” so that “man does not serve work, but work serves man.” [6] Job design in the perspective of LE implies an insistence on the primacy of the person throughout the work process, so that at no point is human development instrumentalised for economic gain.

3. *The Classic Approach to Job Design and its Developments* [7]

The classic approach to the design of jobs is the “scientific management” system of Frederick Winslow Taylor (1885 – 1917). Although devised at the turn of the century, this approach to job design is still surprisingly influential today. Indeed, Taylor's system for the

“scientific management” of work plays a somewhat similar role in the world of operations and production engineering to that which the principle of “maximisation of shareholder wealth” (MSW) plays in finance circles. Although many managers and production engineers would not want to subscribe to the assumptions behind Taylor's theory, in practice many firms still use Taylor's basic ideas in organising and designing their jobs. These have been modified and reformulated so that some of their harsher aspects are no longer upheld, but the basic system is maintained. The Japanese, in particular, have taken up Taylor's ideas and applied them very effectively, even if they have somewhat transformed them in the process. It would not be an exaggeration to say that most manufacturing jobs in the world, and probably most paid jobs across all forms of business, are organised according to a modified “Taylorism.”

As a young man, Taylor had worked for a short time as a machinist on the shopfloor at the Midvale Steel Works. During this period, he controlled his output because of the way the piecework payment system operated. He realised that management had no idea how long jobs should take, nor any idea of the rationale behind employees' restriction of their output or of the way the payment system reinforced that practice. When he became a gang boss, he determined he would put a stop to the restriction of output, fighting a battle over it for three years. Thereafter, he was determined to find another way of overcoming this problem. He was convinced that there must be an objective or “scientific” way of determining what was the time required for the job. One had to analyse every aspect involved in a task, to understand it completely, and so wrest control of it from the workers. [8]

The novelty in Taylor's thought was this: he aimed to raise productivity to *possible* levels, as measured by “objective” and “scientific” data, rather than by relating present output to levels achieved in the past. Raised output, he reasoned, would translate to a greater surplus for everyone: employees could be paid more and employers would have lower wage costs. Taylor wanted to fix the eyes of all those in the firm on increasing their joint surplus. Hence, Taylor proposed the application of “science” to the question of times for jobs, to discover an “objective” standard by which to measure work. Taylor's method was twofold: analysis of the job into its constituent parts, and timing of these at the quickest speed they could be carried out “without harm or injury to the workmen.” This task was to be carried out by the Rate Fixing Department, who were also to be in charge of organising pay such that these levels of output were attained. Taylor integrated detailed studies of machinery and its performance characteristics into his approach, since he was well aware that machine failure could have a great effect on levels of output. [9]

Taylor followed existing trends, and made no attempt to be a great innovator in working practices. He did not slavishly advocate the division of labour at all costs: in his 1903 text he counsels the combining of tasks to make a “large day's work” for above-average pay. What Taylor did do was to add legitimacy to the divisionalisation of labour by associating it with “science” and, hence, with objectivity. Further, although Taylor did not counsel the actual dividing up of tasks in all cases, he did favour the separation of thinking and doing. He thought this division efficient: the managers should be “thinking” and the workers “doing.” In this connection, he saw himself as calling on managers to take up more

responsibility than they had traditionally accepted, since they had relied on the shopfloor knowledge of workers rather than develop a systematic management database for the organisation of production.

In general, Taylor conceived of subdivision as a means rather than an end. Thus, he was not unaware of the need for markets and of the way markets could limit divisionalisation, as Smith had also realised before him. The payment of high wages was in part seen as generating those large markets, which could in their turn support a highly divisionalised form of labour organisation.

More modern approaches, such as the “reengineering” process, do not much differ from Taylor in their attitude to the human person. Much is made in “reengineering” literature of creating integrated jobs, of devolving responsibility, of teamwork and the like. [10] As techniques, these are certainly very helpful in creating the possibility for more human development in work. However, as is clear from their proponents’ presentations, they are viewed as means to the end of increasing shareholder wealth. Again and again in Hammer’s and Champy’s standard text, *Reengineering the Corporation*, one comes across the assertion that the goal of a reengineering process was “to reduce costs by 30%,” or something similar.

“Reengineered” workers are still instrumentalised, whatever the appearance to the contrary. In other words, were a ruthlessly divisionalised and fragmented set of jobs today’s fashion in strategic management, Hammer and Champy would be advocating divisionalisation and fragmentation. Instead, they happen to be lucky enough to live at a time when more humane working practices are considered sufficient to maximise shareholder wealth. A critique of Taylor at the level of fundamental principles can therefore be extended to most methods of job design recognised today.

4. Critique of Classic Job Design in the Perspective of Laborem Exercens

Taylor was quite open about the goal of his system: increasing the general “pool of wealth” generated by the firm. He thought that the firm was completely described as a generator of wealth, and that his systematic reorganisation of its functions would enable the firm and its members to generate greater wealth, and thus achieve their end or purpose more completely. Initially, Taylor thought he could show this scientifically; by the end of his career, he was preaching it as a kind of economic virtue to which all members of the firm should aspire. Either way, we can see that his idea of the firm was limited merely to its economic, instrumental level. As a result, Taylor’s system offends against the dignity of the human person, since it reduces some people merely to a “pair of hands” and others merely to controls for these human “machines.” Interestingly, however, Taylor emphasised strongly the communal dimension of money-making, the shared activities of the business, while regarding the distribution of wealth among the organisation’s members as secondary. Taylor thus does have some sense of the common goods of the business, at least at the

instrumental level.

Taylor himself can perhaps be forgiven for his limited focus on purely economic gain. He lived through a period of U.S. history marked by exaggerated business cycles: rates of bankruptcy among firms were high; booms followed slumps, aggravated by the effects of stock market speculation; stability was the great economic prize. Firms, like the persons who make them up, can be subjected to circumstances that compel them, for the sake of their survival, to subordinate all else to the achievement of foundational goods. New start-ups or firms in the midst of economic recession could certainly experience circumstances that would dictate they temporarily elevate increased earnings above every other goal.

“Temporarily” is, of course, the crucial qualification: a firm’s deliberate up-ending of the priority of labour is justified only so long as adverse circumstances persist, and only if the re-ordering itself is calculated to help limit and overcome those circumstances. Taylor, like most other business theorists, did not seem to see elevating wealth-creation above every other end as a temporary expedient, but as the very norm and principle of business rationality. Nor did Taylor seem to realise that, as a result, his system was predicated on instrumentalising workers, and therefore constituted a permanent invitation to the bitter, strife-ridden workplace he professed to abhor.

It may seem that the forms of organisation whose history is discussed above must be very distant from modern forms of job design – until one starts looking at these modern forms and realises how close to Taylor they can come. We are told, for instance, that reengineering “. . . posits a radical new principle: that the design of work must be based not on hierarchical management and the specialisation of labour but on end-to-end processes and the creation of value for the customer.” [11] Unfortunately, this principle is not radical enough. It might do away with unnecessary, excessive specialisation (although, recall, Taylor never recommended specialisation at all costs), but it still makes no reference to the basic tenet of work: persons at work need to be respected as ends in themselves and not merely as means for the “creation of value for the customer.” If the economic climate were to change, such that fragmented and dehumanising jobs were considered a sensible way of “creating value for the customer,” no doubt our “reengineering gurus” would be advocating this. Reengineering may appear to offer human gains for the time being, but this basic weakness will eventually undo it, as it has undone other grandiose, similarly limited, schemes.

As Adam Smith, the father of economics, knew, job design is central to the generation of wealth, and so it is not surprising that it is central to the development of the moral character of an organisation. When we directly instrumentalise others with whom we work everyday by assigning them jobs that, as Smith recognised, will make them “as stupid as it is possible for a human creature to become,” it becomes much easier to pay them unjust wages or to deny them any stake in the ownership of the company to boot. [12] These forms of mistreatment go together; they are consistent with treating workers as if they are of less concern than machines.

However, a more insidious form of vice, not unlike Smith's suggestion that workers

who have been stupefied by hours of repetitive toil might somehow be restored through access to education apart from their work, is possible here. A firm might choose to pay workers very well (as Henry Ford did with his revolutionary \$5 a day), and might even offer employees a stake in the company, but if its working conditions or its operating policies were an insult to its employees' very humanity, the former benefits could hardly be accounted compensation. The loss or frustration of the development of the human person cannot be compensated for with material wealth. [13]

However, another thing emerges out of this critique. Given the long history of designing jobs technocentrically, the reorganisation of work along lines conducive to human development can be, and often is, dauntingly difficult. Business leaders who unite unrivalled business acumen with deep practical wisdom will have to show the way out of the unreflective Taylorism which, in one or another contemporary version, dominates the practice of our organisations, colours the thinking of management and labour alike, and cramps our expectations of working life. Only with real commitment to the promotion of the common good and to the development of employees as human beings can we hope to rethink and rehumanise our workplaces. Happily, there have been so positive developments in recent years to help them in this, and we turn to one of these now.

5. Alternative Forms of Job Design

The human-centred approach to workplace design emerged in the mid-1980s. The basic idea behind it is that both human needs and technical possibilities need to be taken into account in the design process. The aim is to foster skill and human development, partly through allowing the worker a choice of operating strategies, so that he really controls the technology, and not the other way around. Opportunities for communication between workers are maximised, as is the integration of planning and thinking with the process of work, so that the human dignity of the worker is reflected in the way work is organised. [14]

The basic tenets of the human-centred approach were hammered out as part of an ESPRIT project (European Strategic Project of Research in Information Technology), which had been set up to design a "human-centred Computer-Integrated Manufacturing (CIM) cell." [15] In this context, a cell is a small, defined production unit, usually containing a combination of workers organised as a group and certain production equipment dedicated to their use. Cells of this kind are favoured by human-centred designers, because they allow some local autonomy and accountability to the workers in the group. [16] Three partners from the UK, Germany and Denmark were involved in the ESPRIT project, and the project teams involved psychologists and sociologists, as well as production engineers and other designers. The lead partner was the Greater London Enterprise Board, interested in promoting the possible results among small businesses in London.

In its course, the project members created a number of devices to aid the designers in thinking and working in a human-centred way. The "scenario" was created to provide an image of the way that the factory's functioning could be made more human, and user

involvement exposed the designers to the criticisms of those who would be using the systems. [17] The interdisciplinary nature of the teams was also important: the engineers and managers had to reckon continually with the importance of criteria other than the generation of wealth in the design of a system. Among the tools to promote a human-centred design, the project groups devised two that were particularly effective.

The first, the “dimensions of work,” provide a checklist for the designers at the organisational level of a design. Each dimension presents dual aspects, “restrictiveness or flexibility,” and thus each is characterised in two ways. It is important to see these dimensions in an interrelated way, even though the project designers found this difficult to implement. [18] In any case, the dimensions represent an important tool for drawing attention to critical aspects of the design in a system that aims to be human-centred.

The seven dimensions are given in the table below. *Time Structure* alerts the designer to look at the time pressures imposed on the worker from outside, and also to look to the worker's control over allocation of his or her time. *Space for movement* draws attention to the possible movement of workers from one place to another, and to restrictions in this regard. *Social Relations* covers the explicit formalization of interaction between workers and draws attention as well to design factors which should permit spontaneous interaction. *Responsibility and control flexibility* stimulates thought on the scope and degree of responsibility available to workers. *Qualification* covers consideration of the abilities required by the worker's tasks as well as the “more comprehensive aspects of personality development and learning as essential human abilities.” [19] Finally, *Stress control* includes the control the worker has over stress-inducing factors, both at the level of human-machine interaction and at the level of work organisation.

At a more detailed level, a set of psychological criteria were also proposed for dealing with the design of the human-machine interface. These have been used in conjunction with the dimensions of work in order to bring human-centred thinking to bear on the design choices made at the detail level of the human-computer or human-equipment interface. They are used to evaluate design options along with the usual technical and economic guidelines. The human-centred approach to technical design is thus seen to give us a set of general assumptions on which to base evaluation of a technical system from the human point of view. It also provides a number of more operationalisable criteria for guiding the assessment, so that the important areas are covered in a way that relates clearly to the assumptions. However, at the same time, we need to be aware of some of the limitations of the human-centred approach.

-
- | | | | |
|-----------------------|---|----------|----------------------|
| 1. Time Structure: | external | time | pressure-deadlines |
| | degree to which operator can plan use of time | | |
| 2. Space for Movement | movement | required | to satisfy job tasks |
| | degree of freedom of movement not required by tasks | | |

3. Social Relations	degree of required communication (to whom and when)	degree of freedom of communication not directly task-related
4. Responsibility and control flexibility	degree of responsibility placed on operator	degree of management of responsibility available to operator
5. Qualification	required level of ability for task	degree to which operator can learn from task
6. Stress Control and	degree to which operator is able to control physical and	mental pressure

Table: Dimensions of Work Source: Slaven, P. (1988) *Application of Social Science to Operator Tasks in CAM*, unpublished paper. [20]

6. Laborem Exercens and the Limitations of the Human-Centred Approach

Human-centred theory suffers from difficulties of application within the design process and also embodies an understanding of the human person somewhat different from that which we have drawn out of LE. Throughout the human-centred CIM project, the designers found it difficult to apply the dimensions of work, the criteria and the other design tools to their work. [21] The holistic methods of the scenario, the interdisciplinary team and user involvement were intended to counteract this problem (which is common to criteria-based approaches). However, the engineers--unused to such synthetic design tools--found this solution only partially satisfactory. Other problems afflict these approaches, too, often concerning different experiences and sets of technical terms used by the users and non-engineers on the design team, and by the engineers themselves. These problems were not clearly resolved during the project and needed further work.

At the level of their understanding of the human person, the human-centred school can be criticised for not taking the social, communal and moral aspects of the human being seriously enough. While they certainly recognise these levels of the human personality, they do not pursue the implications much beyond the level of individual human psychology. [22] For instance, human-centred theory does not give adequate consideration to the interplay between personal satisfaction and the needs of others. Human-centred theorists would agree that work is not exclusively about the pursuit of personal satisfaction, since other people in the work situation cannot be seen as a means to one's own ends, but this critical question is glossed over in the hope that consultative and democratic processes within the group can deal spontaneously with it. From a group of theorists well-acquainted with the political aspect of organisations, this is an oversight.

What these theorists lack is an adequate theory of the common good and of the transcendent dimension of work. In particular, the notion of "self-giving" must figure in the understanding of the way any group works. Giving of oneself is needed in the group, if it is

to work at all. Where self-giving is not explicitly recognised as an element of a human-centred work system, it will tend to be (perhaps gently, but nevertheless really) expected of, or even forced upon, the more vulnerable members of the group, often without those responsible for doing so being aware that this is happening. A less skilled person, for instance, could get put into a position where he is constantly occupied with less skilled but necessary tasks, thus making it difficult for him to develop beyond his present skill level. It might just be necessary for the good of the group as a whole that this happens for a while, but unless the self-giving and personal sacrifice of that person is recognised, the resulting tensions will not be easily articulated or addressed. The appropriate language for doing so is not part of the group's vocabulary for its self-description.

We have, then, a case in which the workgroup has set itself up explicitly for the sake of its members' development through their work. Criticisms from those not finding this proposed satisfaction within the group easily appear as personal attacks on other members. It may well be that manipulation in some form is taking place, but this deformation is not easily discerned in a group which does not recognise itself as a locus of communal self-giving. In fact, *membership* in a group, a felt bond analogous to friendship, requires that one regularly give something up or do something more than necessary for the good of the group altogether. Self-giving of this kind is a necessary part of personal self-fulfilment, though it contradicts the simplistic notion in which "self" effectively swallows "fulfilment." Human-centred theory has yet to incorporate these deeper insights into its appreciation of the nature of the human person, and thus has yet to develop a real notion of the common good, let alone a notion adequate to human experience rooted in a belief in a personal, social and transcendent God.

7. *Conclusions: Laborem Exercens Job Design and the Social Question*

We opened by considering the claim in *LE* that work is the "key to the social question". Can this be substantiated on the basis of what we have discussed in the paper? So far, we have not considered this directly, and such consideration depends in part on what we left aside at the beginning of the paper, that is, the definition of the "social question".

[Division of labour between men and women: work of production and reproduction]

There are three things we could say in favour of this assertion.

Firstly, if work is as basic to being human as *LE* asserts, then it is likely to be of significance for another fundamental aspect of human existence: our primordial, existential, ontological sociality. If we intend "social question" in this fundamental philosophical way, then *LE* has demonstrated the relevance of work to it.

Secondly, if "social question" describes the particular problems of a social (interpersonal, societal) nature that arose as a result of industrialisation, then again, from a historical point of view, it would seem defensible to say that understanding the organisation

and situation of work, providing a critique of it and promoting a more just working order would all contribute significantly to solving the “social question”. Many novelists, essayists and social critics (Marx being only, perhaps, the most famous – following in the footsteps of Adam Smith in this respect) in the last 200 years have focused on the situation of work and workers as part of a more general critique of the problems of the industrial social order.

Thirdly, there is the practical, existential level of our lived experience. Is work a key here to understanding the “social question” as it poses itself in our lives? I think for many of us, we would agree that this is the case. But there is also the question of the structural, policy level of the business. Does job design really matter so much, if we pay people well, provide them with health coverage, make useful products for society and so on? I think that LE more than any document in the church’s social teaching before it makes it very clear that job design is, if anything, *more* important than paying well and giving fringe benefits, since it touches the very core of the personal human development of the worker. Let the firm pay what, to every outward appearance, are just and living wages; let the firm’s husbanding of its resources breathe temperance; let the firm’s spirit of enterprise teach why enterprise is a form of courage: if the central and organising excellence represented by jobs that promote the development and preserve the humanity of those who do them is lacking, no other excellence of the firm is secure. Job design is the acid test of the organisation’s pursuit of the common good, and a basic condition for the development among the organisation’s employees of virtues necessary to sustain the pursuit of the common good. As LE emphasises, the basic principle on which any business enterprise needs to be built is that the organisation of human work should reflect the nature and dignity of the human beings who do it.

On the other hand, present developments in the world of work may make such an assertion more difficult to defend in future. Here we are not suggesting that work will become less important in human development – working is one of the “signs” of being human (LE n.1), and therefore is a given as long as there are human beings – nor that we are entering an era of the famous “End of Work”. Rather, this may happen because work organisation and structures themselves may become less fundamentally connected to the way other social problems (the “social question” in general) arise. In other words, social teaching in its present form, and the centrality of work in the resolving of the “social question” which the Popes treat, is a response to a particular historical socio-economic situation which now seems to be undergoing a major transformation. Just as the question of work did not arise as a major category in Papal teaching before the period of industrialisation, so it may well become less important again, even if the “social question” remains an important theme. We have already begun to see this in the social teaching since John XXIII, where the question of development has come to the fore. Work is clearly closely connected to questions of development, but understanding development could perhaps be increasingly seen as the “key” to this new formulation of the “social question”, rather than work directly.

(As noted at the top of this page, this is a draft, and will be streamlined and improved

for the conference itself)

Notes

[1] See John Paul II, *Laborem Exercens*, n. 12.

[2] See Gen. 1:23.

[3] See Michael Naughton *The Good Stewards* (Lanham: University of America Press, 1992), 5 which points out that people's names often derive from types of work, such as Baker, Smith, Tanner, Farmer.

[4] See Robert Bellah, Richard Madsen, William M. Sullivan, Ann Swidler, and Steven M. Tipton. *Habits of the Heart* (New York: Harper and Row, 1985), 66ff.

[5] Matthew 25:40 (Revised Standard Version).

[6] John Paul II, *Laborem Exercens*, n. 6. The translation is unfortunate: the word rendered "man" here is, of course, *homo*--"human being"--in the Latin original.

[7] I am indebted in this section to Elizabeth Garnsey, with whom I worked on this material for lecture courses in the Engineering faculty of Cambridge University, UK.

[8] The economic context in which Taylor developed his system sheds light on his preoccupations. A slump in 1873-74, when Taylor was just beginning his career, and a depression in the 1880's when he was carrying out some of his experiments, impressed on him the need to control labour and the dangers of bankruptcy if profits were not made. His earlier career also spanned a period of relative technical stagnation, in which steam was experiencing marginal improvements in design, while inventions using electricity were lying dormant, waiting to be developed commercially. In such a period of economic stringency and limited technical improvement, all attention began to focus on labour costs as the one area in which savings by streamlining the production process were possible (Frederick W. Taylor, *Scientific Management* (New York: Harper and Row, 1947) (Comprising of "Shop Management," "The Principles of Scientific Management" and "Testimony Before the Special House Committee").

[9] At the time of Taylor's first publication in 1895, he had decided on four main aspects of his approach: (1) the need for the Rate Fixing Department; (2) the need for a "Differential Piece Rate" system, which depended on a standard pay for a standard output. Anyone who did more or less than this was paid proportionately more or less; (3) as a principle of political economy, that there should be general satisfaction between workers and employers under such a system, because both groups benefit; (4) the understanding of the capabilities of machinery is critical in setting the right rates for jobs (see J. Kelly, *Scientific Management, Job Redesign and Work Performance* [London: Academic Press, 1982], 10).

[10] See M. Hammer and J. Champy, *Reengineering the Corporation* (New York: HarperBusiness, 1993) and M. Hammer and S. Stanton, *The Re-engineering Revolution: A Handbook* (New York: HarperBusiness, 1995).

[11] Hammer and Stanton, *The Re-engineering Revolution*, 11.

[12] Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations: A Selected Edition*, edited with an introduction by Kathryn Sutherland, OUP, 1993, Book V, chap.. 1, part III, p.429.

[13] As John XXIII put it “If the whole structure and organisation of an economic system is such as to compromise human dignity, to lessen a man's sense of responsibility or rob him of an opportunity for exercising personal initiative, then such a system, . . . is altogether unjust--no matter how much wealth it produces, or how justly and equitably such wealth is distributed” (*Mater et Magistra*, 83).

[14] The human-centred approach to work and technical design has developed out of the sociotechnical concern for the joint-optimisation of human and technical systems. The basic assumption behind both theories is that there exist in the firm interacting social and technical systems which operate in an external environment. Within a sociotechnical framework, the aim is to optimise the social and technical systems jointly, neither one taking precedence over the other (Herbst, P.G. (1974), *Sociotechnical Design*, Tavistock, London.). This is clearly a limited development from our point of view, but human-centred thinking goes further. Since the term “human-centred” is new, it is somewhat fluid in its meaning, but it can cover the following basic assumptions:

1. Human-centred technology cooperates with, fosters and enhances human skill.
2. Choices of operating strategy should be as wide as possible; this in turn implies that the human worker controls the technology and not vice versa.
3. Human-centeredness implies a reintegration of thinking, planning and doing, in direct contradiction to the scientific management regime.
4. Opportunities for social communication, formal and informal, should be fostered. Computer-using environments need particular care in this area, since they can be designed to reduce the amount of face to face communication (Weizenbaum, J. (1976), *Computer Power and Human Reason: From Judgement to Calculation*, Harmondsworth, Penguin.)
5. In general, human-centred systems will be safe, healthy and efficient. User involvement in human-centred design is also important but problematic, since users have many, sometimes conflicting, perspectives (Rauner, F., Rasmussen, L. B., Corbett, J. M. (1988), “The Social Shaping of Technology and Work,” *AI and Society*, vol. 2, no. 1, pp. 47 – 61). At the level of basic assumptions, Rauner *et al.* (1988) claim that human-centeredness is “ultimately a subjective concept which cannot easily be translated into operational criteria” (p. 50), while Corbett claims that the term human-centred is not “rigorously defined” (Corbett, J. M. (1988), “The

Theorists see three basic relationships or dimensions underlying the meaning of “human-centred”: work and technology, work and communication and work and learning. Firstly, work is a “primary form of human life expression”: work is not, then, merely a “filling-in” between tasks that can be automated, as it is often treated by production engineers. Work has a more complicated relationship to technology than “technocentric” design assumptions would imply. Closely related to this view is the recognition of communication as a “fundamental human relation.” Communication is an “act of commitment and interpretation,” which closely connects this thinking to the idea in the Christian social tradition of persons forming themselves through their acts. Mechanistic views of communication emphasise the transmitting of information, but here we see that communication influences the work process more deeply, shaping the structures of power, meaning and norms in the firm. Work is also seen as inextricably bound to learning, so that a human-centred work environment can be measured by its “volume of learning opportunities.” Just as firms aim to increase productivity from their production systems, so this should be translated into further development of the workers in the system, through education and training. These concepts: the fundamental need for work, for communication and for learning, allied with the interlinking definitions discussed above, give the basic ground and scope of the idea of human-centeredness. So far, this approach appears to be close to the kind of approach the Christian tradition would favour.

[15] ESPRIT (1987a), Project 1217(1199), *Human-centred Computer Integrated Manufacturing*, introductory brochure; ESPRIT (1987b), Project 1217(1199), *Overall System Specification, Deliverable R9*, unpublished.

[16] The technical advantages of designing CIM systems in cells also influenced the project group's interest in this form of CIM.

[17] In an earlier, longer (unpublished) version of their 1988 paper, Rauner *et al.* produce a scenario of a factory using human-centred CIM technology in which the idea of the “cell” as the basic production unit features strongly. The factory is split into a production, a planning and a design function, but within these divisions, organisation is by product families in production cells. The idea of the “cell” can be applied to other work systems, including those in services, where a particular service is offered and managed by a cell. BICC in their human-centred factory planning system design speak of the cell as the basic production unit (BICC (1988), *Outline of Human-Centred Nature of BICC Technologies CAM Demonstration System*, unpublished paper).

[18] See Slaven, P. (1988) *Application of Social Science to Operator Tasks in CAM*, unpublished paper.

[19] Rauner *et al.*, 1988, p. 56.

[20] Slaven here paraphrases Rauner, F., Rasmussen, L. B., Corbett, J. M. (1987), *The*

Social Shaping of Technology and Work, unpublished (revised version, already cited in footnote 30, in *AI and Society*, (1988), vol. 2, no. 1, pp. 47 - 61).

[21] See Corbett, J. M. (1987), 'Computer-Aided Manufacturing and the Design of Shopfloor Jobs: Towards a New Research Perspective in Occupational Psychology', in Frese, M., Ulich, E., Dzida, W. (eds), *Psychological Issues of Human Computer Interaction in the Workplace*, Amsterdam, Elsevier Science Publishers B. V. (North Holland).

[22] See Naughton's critique of the Human Relations school: "When the psychological nature of the person dominates as the primary category for understanding work [as it does in the Human Relations school], work can become subservient or hostage to various sets of individual psychological needs at the expense of social needs. Herzberg, for example, writes that the individual is an autonomous being. Although the person participates in social groups, this participation itself is undertaken for extrinsic reasons. He writes: 'There is no organic connection between individuals after the umbilical cord is cut; all connections become the inventions and delusions of man. . . .one of the highest levels of psychological growth is becoming an individual. . . . Cooperation with others becomes a means not only of enhancing some fictitious entity, the group, but also of personal enhancement'" (Michael Naughton, "An Organisational Work Ethic Based on the Papal Social Teachings" (Ph.D. diss., Marquette University, 1991), chap. 1.