An Alternative Perspective on Retirement a Dual Economic Approach†

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ABSTRACT
A structural model for examining retirement is presented in the context of a political economy of ageing. Contemporary capitalist economies may be conceived of in terms of macro-level organisation which results in a monopolistic core and competitive peripheral sectors. In turn this configuration serves to colour individual life-experience. Data on differential worker- and work-related characteristics are presented as a means of explicating the need for an alternative perspective to explain later life events. A proposed research agenda based on a consideration of both the status attainment and dual economic framework is put forward.

Introduction

A number of recent articles in this journal and elsewhere have called for the establishing of a political economy of ageing. Valuable though they are, these articles generally do not go far enough in suggesting a viable alternative to the status attainment model wherein late life status is viewed as the accrued result of individual attributes.[1–4] Too frequently they simply point to the importance of social class in determining the status of and resources accessible to the elderly without developing an explanation of how these forces operate. Alternatively, they urge a mode of class analysis but do not go sufficiently beyond the traditional role and status framework based on an occupational hierarchy to foster innovation in empirical research. It is the intent of this paper to tighten

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the focus somewhat, to advance a dual economic perspective as one example of a valuable structural approach useful for making sense of the realities of old age.

In adopting a dual economic approach within what is broadly termed the political economy of ageing, we will attempt to suggest how the daily lives of old people are a result of their systemic location during their working lives. This in turn is directly responsible for the distribution of personal resources which determine the broad reaches of their adjustment patterns. In addition, we will contend that the logic of social support programmes, statutory provisions and all manner of financial or health benefits, derive in large measure from the same economic organisation as governs the workaday world prior to retirement.[4-5] Sectoral placement will be defined below but generally we will use it to mean structural locale, that is, core or periphery, as defined by the dual economic literature. The importance of sectoral differences being that they shape social relations and are relevant contextual factors which colour, to a large extent, what individual workers experience despite their personal attributes. That is to say, supposed deficiencies in human attributes cannot be used as the sole explanatory variable; the nature of the distinctive qualities of the social relations growing out of the economic organisation of the parallel systems must be taken into account. By necessity, the discussion is only a characterisation of what is a subtle and complex form of 'new structuralism':[6] we trust, however, that this will be sufficient to give empirical direction and to bring to ground the global claims alluded to above. Before proceeding to this task we provide a brief overview of established research efforts concerning the concept of financial adequacy (as a proxy for a number of social class variables) and its role in retirement satisfaction, then move to a summary sketch of the human consequences of a dual economic configuration. Since such a view has not yet found its way into gerontology, with only a scattering of exceptions,[7-10] illustrative empirical findings will be utilised to set the stage for a needed research agenda. While the dual economic literature cited is drawn from that appearing in North American social science, we contend it has important implications for social studies of retirement throughout the industrialised world.

Status Attainment and Adjustment Research

As Estes, Swan and Gerald point out in their recent introduction to a political economy of ageing,[1] explanatory frameworks, at least as they are formulated by social scientists in North America, tend to reflect an incrementalist and individualistic approach to the analysis of social problems of old people. Indeed, a close look at retirement satisfaction and adjustment research shows it to be marked by three distinct yet inter-related foci. First, considerable attention has been directed to an evaluation of the relative psychological and social status of retirees. The corpus of research relating retirement to issues of life-satisfaction, morale, alienation, psychological functioning, etc. is indeed large and often adopts some model of a generalised social stratification model as an explanatory framework.[11, 12] The second primary focus deals more explicitly with the nature of financial status in pre- and post-retirement years. Here too a similar inventory of topical areas, plus such things as health, interpersonal relationships, attitudes and so on are all related directly to financial adequacy.[13–15] Finally, in recent years there has been a growing concern with intervention strategies. In this regard there have been calls for extension of pension coverage, pre-retirement planning programmes and changes in social security to promote a better foundation upon which to base adjustment in later life.[16, 17] On both sides of the Atlantic, social scientists have organised the principal thrust of their research efforts around these topics.[18–20]

In nearly all instances the relative decline in financial resources, abetted by personal attitudes towards retirement, is the foundation upon which the research is based.[21] Implicitly, one consequence of these research endeavours has been an over-emphasis on a functional conception of social roles and statuses. Such a statement is not meant to imply a conscious desire on the art of either scholars or government officials to maintain prevailing social conditions. Rather, it implies that we in gerontology take existing structural factors as 'given' rather than as socially created and therefore malleable. By relying on status attainment variables only, we define not only the nature of the *problem* but circumscribe acceptable solutions to that problem. Our explanatory frameworks too frequently... 'lend little support to social policies that might dramatically alter a distribution of resources in favour of the aged or of different classes of aged, for such policies are irrelevant to gerontological theories'.[1]

To some extent this is a consequence of an over reliance on traditional neo-classical economic models. Such a perspective rather absurdly contends that one's old age is just desert for whatever contributions one made to the 'system' throughout the earlier years. In studies of psychological well-being, life-satisfaction, morale and so on, problems of the retired in general are equated to problems of individual resources. This is particularly evident in the case of retirement income, where the

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adequacy of finances is measured relative to earnings while a *productive* worker. In the United States, Britain, and in most industrial countries of the west, government pensions and supplemental benefits are designed to provide a continuation of approximately half a recipient's pre-retirement earnings.[22, 23] While the actual replacement ratios may vary, the story is pretty much the same everywhere. The pre-retirement stratification scheme is maintained subsequent to retirement. The theoretical basis upon which the determination of retirement income is based grows out of the distributive justice dimension of orthodox or neo-classical economic theory. Underlying such a policy is the notion that those who once earned the most, did so because they had invested the most in their careers. In effect they provided the greatest human capital, were the most *productive* and are now entitled to the most generous pensions.

As noted, in nearly all discussions of 'financial adequacy', an underlying contention is that retirement benefits should be a suitable proportion of a worker's earlier earnings. Questions of power relationship or general issues of societal bias need not be addressed, as the competitive assumption maintains that income is the result of supply–demand factors operating at the micro- and macro-economic levels. Differentials based on race, sex, age, unionisation, or monopolies are minor incongruities which, it is maintained, will right themselves shortly in an equilibrating system. Ironically, it was exactly such disparities as those between the races and sexes which led neo-classical economists to develop a model of human capital in the first place. The *justice* of differential reward was predicated on individual attributes or achievements necessary to sustain systemic functioning and objective market conditions which ranked individuals according to societal needs. Yet much gerontological research appears to contend that a levelling process will occur in retirement which will homogenise long-standing differences arising out of just these inequalities.[24]

An uncritical acceptance of later life problems as a result of retirement *per se* or as the consequence of differences in human capital would be misleading.[24, 25] As Walker reminds us,[26] an analysis of the social and economic situation of the elderly must be set in the larger 'context of the prevailing social and economic structure and values...'. In terms of our question, the economic situation of older people, as well as its correlates, is not solely the result of personal investments in human capital, individual choice or initiative. Rather, retirement benefits and experiences may also be viewed as a consequence of structural impositions resulting from location in one of the other principal economic sectors. Occupational history, location of employment and mobility each help to shape social relations before and after retirement. To understand more fully how personal adjustment ensues we must look at all possible factors and explore possible connections which create the need for, as well as the ability to adjust.

Structural Alternatives to Status Attainment

In recent years there have developed a number of studies which challenge this explanatory model. Among these challenges is one characterised variously under such labels as 'structuralism', the 'new structuralism' or 'dual economy' perspective. While there are a number of important differences, generally these models lay stress on the fact that human capital variables, including education, skill or age operate within the context of a segmentalised industrial order which serves to demarcate the lifeworld of individual workers or retirees quite independently of their personal attributes. By way of illustration, despite striking similarities on a number of human capital dimensions – general education, vocational training, tenure with current employer, attachment to labour force and so on – male and female workers reveal marked disparities in terms of reward structures.[27] Or alternatively, black females earn substantially less than their white counterparts even when all possible human capital variables are controlled.[28] Seemingly, comparable investment in human capital attributes will not, in and of themselves, level differential in returns on those investments.[29]

So long as research strategies continue to look only at personal attributes of the individual worker or retiree, explaining differential rewards and opportunity structures for similar investments will remain problematic. The existence of an 'invisible hand' shuffling the labour force according to abilities can no longer be assumed, much as Adam Smith might wish it. Widespread incongruities imply other factors may also be influencing the 'pay-off' accruing to given individual characteristics. In the section to follow one plausible model is outlined. We begin by sketching an overview of a dual economic model in general before moving on to its impact on individual returns and its possible relevance for retirement. The dual economic alternative addresses the uneven allocation of rewards, both during and after one's work life, which result from placement into one of two possible economic sectors – core or periphery. Not only is it contended that financial well-being will be quantitatively greater in the core, but in the retirement years it will derive from qualitatively different sources. In a nutshell, governmental policies concerning retirement benefits and the existence of augmenting programmes will reflect this basic division. In the United States, these will revolve around a combination of social security, private pensions, personal assets or investments, savings, or real property, in the first instance; social security, supplemental security income or various other forms of means-tested welfare entitlements in the latter case. For those retiring from the peripheral sector, private pensions or extensive personal assets will be relatively rare. As a consequence, the retirement experience can reasonably be expected to reflect fundamentally different issues and any gap which exists between the two sectors.

Dual Economic Models

Dual economic theory, or industrial segmentation as it is also called, provides an alternative paradigm for the analysis of income and income-related factors in both pre- and post-retirement years. While it is possible to differentiate modern capitalist systems according to a number of possible schemes, we contend the dual economic model is crucial in structuring the lifeworld of older persons. Such a view evolves out of the writings of Baran and Sweezy,[31] Averitt,[31] Bluestone[32] and O'Connor.[33] In sociology, the foremost advocates have been Beck, Horan and Tolbert.[29, 34] Generally speaking the model conceives of the business sector as consisting of more than one mode of economic functioning rather than the openly competitive system-wide model formulated by neo-classical theory. In nearly all respects, it is maintained, workers '...face fundamentally different conditions and operate according to fundamentally different rules'.[29] Such differences stem not from worker characteristics or labour market conditions, as is the case in the closely aligned dual labour market and labour force segmentation perspectives, but from the sectoral structure of present-day industrial organisation. Averitt's cogent précis of the dual economic structure of contemporary American business provides an excellent summary (his use of 'firms' should be read as an equivalent to 'industry').

The center firm is large in economic size as measured by number of employees, total assets and yearly sales. It tends toward vertical integration (through ownership or informal control), geographic dispersion (national and international), product diversification, and managerial decentralization. Center firms excel in managerial and technical talent: their financial resources are abundant. Their cash flows are large...Their markets are commonly concentrated. Taken together, center firms make up the center economy.

The periphery firm is relatively small. It is not integrated vertically, and it may be an economic satellite of a center firm or cluster of center firms.

Periphery firms are less geographically dispersed, both nationally and internationally. Typically, they produce only a small line of related products. Their management is centralized, often revolving around a single individual... Financial limitations pose a major problem to periphery firms; their cash flow is smaller... periphery firms usually inhabit relatively unconcentrated markets.[31]

The dualism described results from a radical shift in the organisation of modern capitalism, which has left a significant share of productive capacity in the hands of a relatively small monopoly. Though it has since spread throughout the industrialised world, the beginnings of the process can be traced to the railroad era in the United States (the last quarter of the nineteenth century), when a process of horizontal consolidation was initiated which led to a rapid conglomeration of manufacturing. By the onset of the present century, the economic system had been transformed into a monopolistic core which held sway over, in fact encouraged, a competitive periphery.[30, 31] As characterised by Bluestone, Murphy and Stevenson:

The core economy includes those industries that comprise the muscle of American economic and political power... Entrenched in durable manufacturing, the construction trades and to a lesser extent, the extraction industries, the firms in the core economy are noted for high productivity, high profits, intensive utilization of capital, and a high degree of unionization. What follows normally from such characteristics are high wages. The automobile, steel, rubber, aluminium, aerospace, and petroleum industries are ranking members of this part of the economy. Workers who are able to secure employment in these industries are, in most cases, assured of relatively high wages and better than average working conditions and fringe benefits...

Beyond the fringes of the core economy lies a set of industries that lack almost all of the advantages normally found in center firms. Concentrated in agriculture, nondurable manufacturing, retail trade, and sub-professional services, the peripheral industries are noted for their small firm size, labour intensity, low profits, low productivity, intensive product market competition, lack of unionization, and low wages. Unlike core sector industries, the periphery lacks the assets, size, and political power to take advantage of economies of scale or to spend large sums on research and development.[35]

Obviously such worker experiences as underemployment, job instability, low wages, access to a wide range of opportunities both during and after working life – including retirement adjustment – could easily be affected by these sectoral differences in industrial capitalism.[29] The core encompasses those jobs in which employment is stable, turnover low and wages high. For the most part, positions within the core are part of an internal mobility ladder, so that upward movement is possible and individual attributes are often used to mediate entry. Positions in the periphery are characterised by relative instability as there is less need to maintain continuity in the labour force. They are marked by high unemployment, high turnover, low wages; they are jobs which do not provide as ready access to pathways for upward mobility. We contend that by its very nature, the core sector provides the higher returns, pension planning, insurance programmes and fringe benefits which promote optimum adjustment in later years. In contrast, placement in the periphery will effect a 'dampening' of these and a number of related areas.[5, 29] Even so fundamental a consequence as lifetime earnings will not just be based on education, occupational mobility, aptitude, sex, race or any of the other individual attributes traditionally pointed to as causal factors.

Social Consequences of Sectoral Placement

The conceptual literature dealing with the growth of monopoly capitalism is intrinsically interesting; for our purposes, however, the question is the extent to which it colours the lifeworld of individuals. Does the political economy of capitalism, as Phillipson asks,[25] make a difference? Is the socioeconomic experience of persons from either core or periphery unique? Let us proceed to answer such questions by means of a preliminary indication of some of the empirical evidence of the impact of sectoral placement on human beings. By doing so we should be in a better position to speak to the relative economic and social circumstances found among the elderly.

In an early effort to determine whether such characteristics as income, education, race, or sex vary by sectoral locale, Beck, Horan and Tolbert analysed data on 1,683 workers from the General Social Surveys of 1975 and 1976 in the United States.[29] Utilising a scheme of industrial sectors adapted with slight modifications from Bluestone, Murphy and Stevenson,[35] they developed an internally homogeneous dichotomy based on the industrial features described earlier. Employing this as their independent measure, they then subjected their individual-level human capital variables to a regression analysis to determine any possible differences in rates of return. To begin with, core workers were significantly better paid and revealed less internal discrepancy in terms of income dispersion. Not only did workers from the periphery earn less and demonstrate wider variability but they were also twice as likely to earn at or near poverty-level wages. On all counts, peripheral placement resulted in greater economic disadvantage. Furthermore, core workers were advantaged in terms of parental status and their own educational level; they were also more likely to be white, male, work full time, work more hours per week and belong to a union. Peripheral workers showed greater heterogeneity in hours worked, length of work week and frequency of part-time work. There were not, however, differences between the two sectors in age distribution of workers or, surprisingly, current unemployment or long-term unemployment histories. As Beck, Horan and Tolbert say in their attempt to explain the absence of expected differences on these latter variables, the insensitivity of their empirical measures and the nature of the NORC surveys themselves may account for the similarity in the two sectors. Despite this one area of non-variance, they conclude there are meaningful differences demonstrated by the dual economic bifurcation which do not disappear when 'quality of the two labour forces' is controlled. In short, there are demonstrable differences in economic sectors 'which cannot be explained by the racial, sexual, human capital, or occupational characteristics of their respective labour forces'.[29]

In terms of age *per se*, or as a proxy for labour market experience, male income increases proportionately in each economic sector for each additional year but real dollar gains are greater in the core. For females and non-whites there are 'significant negative effects' for core membership, but these do not appear to be operative in the periphery. Interestingly, for those females in the core, age is positively related to earnings, while the same does not hold for women in the periphery. Seemingly, once 'channelled' into the periphery, marginality ceases to profoundly affect economic well-being beyond that imposed by placement in the sector itself. Not surprisingly, this fact in itself may inadvertently misrepresent the effects of human capital variables as it confounds within- and between-group differences.

In a later attempt to identify some of the substantive empirical indicators stemming from industrial segmentation, Tolbert, Horan and Beck[34] looked more closely at the work situations and socioeconomic experiences of workers. Utilising a refined measure of industrial sectors (see Appendix A for enumeration), they aggregated the 215 industrial categories formulated by the U.S. Census into 55 industry types. Using this industry-level data they then ascertained socioeconomic impact on the labour force. As is apparent from their table reprinted here (see Table 1), there are significant differences on all dependent variables. Also shown on the table are the zero-order correlations between the human capital variables and a continuous measure of economic placement rather than just the dichotomised classification; the purpose of this two-step reporting will be discussed below.

Without belabouring what the authors of the table make clear, all human capital-dependent variables are coloured by the sphere in which

TABLE I. *Descriptive statistics from 1976 CPS by dichotomous and continuous segmentation indices*

Characteristic	Means by sector: Core (N = 27,918)	Means by sector: Periphery (N = 34,658)	l = ratio	Correlation with continuous Index
Annual earnings	10,637.957 (8,077.570)	6,198.071 (6,627.535)	−76.132*	0.296*
In annual earnings	8.828 (1.434)	7.877 (1.956)	−67.844	0.289*
Sex (1 = male)	0.707 (0.455)	0.461 (0.498)	−63.639*	0.287*
Race (1 = white)	0.910 (0.286)	0.888 (0.315)	−9.030*	0.026*
Years of schooling	12.348 (2.770)	12.287 (3.096)	−2.564*	0.075*
Occupational prestige	40.353 (13.101)	36.116 (14.970)	−37.184*	0.237*

Note: standard errors in parentheses.
*P = 0.01.
Source: Tolbert, C., Horan, P. M. and Beck, E. M., 'The Structure of Economic Segmentation: A dual economic approach', *American Journal of Sociology*, **85** (1980), 1095–1116.

a person works. There are substantial differences on the two measures of income, on sexual composition (females account for 29.32 per cent of the core labour force but 53.86 per cent of the periphery) and on race (9.01 per cent vs. 11.2). There are relatively more modest differences of less than one year of education, but rather marked dissimilarities in mean occupational prestige. The contrasts may be a little less clear with the continuous measure, but nevertheless differences do exist. As Tolbert, Horan and Beck point out themselves, researchers may select either classification scheme depending on how concisely their conceptual model paints the qualitative effects of industrial configuration on social consequences.[34]

In our own analysis of tiered placement within sectors, a similar result obtained. Analysing respondents in the five per cent Neighbourhood Characteristics sample, generated from the 1970 Public Use Sample of the United States Bureau of the Census, we discovered proportionately more females, blacks and part-time workers are employed in the periphery at lower wages. Interestingly, within-sector placement of females also revealed a distinctive pattern. In the core, women work primarily in lower-ranking occupations; in the periphery no such pattern could be identified. These trends are not apparently due to educational distribution; either between the two sectors or between male and female participation in the labour force. Congruent with the results reported by Tolbert, Horan and Beck, we found mean income differences between peripheral workers of higher and lower status were not as pronounced as those in the core.[36] In explaining the greater homogeneity in income within the periphery we can only assume that the status hierarchy does not necessarily carry financial advantage.

Providing additional evidence of structural differences relevant for individual workers, Tolbert examined mobility patterns within and between sectors.[37] By utilizing longitudinal data on career patterns collected by the U.S. Bureau of the Census, under the rubric of the National Longitudinal Survey between 1966 and 1975, Tolbert was able to look at male mobility during early, middle and late career phases. While this is not the place to reiterate the many advantages of the longitudinal quality of the data base, suffice it to say that it permits an examination of careers over and through a remarkable historical period – from the Depression to World War II, to the recession of the 1950s, and on up until the mid-1970s. It also allows for a close look at mobility by age between as well as within the two sectors.

In early and middle career phases, considerable intra-sectoral movement was found while relatively little occurred between sectors (26 per cent moved across sector boundaries). Those men who began their careers within the core had achieved higher prestige occupations and moved farther by 1966 than had their counterparts who had begun and remained in the periphery. Ten years later the sample cohort was aged 50–59 and late-career patterns appeared to have become rather settled with much less overall mobility. Movement within or between sectors had virtually ceased and even some modest downward drift in occupational prestige occurred; these declines (−1.2 points) were most evident in the core, while the periphery was marked by slight gains overall (+.06). Shifting his focus to an examination of adjusted incomes, Tolbert found peripheral workers had lost ground while core workers were making more in real dollar terms despite the erosion of occupational prestige. Extrapolating from Tolbert's discussion, it appears probable that sectoral locale at retirement is likely to have been locale for at least the preceding ten to fifteen years. In three out of four instances it will also have been the worklife-long placement regardless of upward mobility within sectors. In terms of preparation for and financial resources during retirement this fact cannot be ignored or over stressed.

Utilising still another data set and, it must be pointed out, following a different theoretical model, Henretta and Campbell[11] assert that the factors operative in establishing retirement income are inexorably those

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which determined income before retirement. Not surprisingly, the availability of alternative personal assets, which can be liquidated during the retirement years to finance current expenditures, goes hand in hand with the size of retirement income.[22] In fact, it also stands to reason that in any earnings-based system of social security, the bulk of those retiring from the core are likely to receive larger pensions/social security payments by virtue of their greater annual income in the years immediately preceding retirement and more stable work histories.[38] For those retiring from the periphery, the prospects of supplemental benefits to augment meagre government pensions are hypothesised to be greater.

Adducing still further evidence regarding the impact of sectoral differences, Calasanti[8] scrutinised the usual status attainment variables which have been identified as relevant in adaptation to retirement but cast them within the framework of a dual economic model. Drawing on an aggregated six-year sample (1972–7) of retired males drawn from the General Social Survey in the United States, she looked at differences in subjective assessments of life-satisfaction, general questions of happiness plus an indication of anomie. By means of stepwise multiple regression procedures, Calasanti identified the order of importance of various constitutive components in each of her global dependent variables. While her results were somewhat mixed, she maintains that sectoral placement 'rendered distinct groups of retirees'. Consistent with the inequalities the model itself implies, financial concerns are far more important for life-satisfaction in the periphery, while health at first appeared to be equally meaningful for the subjective well-being of all retirees. Yet on closer inspection, health entered first for a global measure of happiness among core retirees but last in the periphery. Concluding that structural factors were also entering into the amount of variance explained, Calasanti asserts that relative priority of sub-elements of her global measures differs in the two sectors. In fact, she goes on to note that the different patterns she found in her two groups may necessitate a closer look at measures of adaptation if additional structural analysis unearths supporting information; general measures of well-being simply may not provide precise enough data to identify differences in the two sectors. Conceptually, such a contention makes imminent sense since it derives from a crucial premise of the dual economic model; worker experiences are concomitants of structural factors conducive to the methodology of industrial capitalism.

The last example of the relevance of a dual economic perspective for gerontology stems from our own efforts to identify possible sectoral differences in private industrial pension coverage in the United States.

TABLE 2. *Selected private pension coverage by economic sector in the United States*

Core economy	Percentage covered by pension plan	Peripheral economy	Percentage covered by pension plan
Communications and public utilities	82	Manufacturing: non-durable	57
Mining	72	Wholesale trade	48
Manufacturing: durable	63	Retail trade	31
Finance, insurance, real estate	52	Services	29
Transportation	45		
Construction	34		

Source: Adapted from Walter W. Kolodrubetz, and Donald M. Landay, 'Coverage and vesting of full-time employees under private retirement plans'. *Social Security Bulletin*, **36**, (November 1973), 21.

Adapting data to fit a dual economic classification, Table 2 provides a preliminary indication of the breadth of coverage thought to be characteristic of those industries designated as belonging to the core or periphery.

Though Table 2 is somewhat dated now, due to changes in union agreements and legal requirements, it does suggest that the breadth of coverage is clearly more extensive in the larger industries of the core. Commenting in 1981 on the work situation of individuals not covered by private pension plans, the President's Commission on Pension Policy lent testimony to the continuing nature of the problem when it reported in the United States: 'approximately 93 per cent of the uncovered work in firms with fewer than 500 employees and 79 per cent work in firms with fewer than 100 employees'.

Even when the small enterprises of the periphery do manage to provide a modicum of pension coverage, the probability of workers receiving benefits over and above their social security payments is not very great. Unfortunately, plans now in operation in the United States to integrate small-scale private pension programmes and public support may actually reduce or even deny the accumulated coverage to those workers whose earnings in the years immediately prior to retirement have not exceeded the social security wagebase.[40]

However well intentioned they may be, the reality of the situation among peripheral business concerns is that a variety of factors inhibit the development of supplemental pension schemes. First, the managerial expense imposed by the very federal (ERISA) regulations meant to safeguard vested funds precludes many borderline profitable firms from establishing retirement plans. Second, business failures being greatest among marginally profitable peripheral businesses, portend the folding of existing plans. In the 1975–7 period, pension plan terminations resulted primarily from bankruptcy liquidations brought on by deteriorating financial status among those firms which had 23 or fewer participants.[41] Third, federal incentives, in the form of tax advantages, differentially favoured larger business enterprises. Among those businesses which would fall into the peripheral category, a 17–40 per cent tax reduction occurred per dollar allocated to pension funds. In the larger, more prosperous firms, many of which could be classified as belonging to the core, a 46 per cent tax reduction was the norm.[39] Finally, the interrupted, unstable or part-time nature of the work experience, felt by advocates of a dual economic model to characterise workers employed in firms whose economic behaviour is thought to be responsible for such patterns, means a lowered likelihood of consistently covered employment and therefore pension coverage.

The same pattern may arguably be said to hold true in Britain. The uneven access to occupational pension schemes has led to the emergence of what Walker termed 'two nations' in old age. Among the several million or so workers in Britain who are not eligible for occupational pensions the majority may well be found to come from peripheral jobs. Furthermore, Walker also suggests that the least favourable pension plans, measured by mean levels, lump-sum payments and so on, may also be characteristic of those types of workers or occupations we contend are most likely to be part of the periphery. As Walker himself put it, '...there are wide inequalities amongst elderly people in British society based on differential ownership of assets and right to income'.[3] Perhaps a re-examination of hitherto unexplained differentials in health income and other measures of personal well-being utilizing a dual economic template will shed additional light on the old age outcomes of economic structure.[42,43]

Developing a Research Agenda

To date, the dominant paradigm in social gerontology has been one which casts individuals and their personal attributes as the appropriate unit of analysis in nearly all ageing research. In recent years there have been increasing calls for an alternative model which concentrates instead on the normative imperative of structural arrangements. As the mode of production moves farther along the continuum of labour-intensive to capital-intensive to technology-intensive processes the impact on the worker is not likely to lessen. Similarly, the effects of

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inflation, recession and taxation are likely to show sectoral differences. The examination of the generalised social import of a dual economic configuration which has been presented here may offer a concrete alternative for analysing financial well-being and its many ramifications in the retirement years. The data presented are themselves enough to buttress the claim that something other than just human capital variables is affecting the lifeworld of individuals. Our examination of sectoral differences points to structural inequalities that arguably carry over into old age and will help to locate old people within the context of basic social and economic structures. As Estes, Swan and Gerard make clear, it is not sufficient to point our finger at economic shortfalls or benefit loopholes as a major problem.[1] We must examine whether statutory provisions, levels and, most importantly, social-psychological well-being do in fact reflect economic structures. A dual economic model integrated into gerontology may allow researchers to enhance their predictive accuracy – which until now has not been particularly admirable – and to develop a better sociology of ageing by pinpointing some of the macro-level processes which serve to impose a dependent status on many elderly almost irrespective of their personal skill, attributes or ability to cope with the onset of old age. Such an effort will move us beyond a rather enervated form of class analysis derived from the tautology of occupational hierarchies toward a dynamic structural perspective on the social relations of later life.

While maintaining that the organisation of modern capitalism exerts considerable suzerainty over individual experience, we are not attempting to say there is no vertical stratification within sectors or that human capital does not make a difference. Rather, we are claiming that the monopolistic pattern empirically identifiable in capitalistic industrial systems serves to circumscribe access to a wide range of opportunities for the elderly. The critic may attempt to brush aside such a claim by asking if it is not ideologically based. The answer is, simply, as philosophers of science have tried so hard to make understood, all 'scientific' paradigms are like spider's webs, catching only what they are designed to catch. Perhaps if gerontologists are willing to test a dual economic framework we can either discard the model or begin to make some real headway on many of the problems facing the elderly.

In the United States the viability of the dual economic scheme has been tested, and industry coding criteria are available in the literature (see Appendix A). The next steps in a research agenda will be to utilise existing data bases to compare further the individual retirement model, to develop integrations of the two frameworks where appropriate, to examine a range of relevant topic areas in the day-to-day lives of the elderly, and finally to suggest the most appropriate intervention strategies under the circumstances. Our own next step is a continuation of our efforts to identify what, if any, sectoral differences exist in terms of pension coverage and social security arrangements. As part of this effort we will attempt to trace the allocation of Supplemental Security Income to see if these welfare payments are differentially distributed. If material benefits reveal a systematic bias then the task will be to sort out the social-psychological consequences of sectoral locale.

In Britain, a first step will be to test the applicability of the dual economic industry classification to the mode of economic organisation in that country. Archival data on labour statistics and employment histories are available from the various censuses, from the surveys carried out under the aegis of the Ministry of Labour and from myriad other sources. As the Standard Industrial Classification (SIC) code has been in use for the last thirty years, with some modifications,[44] compilation of an index comparable with that of Tolbert, Horan and Beck should pose no particular difficulty. Alternatively a conceptually derived index based on the peculiarities of British industrial organisation may be necessary. Once such a typology has been created, it will then be possible to categorise data from the National Insurance Fund, or from other sources on the 85,000 different occupational pension schemes serving 3.7 million pensioners in the United Kingdom to see if a differential distribution is forthcoming. Similarly, an analysis of revisions mandated by the Social Security Act of 1975 to benefit plans may help to establish the utility of the dual economic framework. If in either case distinctions do appear, if there is a difference in who gets what from the state, appropriate remedial intervention strategies can be pointed out. Should the model appear to be supported by convincing evidence, a radical reorientation of social psychological research will then be warranted.

In other countries throughout the industrial world similar enquiries must be launched if gerontological research is to avoid taking as given the inequalities imposed by the system. To do otherwise will be a pernicious error. Dependency, lack of reasonable pension provisions, economic hardship do not just happen; each reflects a predominant value orientation which once identified can illuminate the philosophy underpinning the elderly experience.

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Appendix A. United States industries, census codes, and sectoral assignment

Industry	1970 Census code	Sector*
Agriculture, forestry, fisheries		
Agricultural production	017	Periphery
Agricultural services	018–28	Periphery
Mining		
Metal mining	047	Core
Coal mining	048	Core
Crude petroleum and natural gas	049	Core
Non-metallic mining and quarrying	057	Core
Construction		
General building contractors	067	Core
General contractors, except building	068	Core
Special trade contractors	069	Core
Non specified contruction	077	Core
Manufacturing – durable goods		
Lumber and wood products	107–9	Periphery
Furniture and fixtures	118	Periphery
Stone, clay, and glass products	119–38	Core
Primary metal	139–49	Core
Fabricated metal products	157–69	Core
Machinery, except electrical	177–98	Core
Electrical machinery, equipment	199–200	Core
Motor vehicles and equipment	219	Core
Other transportation equipment	227–38	Core
Professional, photographic, watches	239–57	Core
Ordnance	258	Core
Miscellaneous manufacturing	259, 398	Periphery
Manufacturing – non-durable goods		
Food and kindred products	268–98	Core
Tobacco manufacturers	299	Core
Textile – knitting mills	307	Periphery
Textile – dyeing and finishing	308	Core
Textile – floor covering	309	Periphery
Textile – yarn, thread, fabric mills	317	Core
Textile – miscellaneous products	318	Periphery
Apparel and other related products	319–27	Periphery
Paper and allied products	328–37	Core
Printing, publishing	338–39	Core
Chemicals and allied products	347–69	Core
Petroleum and coal products	377–8	Core
Rubber products	379	Core
Miscellaneous plastic products	387	Periphery
Tanned, curried and finished leather	388	Periphery
Footwear, except rubber	389	Core
Leather products, except footwear	397	Periphery
Transportation, communications, and other public utilities		
Railroads and railway express	407	Core
Street railways and bus lines	408	Periphery
Taxicab service	409	Periphery
Trucking service	417	Core

Industry	1970 Census code	Sector*
Warehousing and storage	418	Core
Water transportation	419	Core
Air transportation	427	Core
Pipelines, except natural gas	428	Core
Services incidental to transportation	429	Periphery
Communications	447–9	Core
Electric, gas, and steam power	467–9	Core
Water, sanitary, and other utilities	477–9	Periphery
Wholesale trade		
Motor vehicles and equipment	507	Periphery
Drugs, chemicals, allied products	508	Core
Dry goods and apparel	509	Periphery
Food and related products	527	Core
Farm products – raw materials	528	Periphery
Electrical goods	529	Core
Hardware, plumbing, heating supplies	537	Periphery
Not specified electrical, hardware	538	Periphery
Machinery, equipment and supplies	539	Core
Metals and minerals, n.e.c.	557	Core
Petroleum products	558	Periphery
Scrap and waste materials	559	Periphery
Alcoholic beverages	567	Core
Paper and its products	568	Periphery
Lumber and construction materials	569	Periphery
Wholesalers, not specified, n.e.c.	587–8	Periphery
Retail trade		
Lumber, building materials, hardware	607–8	Periphery
Department, general merchandise stores	609–27	Periphery
Food stores	628–38	Periphery
Motor vehicles, gasoline, accessories	638–49	Periphery
Apparel and shoe stores	657–8	Periphery
Furniture, household appliances	667–8	Periphery
Eating and drinking places	669	Periphery
Other retail trade	677–98	Periphery
Finance, insurance, and real estate		
Banking	707	Core
Credit agencies	708	Core
Security brokerage and investment	709	Core
Insurance	717	Core
Real estate	718	Periphery
Business and repair services		
Advertising	727	Periphery
Automobile repair	757	Periphery
Other business services	728–49 758–9	Periphery
Personal services		
Hotels and motels	777	Periphery
Other personal services	769, 778–98	Periphery
Entertainment and recreation services	807–9	Periphery
Professional and related services		
Offices of physicians, dentists, practitioners, and health services	828–37 847–8	Core
Hospitals, convalescent institutions	838–9	Periphery

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Industry	1970 Census code	Sector*
Legal services	849	Core
Educational services	857–68	Periphery
Museums and other non-profit firms	869–87	Periphery
Engineering and architectural firms	888	Core
Accounting and auditing services	889	Core
Miscellaneous professional services	897	Core
Public administration	907–37	Core

Source: Adapted from Tolbert, C., Horan, P. M. and Beck, E. M. The structure of economic segmentation: a dual economic approach, *American Journal of Sociology*, **85** (1980), 1110–1111.
*See original text for procedures used to allocate industry to sectors.