

Neoliberalism's Fate: Implications for Education

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Introduction:

Constructed to popular acclaim upon the social ruins left by the Great Depression, social democracy was flying high through the economic boom decades of the 1950s and 60s until it was diagnosed to be terminally ill in the 1970s. It had been under attack for some time for its failure to deliver on its promise to manage capitalism in a fair way. What really signaled the end, however, was its failure to deal with the economic crisis brought on by the oil shock.

Out of the ensuing chaos came clarity. A new programme emerged; one that had an analysis unfamiliar to most, which set out the flaws of social democracy and the Keynesian economic model on which it was based, and proposed a clear set of alternatives. Neoliberalism, its advocates argued, was not simply an alternative to social democracy, it was the only alternative. Announcing itself with the election of Ronald Reagan in the US in 1979 and Margaret Thatcher in the UK the following year¹, the neoliberal project had transformed almost every human society on earth by the turn of the century.

Three decades after it burst onto the world stage, neoliberalism recently appeared vulnerable for the first time. Just as none of the pulleys and levers of Keynesian economic management could deal with the scourge of stagflation in the seventies, the magic of the markets promised by neoliberalism appeared to be both responsible for and incapable of dealing with the global financial meltdown that was triggered by the collapse of the American sub-prime mortgage market in 2007.

Neoliberalism's usurpation of social democracy was thorough. It involved radical reform of almost every aspect of society, with education being particularly important. The social democratic model of education had no place in the brave new world of neoliberalism.

This paper examines the rise of neoliberalism and its influence over educational theory and policy. In particular, it considers neoliberalism's attack on one of the central aspects of the social democratic model, egalitarianism. It also considers the extent to which the current financial crisis provides an opportunity to move beyond neoliberalism.

¹ The world saw what turned out to be a preview with the Chilean economic experiment that began with the US-backed coup on 11 September 1973.

The Emergence of Neoliberalism

In barely a generation, neoliberalism came to dominate and define the way that most countries in the world organized their economies, their social policies and the means by which they related with other countries. At a global scale, neoliberal policies led to the transfer from public to private ownership of US\$1,230 billion worth of assets during the 1977–2003 period in what Bortolotti and Faccio describe as ‘arguably the greatest transfer of ownership in the history of the corporation’ [2009: 2907]. The neoliberal project ushered in a globalized network of interlocking agreements and institutions dedicated to promoting the deregulation of trade, financial exchange and even social policy at national, regional and global levels. Key amongst these is the World Trade Organization which supports and is, in turn, buttressed by a number of regional free trade agreements and a host of bilateral arrangements.

Neoliberalism emerged in different ways in different countries. In some, such as the US and the UK, politicians and parties campaigned openly and won elections with neoliberal policies. In other countries, such as New Zealand, parties did not show their neoliberal colours until after they had been installed in government. Roger Douglas, New Zealand’s Minister of Finance who masterminded its neoliberal reforms, is remarkably frank about the tactics that were necessary to implement neoliberalism over the objections of an unwilling public, to the point of describing the process using military terminology². In the world’s poorest countries, institutions like the International Monetary Fund and the World Bank imposed neoliberalism in the form of structural adjustment policies, made possible by the need of these countries to restructure their loans in the face of crippling levels of debt.

The capacity of neoliberalism to establish itself so extensively and so rapidly was derived, in part, from its simple one-size-fits-all formula for reform. Just as no country would be recognized as having political, economic or cultural circumstances that would render neoliberal reforms inappropriate, so too no sector within a society could claim immunity either. Where neoliberals were unable to immediately privatize an activity of the state, they sought to corporatize it through policies that required state-owned agencies and enterprises to operate as corporations and, in most cases, return a surplus. In sectors where a degree of state funding remained, the level of public funding was typically reduced and the mode of funding reorganised by the introduction of ‘user-pays’ approaches. Residual state services were, wherever possible, funded separately from their provision, with a preference for private provision and competitive markets.

In this way, the neoliberal project gave rise to competitive, individualized models of social and economic organization to replace social democratic ones that

² ‘Do not try to advance a step at a time. Define your objectives clearly and move towards them in quantum leaps. Otherwise the interest groups will have time to mobilise and drag you down... Once the programme begins to be implemented, don’t stop until you have completed it. The fire of opponents is much less accurate if they have to shoot at a rapidly moving target. If you take your next decision while opponents are still trying to mobilise against your last one, you will continually capture the high ground ... and force them to fight uphill.’ [Douglas, 1993: 220-1]

sought, whether successfully or not, to foster more cooperative ways of operating. The neoliberal approach was said to correspond with the essential nature of humans, who were defined as autonomous individuals who were 'rational utility maximisers' [Codd, 1999: 46].

Neoliberal Education

Although argued by many to be an inappropriate target for neoliberal reform, and a sector where neoliberals have encountered considerable resistance, education was a priority for neoliberalism. In New Zealand, for example, two of the most influential neoliberal entities, Treasury (a government department) and the Business Round Table, went to extraordinary lengths to influence educational policy. Treasury's briefing to the incoming government in 1987 ran to two volumes, one of which was devoted entirely to advocating a neoliberal approach to education [Treasury 1987], while the Business Roundtable set up a neoliberal lobby group called the Education Forum. This was part of a global trend that saw the emergence of neoliberal educational think tanks in many countries [Doherty, 2007: 275].

At the same time, influential neoliberal players in the burgeoning global economy took a renewed interest in education. The OECD was described by Lingard [2001: 28] as 'proselytising' its neoliberal managerialist model of education. Within the WTO, education was defined as a service, bringing it within the realm of the General Agreement on Trade in Services (GATS) which promoted the global deregulation of service industries. The World Bank had by 1990 become the single largest source of external financing for education in developing countries, declaring that its 'main contribution must be advice, designed to help governments develop education policies suitable for the circumstances of their countries. Bank financing will generally be directed to policy change' [World Bank, 1995: 14-15]. The power of the World Bank is derived in no small measure by its capacity, as Schugurensky has pointed out, 'to concentrate research, funding and policy formation under one roof' [2003: 296].

The neoliberal educational agenda included components such as merit pay for teachers, a resurgence in standardized testing, the introduction of user-pays regimes and, wherever possible, privatization; failed policies, argued Klees, which had been based on misleading analyses [2008].

At the national and global levels, neoliberal forces sought to bring educational policy into line with the new way of organising society. Like the neoliberal economic reforms that preceded them, the restructuring of education would be implemented irrespective of public opinion. Educationalists who sought to influence public debate against the changes were dismissed as merely seeking to 'conceal their vested interest in exemption from reform' [Douglas, 1993: 227]. Again in line with the broader neoliberal restructuring, the education reforms also came with an ideological accompaniment. As Docherty notes, the new educational discourse 'reverberated with ideas such as freedom, choice, standards, excellence, tradition and parents' rights' [2007: 276]. Absent from his list and from the neoliberal economic, social and educational project is arguably the central aim of social democracy, to promote equality or at least minimize inequality.

Equality under Siege

In the name of equality, social democrats had introduced and maintained over several decades policies designed to redistribute wealth at the expense of the rich (through, for example, progressive taxation policies) and to the benefit of the poor (through, for example, welfare entitlements and public services). At a more fundamental level, social democracy sought to promote equality by providing citizens with extensive and equal access to what was seen as the primary vehicle for social mobility, education.

The need for neoliberals to downplay equality arises from the fact that increased inequality is one inescapable consequence of introducing neoliberal reforms. In Britain, for example, the richest one percent of the population was receiving six percent of all income in 1980 and, after twenty years of neoliberal reforms, this has increased to 12.5 percent [Picketty, 2007: 12]. In part, greater inequality is the intended result of policies of cutting taxes for the rich and cutting benefits for the poor; deliberate moves away from policies of wealth redistribution. It is also, more broadly, the outcome of weakening or removing controls that were helping to lessen the capacity of wealthy and powerful people to unduly exploit these advantages to extend their positions of relative prosperity. One example of this was the weakening of trade unions through reforms in industrial relations legislation.

The problem confronting neoliberals was that, as long as equality was broadly viewed as a principal measure of fairness and social justice as it had been for decades under social democracy, neoliberalism would appear unfair and unjust. Neoliberals addressed this by promoting other values as preferable to equality. Key among these were freedom and choice, which could each be presented as being both enhanced by market models and incompatible with the heavy-handed regulation of the state. But neoliberals did not simply seek to divert attention away from equality by promoting alternatives; they also took direct aim at equality itself. The philosophical and ideological manoeuvre that neoliberals adopted to achieve this had two basic components.

The first part was to question the widely accepted view that inequality is undesirable and should be minimized. At one end of the prosperity continuum, it was argued, the elites merited their wealth as a just reward for their entrepreneurialism, risk-taking, special talents and/or good fortune. They legitimately pursued the incentives that the market made available for those who achieved in their chosen field of endeavour. In the absence of significant financial rewards for risk-taking, innovation and investment, economies will tend towards stagnation [Andrews, 2009: 58]. At the other end, the lack of wealth and its attendant unpleasant consequences provided the poor with disincentives to remain poor. As Gilder wrote, 'the poor, most of all need the spur of their own poverty'. The greater the levels of inequality, the greater the incentives for everybody, rich and poor, to lead more productive lives.

The other aspect to the neoliberal approach was to call into question the value of equality by attacking the commonly held view that equality is an inherent social good and worthwhile aim. 'Instead of taking the desire for equality at face value,' wrote Tooley introducing the subject, 'it is important to ask *why* this aim is being

sought, what is it that is desirable about equality which makes it a desideratum of educationists' [Tooley 1996: 54-5]. He analyses the arguments of the 'supposedly egalitarian philosophers', Rawls and Dworkin, and insists that neither, not even Dworkin in his paper entitled 'Why Liberals Should Care about Equality', actually mounts a defence of equality itself. Rather, Tooley argues, they advocate the need for there to be a 'satisfactory minimum' standard of living for all [Rawls 1972: 156] and they believe that everyone should have the 'means to lead a life with choice and value' [Dworkin 1985: 212]. The jump from here to an argument for equality of resources is, Tooley argues, illegitimate.

This provides a position from which Tooley moves on to quote approvingly from opponents of egalitarianism. White, for instance, declares that he has yet to see an adequate answer to the question: 'Why is a society where all are equal, or much less unequal ... desirable in itself?' [1994: 173] And Raz makes explicit the move from opposing inequality to opposing inadequacy:

'(W)hat makes us care about various inequalities is not the inequality but the concern identified by the underlying principle. It is the hunger of the hungry, the need of the needy, the suffering of the ill and so on... our concern for the hungry, the needy, the suffering, and not our concern for equality, makes us give them the priority' [1986: 240]

To the extent that Raz acknowledges any value in egalitarianism, it is limited to instrumental aspects whose benefits are vague and 'can easily be exaggerated'. The ones he mentions as possible are lessening of envy and hostility, and the fostering of a team spirit. [233-4] He then produces a matching set of negative effects that might also be associated with perceptions of difference such as admiration, respect for achievement and compassion. The fact that some people are worse off than their neighbours is relevant, concedes Raz, 'but it is relevant not as an independent evil of inequality' [240]

Tooley relies on this reasoning to argue that "a permissible interpretation of equality or equity is as 'adequacy'" [62]. The value to neoliberalism of this interpretation is that it legitimizes the abandonment of a central feature of the social democratic project, that is, the promotion of equality and minimization of inequality. As long as those at the bottom of the social heap have enough to meet their needs, it can be argued, why would it be a social concern that those at the top have more than enough to meet their every desire?

Equality Abandoned?

For the poor, the consequences of this kind of reasoning can be serious; one immediate effect being to intensify public scrutinization of their private lives. Hints of where this may lead are found in policies such as the 'Code of Social Responsibility' that was proposed in New Zealand in 1997 as a means 'to provide beneficiaries with a plan that details what the government expects of them in exchange for the help they receive from the taxpayers' [Peters, 1997: 11]. Thus, fairness was redefined to include the notion that those who had suffered under thirteen years of neoliberal reforms were said to owe something to those who had benefited from them. Widely condemned as an unjustifiable intrusion into

the privacy of beneficiaries, the Code highlighted the inescapable subjectivism of identifying human needs as distinct from desires.

A redefinition of fairness in the opposite direction was occurring at this time in relation to the law governing matrimonial property. Here, there was a shift in what is legally deemed to be a 'generally accepted standard of fairness'; one which saw the principle of adequacy replaced in many countries by one of equality. The Victorian notion that a wife was entitled to that which would meet her 'reasonable requirements' gave way to the modern proposition that 'equality should be departed from only if, and to the extent that, there is good reason to do so' [White v White 2000 UKHL 54].

Clearly, the bonds of marriage are far more intimate than those of citizenship. Nevertheless, the abandonment of equality as a social aim, albeit one that could never be fully attained, represents a step in the opposite direction to the more enlightened approach that is being adopted in family law.

Our understanding of equality took a radical turn with the 2009 publication of *The Spirit Level. Why Equal Societies Almost Always Do Better*. Drawing on around 200 different data sets from national and international sources, Wilkinson and Pickett came to the startling but inescapable conclusion that 'almost all problems which are more common at the bottom of the social ladder are more common in unequal societies' [2009: 18]. The array of social factors to which their theory applied included mental illness, imprisonment rates, homicide, obesity, life-expectancy and children's educational performance.

'Reducing inequality is the best way of improving the quality of the social environment, and so the real quality of life, for all of us... includ(ing) the better-off. It is clear that greater equality, as well as improving the wellbeing of the whole population, is also key to national standards of achievement and how countries perform in lots of different fields' [29].

This evidence represents is a genuine and measurable response to the rhetorical flourishes of Raz, Wilson and Tooley. As long as the needs of the poorest are adequately catered for, how is inequality in itself problematic? Let me count the ways.

Neoliberalism in Crisis

Thirty years since neoliberalism began to establish its position of global hegemony, it is now confronting a number of serious challenges. The neoliberal faith in the ability of policies of global economic deregulation to produce sustained economic growth and optimal outcomes is now widely seen to have been misguided at best. It is beyond the scope of this paper to demonstrate that the world has yet to experience the worst of the financial meltdown but anybody who is in doubt about this should read Lanchester [2009]. Add to this the revelation of the social costs of exacerbating inequalities and it could be said that there is a crisis in neoliberalism, particularly with regard to education where neoliberalism has been associated with an approach that is dismissive of egalitarianism. However, while some key ingredients may be present for a crisis in neoliberalism, there is little indication of a wholesale abandonment of

neoliberalism by its proponents. A number of factors may be contributing to this, four of which are discussed below.

First, there is the impact of social democratic groupings in many countries having redefined their politics in response to neoliberalism and constructing what became known as the 'Third Way'. Symbolised by the policies of US President Clinton and British Prime Minister Blair and the writings of Giddens, this approach was said to be a third way between those who thought the state was the problem and those who thought it was the solution. Advocates of the Third Way defined its task as seeking to harness the power of markets to advance a more social democratic agenda. Critics such as Cammack labelled it a 'complete capitulation' and argued that it generates confusion and gets in the way of a genuinely social democratic alternative.

'The proposal was never to offer a social democratic alternative to neoliberalism, but to legitimise neoliberal policies by clothing them in the vocabulary of social democracy' [Cammack, 2007: 3]

Callinicos mounted a similar critique, arguing that 'far from renewing social democracy, the Third Way amounts to an attempt to mobilise the political capital of the reformist left in support of a project that abandons substantial reforms altogether and instead embraces neoliberalism' [2001: 2]. Peck and Tickell [2002: 380-8] refer to this as the post-Washington Consensus where the first phase of 'rolling back' the Keynesian approach of social democracy gave way to a period of 'rolling out' a more deeply entrenched neoliberal programme. Bergeron illustrates this transition by noting that, while the World Bank has consistently advocated that fees be charged even for primary schooling, its reasons for this have changed. While the primary reason had been fiscal discipline, there was a new emphasis on the ways parents would engage with education once they had to pay for it directly. 'So instead of being hailed as a way to cut government spending, user fees are now being touted as a way to change behaviours on the ground towards self-responsibility and market rationality' [Bergeron, 2008: 351].

Some Third Way governments made some social democratic corrections to the excesses of neoliberalism. In New Zealand, for example, the Third Way government of Helen Clark repealed the Employment Contracts Act and abandoned a drive to bulk-fund teacher salaries. Overall, however, Third Way governments' continued adherence to the fundamental logic of neoliberalism, and their presentation of this as the new politics of the centre-left, has further entrenched the power of neoliberalism. As Gould has argued, 'the concessions and subterfuges that were thought to be necessary to win power and then hold it are now unmasked not just as craven but as totally destructive of anything that could have been legitimately regarded as the true purpose of left politics

A second and related factor is the quasi-irreversibility of neoliberal reforms. Privatisation policies were pursued with break-neck speed with, on some occasions, sales of several public enterprises to several private buyers being batched up and publicly announced together. Attempts to move even slightly in the other direction (unless it involves using public money to bail out failing private companies) are by contrast fraught with difficulties and keenly

contested, as demonstrated by the difficulty in launching the state-owned Kiwibank in New Zealand. Tax cuts, even when made in the absence of significant public calls for them, can be carried out swiftly and with little opposition. Reversing such cuts, however, is inherently politically problematic. The removal of policies designed to create a relatively uniform standard of educational provision throughout a country (such as zoning) can be completed almost overnight, and justified in the name of choice and freedom. In comparison, it is very problematic trying to re-establish zones once several years of inter-school competition has created significant inequalities between schools. The same can be said of financial policies such as floating the currency and opening domestic markets to foreign investment. While there are many cogent arguments against the infamous TINA (there is no alternative) claim of neoliberal reformers, there is also truth in the view that the implementation of neoliberal reforms does have the effect of closing off many alternative policy directions that may have existed.

The third, and again related, factor to consider is that neoliberalism has a capacity not only to embed itself almost irreversibly in a policy sense but also through its ability to construct neoliberal people, even amongst those who, from a moral and political standpoint, oppose neoliberalism. To illustrate this point from an educational perspective, consider the impact of the move away from universal and free state provision of education to the user-pays regimes favoured by neoliberalism. Students who have to either save or go into debt in order to pursue their studies cannot help but consider the financial implications of their choices in ways that would never have occurred to large numbers of students in the past who never paid fees. Neoliberals argue that this leads students to choose their courses of study more carefully as they appreciate the actual cost of their education. What such policies do, however, is effectively force students to adopt an entrepreneurial approach to their studies, viewing their education as a personal investment, or at least a measurable cost, that they might compare with other purchases or investments such as buying shares or a house or car or computer.

This requirement to view one's personal life from an entrepreneurial perspective (or to risk suffering the financial costs of failing to do so) is replicated in many other aspects of our daily lives. The neoliberal view that humans are naturally rational, autonomous self-maximisers is one that thousands of years of theorising has never been able to prove or disprove. In the current context, however, what is important is not whether or not we are naturally like that, but the extent to which neoliberalism is making us be like that. And at a more fundamental level still, do we actually want to be like that?

Recent research [The Harwood Group, 1995] has indicated that, even in the country most associated with materialism, a large majority of people actually want society to 'move away from greed and excess toward a way of life more centred on values, community and family'. The research also revealed that these Americans who felt that they and their compatriots had become 'increasingly atomized, selfish and irresponsible' were 'surprised and excited to find that others share(d) their views'.

The fourth and final reason for thinking neoliberalism's period of dominance is not about to end is that, even in the context of the current financial crisis coupled with the evidence of the extensive social harm being caused by neoliberalism's widening of inequalities, there is little evidence of a social movement that attributes the cause of the current crisis to neoliberalism, let alone one that is based on an inspired alternative philosophy and the strength to effect change. Moreover, unlike social democracy, neoliberalism is not an approach that was adopted by popular acclaim. Indeed, it is designed to be implemented and maintained even in circumstances of quite widespread hostility.

While one may agree that neoliberalism has demonstrated itself to be unsustainable economically, politically and socially, it does not follow that the radical sea-change in policy that is necessary for humanity to overcome and recover from neoliberalism will necessarily come about. There is, for example, equally compelling evidence that human lifestyles and policies are rendering our planet uninhabitable. But altering these lifestyles and policies still requires that a coherent and effective strategy be devised and implemented.

Conclusion

The scale of and reasons for the global financial meltdown are posing questions to neoliberal economists that are every bit as searching as those posed to orthodox economists at the time of the Great Depression and the 1970s oil shock. In both those instances, the inability of the dominant paradigm to accommodate to the new realities led to major changes in ways that people organized their societies around the world. On this occasion, the fact that an economic crisis is coinciding with an unprecedented ecological crisis raises the stakes even higher.

The possibility for a move away from neoliberalism emerged so suddenly that it created both an opportunity as well as a paralysis that prevented people from taking advantage of it. Beckett [2009] quotes left-wing activist, Neal Lawson, as saying 'All our Christmases have come at once, but we don't know what to do about it'. Rogers [2008] warns that this rare chance to make progressive gains on a large scale should also be treated with caution 'for painful economic circumstances often result in people's arc of concern becoming smaller and less generous'.

Quite how those committed to progressive ideals might take advantage of this crisis-opportunity moment to avert the risks and improve the lives of humanity is not at all clear. What is clear, however, is that, while neoliberalism remains powerful and deeply entrenched, its veil of invulnerability has slipped in ways that many had not anticipated. As a result of this, we are now able to contemplate and be awake to new possibilities in ways of understanding and interacting with our world.

References

- Andrews, M (2009) Burying Neoliberalism, *Dissent*. Volume 56, Number 3.
- Beckett, A (2009) Has the left blown its big chance of success? *The Guardian*. Monday 17 August.
- Bergeron, S (2008) Shape-shifting neoliberalism and World Bank education policy: a response to Steven Klees, *Globalisation, Societies and Education*. Volume 6, Number 4.
- Bortolotti, B and M Faccio (2009) 'Government Control of Privatized Firms', *The Review of Financial Studies*. Volume 22, number 8.
- Callinicos, A (2001) *Against the Third Way*. Cambridge: Polity Press.
- Cammack, P (2007) Competitiveness, Social Justice and the Third Way. *Papers in the Politics of Global Competitiveness*. Number 6.
- Codd, J (1999) Educational reform, accountability and the culture of distrust. *New Zealand Journal of Educational Studies*, 34 (1).
- Doherty, R A (2007) Education, neoliberalism and the consumer citizen: after the golden age of egalitarian reform, *Critical Studies in Education*. Volume 48, number 2.
- Douglas, R (1993) *Unfinished Business*. Auckland: Random House.
- Dworkin, R (1985) Why liberals should care about equality, in R Dworkin, *A Matter of Principle*. Cambridge Mass: Harvard University Press.
- Giddens, A (1998) *The Third Way*. Cambridge: Polity Press.
- Klees, S J (2008) A quarter century of neoliberal thinking in education: misleading analyses and failed policies, *Globalisation, Societies and Education*. Volume 6, number 4.
- Lanchester, J (2009) It's Finished, *London Review of Books*. 28 May.
- Peck J and A Tickell (2002) Neoliberalising space. *Antipode*. Volume 34, number 3.
- Peters, W (1997) *Budget Speech and Fiscal Strategy Report*. Wellington: Treasury.
- Picketty, T (2007) Top Incomes over the 20th Century. A summary of Main Findings, in A B Atkinson and T Picketty (Eds.) *Top Incomes over the 20th Century*. Oxford: Oxford University Press.
- Rawls, J (1972) *A Theory of Justice*. Oxford: Clarendon Press.
- Raz, J (1986) *The Morality of Freedom*. Oxford: Clarendon Press.

Rogers, P (2008) <http://www.opendemocracy.net/article/a-crisis-opportunity-moment> 27 October

Schugurensky, D (2003) Higher Education Restructuring in the Era of Globalization: Towards a Heteronomous Model? in *Comparative Education. The Dialectic of the Global and the Local. Second Edition*. Oxford: Rowman and Littlefield.

The Harwood Group (1995) *Yearning for Balance: Views of Americans on Consumption, Materialism and the Environment*. Takoma Park MD: Merck Family Fun.

Therborn, G (2009) The killing fields of inequality, in J Cruddas and J Rutherford (eds.) *The Crash. A View from the Left*. Middlesex: Soundings.

Tooley, J (1996) *Education Without the State*. London: Institute of Economic Affairs.

Treasury (1987) *Government Management. Brief to the Incoming Government 1987. Volume Two*. Wellington: Government Printer.

White, J (1994) Education and the limits of the market, in D Bridges and T McLaughlin (eds.) *Education and the Market Place*. London: Falmer.

Wilkinson, R and K Pickett (2009) *The Spirit Level. Why More Equal Societies Almost Always Do Better*. London: Penguin.

World Bank (1995) *Priorities and Strategies for Education. A World Bank Review*. Washington DC: World Bank.

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