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Innovation, Sustainability, Development: A New
MANIFESTO

Direction, Distribution, Diversity: Three key concepts for the New Manifesto

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Direction of Innovation

Despite their depth and breadth, established political and economic understandings tend to take a somewhat circumscribed view of innovation and development alike. Amidst the many rich subtleties, there tends to be an emphasis on what might be called the 'scalar' attributes. For instance, attention often focuses on the pace with which advances take place – frequently involving fears that competitors may proceed more quickly. There is also an understandable preoccupation with the efficiencies with which invested resources yield positive outcomes. There are important concerns over the distributional effects of specific resulting policies and technologies (addressed below). And (in many contexts) increasing priority is attached to the wider social and environmental impacts associated with given forms of innovation and development. Although the metrics in each case may be uncertain, ambiguous and often hotly contested, all these attributes may in principle be expressed in a 'scalar' fashion – in terms of 'more' or 'less' on some notional (cardinal, ordinal or variously-valued qualitative) scale.

It implies no slight on the relevance (or importance) of these conventional approaches, to note that it remains under-recognised in mainstream policy discourses that both innovation and development are only inadequately conceived exclusively in these terms. In short, both development and innovation are more accurately understood as 'vector' (rather than as 'scalar') qualities. In other words, both display the crucial property of direction as well as scale. Although the implications often remain neglected, it is well-established under evolutionary approaches, for instance, that science and technology (as well as research, innovation, policies and institutions more generally), develop along path-dependent trajectories. The central point is, that the form and orientation of these trajectories are not determined in any simple way. Of course, important impulses and constraints are typically exerted by physical, social and other contextual factors. Historic contingencies also often play an important role. Once initiated, however, many forms of positive feedback serve to reinforce the particular directions that are taken – including processes variously explored in the academic literature as 'social shaping', 'homeostasis', 'autonomy'; 'momentum', 'obduracy', 'lock-in', 'alignment' and 'entrapment'. Rather than restricting policy consideration to questions over the pace, efficiency and consequences of proceeding in any particular direction (taken as a given), then, there is a need to give commensurate attention to the nature of the direction itself – and its typically-multiple alternatives. In development and innovation alike, key questions are therefore not just raised about: "yes or no?"; "how much?"; "how fast?" and "when?" Crucial queries must also be addressed around: "which way?"; "who says?" and "why?"

Distribution of Consequences

There is widespread acceptance that present patterns in the social distribution of the vital necessities for life, economic resources, political power, cultural engagement and wider opportunities – are all manifestly unjust. This is true within most countries of the world. It remains the single most striking feature of our global societies taken as a whole. In seeking to address these issues (among many other competing pressures), conventional policy making on innovation and development remains circumscribed (as noted above) by assumptions over the established direction for change in any given area. It is in this way, for instance, that leaderships of trans-national corporations, nation states or regional trading blocs are typically preoccupied with competitive 'races' to develop highly specific forms of agronomic, biomedical, energy,transport,communications,informationor'nano-material' infrastructures. Yet in these areas as others, developments may proceed in a wide variety of ways. Not surprisingly, the directions that tend to be pursued are those that appear most attractive to whatever are the incumbent powerful interests dominating the processes through which political, economic and other resource commitments are made. This serves to compound and reinforce pre-existing patterns of mal-distribution. It is only against this background that second order issues are then raised (in certain circles) over the distributional effects experienced by different

social groups and how any inequities might be alleviated. In other words, measures advocated to address injustice, reduce poverty or enhance wellbeing among marginal groups, all tend to be restricted to an essentially 'tactical' level, which simply presumes the overall strategic direction for innovation or development – and seeks to mitigate impacts only insofar as possible under these bounding and driving assumptions. For all its value and importance, much work in economics, political science and development is attenuated in this way.

An appreciation of the essential directional properties of innovation and development (noted above), however, raises the stakes considerably. Questions over distributional issues thus emerge not simply as tactical corollaries of some inevitable (pre-determined) strategic imperatives. Instead, questions over basic survival, economic benefits, political interests, social wellbeing, environmental impacts and cultural values all present important criteria against which might be judged the contending large-scale directions for change themselves. Examples are readily provided. Rather than examining redistributive instruments against a backdrop of assumed progress with: genetically modified crops; patent-intensive pharmaceuticals; centralised energy resources; or privatised water infrastructures – attention might instead be given to alternative pathways in each of these areas. Even without envisaging radical changes of direction, these might address (respectively) various configurations for: genetic marker-assisted plant breeding; prize-driven pharmaceutical innovation; distributed energy sources; and public water infrastructures. Likewise, more radical pathways might in each case be envisaged around (again respectively): organic farming; preventive healthcare; energy efficiency and water differentiation and recycling systems. In all these (and many other) cases, the crucial issue is that distributional effects are not restricted to the modalities of implementation, but to the configuring of the directions taken by the trajectories themselves. It is in this way, that an appreciation for the importance of the direction of innovation and development can enhance the scope for addressing what are already recognised to be crucial issues around the manifest injustice in the distribution of risks, burdens and benefits.

Diversity of Pathways

A further corollary of established – somewhat 'deterministic' – understandings of innovation and development, is that there exists (at least in principle in any given tightly-specified context) some kind of broadly most favourable ('reasonable' or 'preferred') configuration for technologies, practices or policies. Such configurations are acknowledged to be difficult to identify. It is well recognised that they are subject to uncertainties. It is often admitted that there will be important context dependencies. And rapid rates of change usually mean that these will in any case be superseded by the time they are recognised. But – subject to these demanding qualifications – it tends to be assumed that under any given context at some specific time and subject to whatever is the prevailing knowledge, that a particular course of action may in principle be assumed to be the 'best' one. This is so, even where there is recognition of the more strategic dimensions of human and social agency – and an appreciation for the multiple possible directions for innovation and development. It is for all these reasons, for instance, that market-based or other distributed (delegated, deliberative or participatory) processes are variously advocated as the means by which to shape such 'most favourable' directions for innovation and development. Hence, we find a preoccupation with: the 'bottom line' in business; 'optimality' in economics; 'evidence-based decisions' in policy making; 'justification' in politics and 'consensus' in participatory deliberation. All these focus on unitary notions of the most favourable course of action.

One common consequence of these widespread presumptions, is neglect for the value and importance of diversity. The greater the appreciation for the potentially radical scope for human agency in shaping alternative strategic directions for innovation and development, the greater the seriousness of this neglect of diversity. Yet, there is no shortage of reasons for substantiating this interest. In a world of increasing momentum around globalisation, harmonisation and standardisation, diversity provides a means to preserve crucial context-sensitivities – whether these be geographical, linguistic, cultural or psychological. To the extent that the interests of the least powerful are – by definition – most marginalised, then the opening of new possibilities through diversification may correspondingly tend (on balance) to be progressive. Where uncertainties are acknowledged to be at least partly intractable to conventional analysis, then diversity provides a vital means to ensure that 'not all eggs are in the same basket'. In detailed studies of technologies, creative activities and organisational behaviour, it is increasingly clear that a diversity of interconnected artefacts, practices and institutions plays an important role in fostering more effective and robust forms of innovation. Where (as is often the case) plural societies find themselves unable to arrive at consensus over the most appropriate course for innovation or development, then diversity presents a unique means to accommodate otherwise irreconcilable perspectives. Finally – where there is recognition of the importance of processes of concentration, momentum and lock-in in the dynamics of development and innovation – there emerges a further crucial role for the deliberate pursuit of some opposing level of deliberate diversification.

Of course, diversity presents many countervailing challenges. Under any view, diversification away from whatever appears to be the most favourable technology, policy or practice necessarily involves some trade-off or compromise on performance. Likewise there may arise increased complexities, 'transaction costs', loss of coherence, barriers to accountability and questions over equity. Far from negating its value, however, such questions simply underscore the importance of attending to the strategic implications of diversity. In a world of multiple contending directions for innovation and development and a concern for the social distribution of the consequences in each respect, it is essential to be open-eyed about the potential for pursuing a diversity of possible pathways.