The Arctic – Society, Markets, and Security

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Abstract:

In this article the Arctic areas are considered from a Panarchy and innovation perspective. First Panarchy is described as a cyclical model of human and ecological systems that are interdependent. This interdependence is briefly outlined by sketches of different spatialities in the Arctic in different phases of the cycle. Then a dedicated model of innovation adaptation is presented after having clarified why innovations are nowadays so important in economics, and what they might mean for peripheral Nordic areas. In taking up problems of Information and Communication Technologies innovations and their implementation in the settling areas of indigenous people, the problem of innovation adaption in the Arctic is presented. By aligning the Panarchy model and innovation it becomes apparent that knowledge sets held by indigenous people and embodied in ICT are detrimental to each other. Taking a Foucauldian perspective on Security the implementation of market economics and the aligned cultural patterns are drafted in their importance for Northern areas. In the conclusions an argument is made that suggests that the desire of autonomy for the North potentially conflicts with an inbuilt and expanding understanding of security, in market-economies. Thereby multitudes of life forms and knowledges are necessarily negated, as those contradict the understanding of society as one body. From this perspective it is suggested that indigenous people and the way of living in the North offer a counter model to that of the South.

Keywords: *Arctic Knowledge, Foucauldian Security, Innovation, Market-Economies, Panarchy, Society*

"Embodying important economic attributes, the economies of northern Aboriginal communities also entail broader conceptions of social responsibility and account for an entirely different set of motivations that extend beyond economic rationality" (Dr. Natcher- Position paper for the 5th NRF).

Introduction

In this paper an extended view on the topics of markets, society and security in the Arctic is adopted. This paper argues that Arctic locations, whether Sub- Arctic on the Arctic Circle or High-Arctic, are caught in an economic cycle that is aslant to traditional views that societal and economical change often go hand in hand. For this purpose, based on incidents from different areas of the Arctic, the idea of Panarchy (Gunderson and Holling, 2002) is suggested as an analytical model.

Another model for understanding the Arctic will be that of innovations in a broad interpretation (Aarsaether and Suopajärvi, 2004; Denning. 2004). It is attempted to determine how the spatial setting of this landscape has a detrimental effect on the quick implementation of southern based novelties (Krone, 2007). In this account technological innovations will be examined, and some hints given as to Arctic societal innovations (Aarsaether and Suopajärvi, op cit.).

Adopting the position that the Arctic possesses knowledge sets of its own (Tedre et al. 2006; Ingold, 2007), it is examined how the Arctic is changed and perceived when unveiling some of the features of market economies from a Foucauldian (Foucault, 2006 a/b) point of view. With this view it is revealed that markets are necessarily de-socialising and disassociate humans from each other (Foucault, 2006 a) as the market perceives society as a collective of all humans irrespective of their origin, and whose functions can only be fulfilled when each human acts selfishly within the limits of the given order (Foucault 2006 b). Bringing Panarchy and Security (Dillon, 2008) together, allows us to ask whether the Arctic could be a role model for Southern-Parts of the globe as the market does not have as strong a footing as elsewhere.

Given this research interest the questions to be asked are: Does the Panarchy cycle present a fitting development model for Arctic development? What are the consequences of the market for Arctic communities?

Based on these questions, the Panarchy cycle is first described and applied to economic development in some spatialities in the Arctic. Second, the term innovation and some of its consequences are developed for the North, followed by an account of security that rests on markets, and how this functions in a social way. This view will also entail a step to understanding knowledge as a social institution. Finally, it is examined whether the North with its particular knowledge set can serve as a role model for the South, and allow for a re-humanisation of economic activities.

Economics of the Arctic – Two Approaches

First an introductory description of Panarchy is given with a focus on the four states that Panarchy stipulates as existing in or for natural and human systems. This is followed by a presentation of the "Rogers Innovation curve".

Panarchy

The idea of Panarchy is that systems (social and natural) have different states (Gunderson and Hollling, 2002, pp. 31-2) and that the duration of those different states can be extended or shortened depending on the actions that are taken (ibid. pp. 33-5). Panarchy is particularly prominent in natural resources management but as Westley et al. (2002, pp. 103-5) suggest, the human element is often excluded. In the strong natural conservation understanding of the Panarchy cycle (figure 1 below) an attempt is made in maintaining as long as possible a state in which the given resources of a natural system can be used, while simultaneously minimising the externalities, the r-state (conservation; Brok, Mäler and Perrings, 2002).

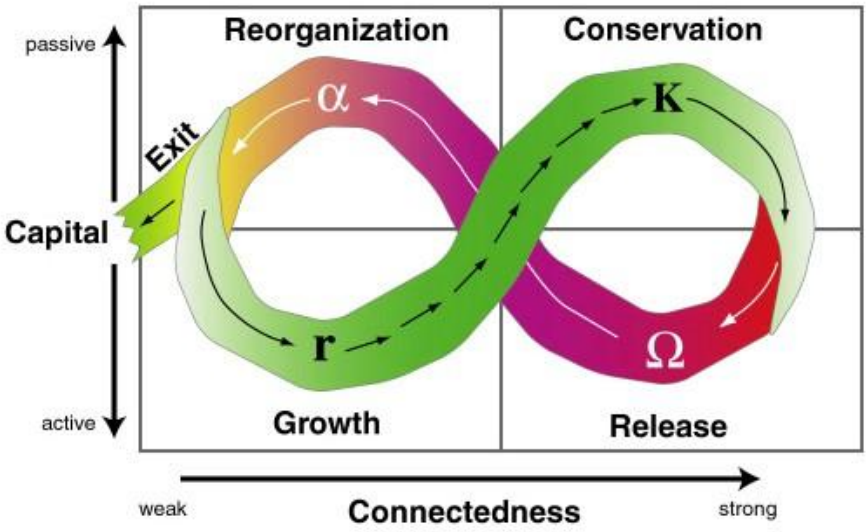

Figure 1. The adaptive cycle of Panarchy (Holling and Gunderson, 2002)

When a system is impacted by an unforeseen event, it changes into a state where the equilibrium is destroyed and the potential included in the system is unleashed, Ω state release (Gunderson and Holling, 2002, p. 45). Artificially extending the span of a dedicated phase can change the overall character of the system's changes. When transfers take place, system internal resilience options might vanish because of the continued 'overutilization' of one

property of the system, α state (ibid., pp. 43-44, also Schaffer, Westley, Brod, Holmgren, 2002, pp. 196-202). This problem can occur when the conservation phase has been overused and destroyed features necessary to allow for a reorganization phase that leads to the status quo ante. The system begins with a completely different starting point (Growth, resp. Exit; ibid. pp. 45-47). When considering the Arctic economies in light of this analytical model of natural and social system behaviour, some state transfers can be conducted (e.g. Carthew, 2006; Masloboev, 2007).

In considering Arctic Natural Resources utilisation it is observed that there is an ongoing phase of Growth. This phase is in different locations of the Arctic in different micro-phases (Masloboev, 2007, p. 130-131, p137-138 for the Kola site in the Arctic). Carthew (2006) describes the process of an adaptation oriented, resource exploitation, planning exercise in the Canadian Arctic McKenzie valley. His approach is to describe the process of metrics development that describes the potential exploitability of oil and gas, and the tipping point of resource utilisation impact on the overall human – nature system (cp. Westley et al. 2002; Carthew, 2006, p. 321-322). In the development of these metrics it was interesting to see that T(E)K was an accepted method to be used and incorporated into the metrics of this social-ecological system (ibid.. p. 325-326). Examining social systems of the Arctic areas, it can be observed that phases of reorganization have taken place, considerably shaping the picture of these areas, while the whole impact of these reorganizations is not yet known (ample evidence for this development was given during the 5th NRF Open Meeting under the topic "Economics and Migration"; compare the webcasts available from http://www.arcticportal.org).

Historically, changes began at the moment when states, formed during the mid 18th century, began to appropriate their respective territories above the Arctic Circle (Foucault, 2006 a for a generalised view on the appropriation of the nation-state via modes of governmentality). Thus, there is a long ongoing process of societal change that also has happened in different phases. What is seen socially and culturally today is from this perspective rather a status quo that is subject to change, while an attempt is made in grasping it. For a critical view on this status quo perspective of western-rationalistic knowledge see Krone (Krone, 2006, pp. 230-231). Ingold (2007) adopts a similar stance arguing that knowledge is produced by the social interaction of humans (Ingold, 2007, p. 15).

The argument above is embodied in the initial citation from Natcher's position paper – societies seem to be stuck in western/southern modes of thinking and knowledge so that the way in which those presumptions fit in other settings is continuously overlooked. Evidence

for this argument can be found in Lieberman (n.d.) and in Tedre et al. (2006). In this respect even the position by Krone (this volume) could be used as a case in point.

Innovation

In modern economics the development and implementation of innovation has received much attention. The reason is that in times of shrinking markets the appropriation of innovation rents is supposed to ease competitive pains for some time; a similar account can be found in Schumpeter (Schumpeter, 1950, pp. 82-84). For an emphatic description of innovations and how those unfold in general compare Denning (2004). He offers a good description of the different steps an innovation goes through during its development (Denning, 2004, 16). Aarsaether and Suopajärvi (2004) in their definition of innovation and local needs of the Northern European Periphery suggest that innovations are indispensable for survival (Aarsaether and Suopajärvi, 2004, p. 9-10). In their further development of innovation the authors come to a model that comprises the public, private and economic sector combined to facilitate for "networked" innovations (ibid. pp. 13-18).

One model of innovation adoption is the Rogers innovation curve. According to Rogers the implementation of innovation takes place in three steps before it can be seen to have penetrated the market successfully. One crucial property of an innovation is the deepening and extension of knowledge concerning it (Denning, 2004).

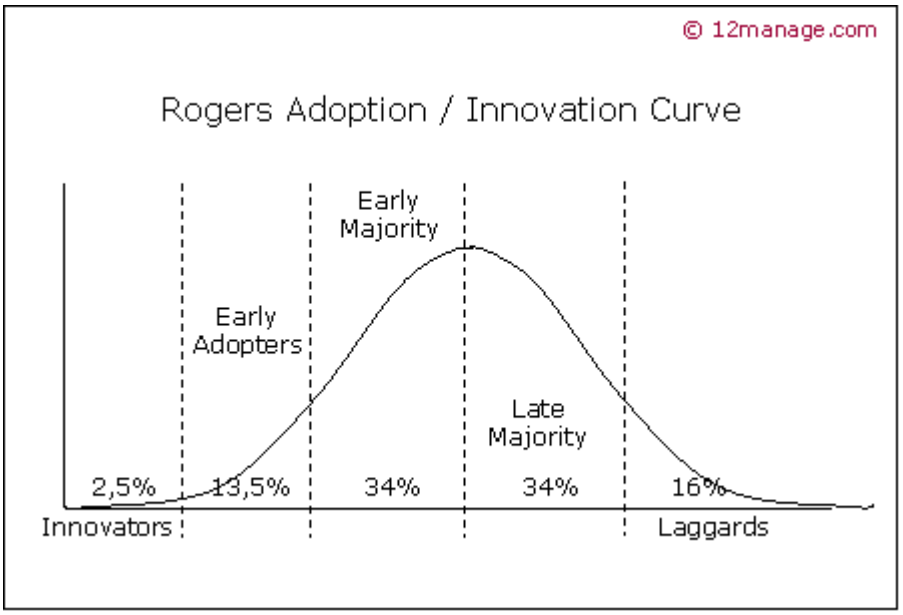

Figure 2. The Roger's innovation curve

When matching this curve to the Arctic one important feature, already mentioned in the position paper, becomes apparent: Arctic areas often do not have the same infrastructural conditions as the spatial settings from where innovations have originated. A case in point is how the development and implementation of ICT in the Arctic where infrastructural layout is fundamentally different to that of southern areas, and the question of cultural appropriateness for local social and cultural settings (Kamppinen, 1998; Tedre et al., 2006: Krone, et al. 2008), are taken into account. Innovations have to be remodelled to fit Arctic locations. This may lead to increased cycle times before an innovation reaches the Arctic in a way that makes widespread utilisation possible. As a consequence an innovation that could be helpful for the Arctic areas, because of its material or other properties, cannot be adopted immediately after their emergence. Often innovations seem to reach the Arctic when the phase of 'Late Majority' has begun in the South. In effect this means that there is a danger of chronic lag in the implementation of innovation (personal communication).

Given this state of affairs in respect to innovation development and implementation it becomes apparent that the North is a spatial setting that is an important supplier of natural resources for the centres, but in other economic perspectives it does not serve a productive purpose in terms of income generation. Counter examples exist from Sub-Arctic areas, e.g. the Kemi-Tornio steel manufacturing site that is part of the European and global stainless steel production cluster (Aho, Saarelainen, Suojajärvi, 2004, pp. 176-180). Less enthusiastic is the account that Walter (2007) offers for the Russian Arctic areas. In his research he came to the conclusion that the Russian innovation cycle (there understood as the "triple helix" of state, economy, and knowledge bearers) is hampered by a lack of coherence and trust among the players of the innovation game (Walter, 2007, pp. 84-85).

Matching the Panarchy Cycle to the Roger's Innovation Curve

Considering this asynchronity of the different intersecting systems it is tempting to argue that Arctic areas reveal a different economic development model from the one that holds true for the centre parts of the Arctic Eight. This brings back the overall argument provided in the position paper (Krone, 2008 this volume): The North can be characterised as infrastructurally, socially, and economically deviant from the southern parts. This leads to a situation where locally shared modes of behaviour (or norms) set the North, and its economic life, apart from the South (Natcher, 2008 position paper). This argument is also provided by Ingold (2007), who suggests that the North is shaped by a high homogeneity of people's experiences, and

consequently a higher level of understanding because of the general life-conditions, while individual life stories are still different (Ingold, 2007, p. 15)

The matching of the Arctic areas into the Panarchy and innovation adaption cycle shows that there is a high asynchronity of states of social and natural systems that beg one important question: If the economic development of the Arctic areas rests on a laggard effect for innovation adaption and a strong conservation tendency in respect to the exploitation of natural resources (cp. Carthew, 2006; Scheffer et al. 2001), can the deviating norms and knowledge be a source for social interaction?

Security – Some Particularities

"Everyone's north is shaped by the peculiarities of their own biographical and historical experiences. Yet these experiences do overlap to a very considerable extent[...] Because of this commonality of experiences, it is possible for people all around the circumpolar North to converse with one another, and understand each other's point of view, to an extent unmatched elsewhere" (Ingold, 2007, p. 12).

In the position paper the argument was made that the North and South have to reconsider their relationship from the perspective of the different living experiences both areas provide, and that the innovation potential to solve Northern problems is exactly dependent on the willingness to understand and appreciate the existing differences. The social interactions are the real innovation potential of the North in a societal sense.

Security and Market – an Unholy Alliance?

There is a genealogy of thinking that the "market" has been installed as a "nature" like institution around the 18th century (Foucault, 2006 a, pp. 33-38; Foucault, 2006 b, pp. 89-91). For a more radicalised perspective of this argument see Foucault (2006 a) and Dillon (2008). In some accounts this phase marks the emergence of what is labelled "western-rationalistic" knowledge (Krone, 2006) and in others the emergence of rational-analytical-depersonalized sciences (Toulmin, 1990, pp. 3-35). It is interesting to see that this move to more depersonalised forms of knowledge making went hand in hand with an increasing marketisation of more and more areas of life.

It is Toulmin (1990) who makes the compelling argument that rationality and security have to be considered together, when describing Descarte's and other rationalists' view that the firm principles of rationality are expressions of nature-like laws that should be discovered

through scientific methods (Toulmin, 1990, pp. 129-131). In this view, natural-like laws are expressions of strict and strong hierarchies that also hold true for societies (ibid., pp. 132-135). This argument nicely matches with the institutionalisation of the "rationalisation" of life as a form to comply with and to the emergent market order that swept away the old middle-age feudal form of government (Foucault, 2006 a, pp. 332-339, here in particular p. 335). This very marketisation of life, if we follow Foucault, goes beyond the individual market participant (cp. Foucault, 2006 a, pp 93-96; Foucault, 2006 b, pp. 390-2; Dillon, 2008, 317). For Foucault the market, and the way it was becoming ubiquitous in the western-world, is a mechanism by which the state attempts to secure its own society on the one hand, and on the other delimits the very state activities that are allowed to be taken in order to ensure security (Foucault, 2006a, pp 105-108; cp. also Dillon, 2008, 310).

Dillon (2008) extrapolates this Foucauldian idea and suggests that nowadays life has become unsecurable against the contingencies of its own development, but "instead secured through contingency" (Dillon, 2008, 310). He argues that today life is secured by gambling with contingencies of events that may occur at some point in time. By these means, he concludes, life is becoming virtualised as a variable in the overall calculation of probabilities that form the motor of today's derivative oriented financial economics (Dillon, 2008, 311, 326-329).

Security and Market – A Problem of Knowledges?

Security is in Foucault's terms nothing else, but still so much, the ability of the state to take control and steer the activities of the population mass, and not the individual (Foucault, 2006 a, 105-108). This is the point that is so important for the Arctic as it allows the consideration of rationalistic-western knowledge and markets simultaneously (Foucault, 2006, pp. 312-316; Toulmin, 1990). Both depersonalise and shift the focus to the largest entity living in a given spatial setting - the society. For a more detailed analysis of this validity granting to knowledge in a constructionist perspective, Barnes (1995) stipulates that knowledge is dependent on the utilisation of language (of the written kind) and the experiences of living under given conditions (Barnes, 1995, pp. 84 and 95-97).

But insofar as there are in the Arctic very different forms of living, based on very different forms of knowledge, the market cannot allow for the particularity of the indigenous people living there, an example being Natcher's (2008) position paper for the 5th NRF Open Assembly. Again, and very forcefully it is Ingold (2007) who stresses the need to incorporate into knowledge assessments the experience of the people living in a given spatiality.

Northern Knowledge is carried by social constellations that are driven by kinship, familiarity and social ties. The market does not know these forms by default (Foucault, 2006 b, pp. 312-316), and the marketisation of the human itself is presenting itself in the form of the "human capital" that is its own revenue generator. A similar account can actually be found in Aarsaether and Suopajärvi (2003, pp. 26-27) when they argue that innovations have to be considered and developed based on local capacities. If the state attempts to secure its population by market means, the constrains that indigenous people have been going through, and still are, are necessary consequences of the very form and method employed by the western state in order to maintain security.

Seemingly societies are securing themselves to death, or at least those who are willing to pay the price of the extinction of human forms of living that are not security oriented, as the security understanding is based on an experience of living that is essentially southern – and market driven.

We are back at the starting point of the position paper: Knowledge – Information Technology Integration in the Arctic- and Autonomy come in a market package that looks for something else then the human. According to Dillon 'it is the survival of a species in light of uncertainty that arises from the contingencies of its very existence'. In living out contingencies the market renders the conditions under which the risks of uncertainties are distributed and socially allocated – based on the calculation of probabilities about the occurrence of the contingency (Dillon, 2008). Both activities are based on knowledge, but of the south.

Talking then about "The Accessible Arctic in the Global Economy" means how the risks of life are allocated to the North and the profits distributed to the South?

Conclusions

It becomes apparent that market economies are a challenge to Northern ways of life and its carrying knowledge. The market economy fails where it is supposed to deliver risk assurance – a market failure in a non-traditional view. A non-traditional view, because in economics market failure is usually defined as a situation where the allocative principles of the market are not able to play out. In those situations it is often a non-participant to the market that is called in as an arbitrator; usually the state. However, as shown above, and in the position paper the state is not in a position to work as an arbitrator whose decisions are directed at

maintaining security by means of the market, which also binds his options for re-establishing market efficiency (Foucault 2006 a and 2006 b).

This argument brings back the imagery of Panarchy where human life in cycles, and the overuse of resources in one period of time destroys the resilience of a system and robs the resources that might be necessary for its re-establishment. This is the idea of autonomy as the option to live a life that is appropriate for the spatial setting, in which people live a life of relevant cultural and political habits. Continuing to use the Panarchy cycle as an enlightening device, market-economies are caught up with the securitization in the "conservation" phase (Foucault 2006 a), but by living in it they destroy other ways of living, or rob the option to leave this dogmatic stance.

The Arctic, with its social economy, introduces a different choice of economy: One that allows for a humanistic form of living (cp. Ingold, 2007; Natcher, 2008 and the relevance of kinship and familiarity for economics) and the generation of knowledge in the form that TEK invites us still to do.

This is also an idea that can be derived from Toulmin (1990) when he shows the link between Montaigne's willingness to accept human fallacies while with rational science, under the Descartian programme in the aftermath of the 30 years war, this acceptance was washed away. This went, as said above, hand in hand with a prerogative to written language, and a continuous decline in the acceptance of oral communication in the realisation of the world. This is the idea that Ong (2002) unveiled when he suggested that with written communication, a shift in the mind takes place, automatically pushing away other forms of conveying knowledge.

In this respect Ingold's call to accept an environment in which humans and nature are not distinct entities that are opposing each other, but one where nature, humans and the land are conversing with each other (Ingold, 2007, p.13-14) brings back a view where humans appreciate themselves as humans.

We have choices, but we have to leave ways of thinking that are characterised by dichotomies. The lesson of the North is to be told in the South.

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