Abstract: A reform process in democratic societies tends to generate a number of surprises, paradoxes, instabilities, and emergent properties. Taking advantage of the complex systems approach, this paper wishes to argue that the reform process occurring in democratic societies should be regarded as a self-organizing process. The policy implication is that a self-referential situation in which the political community as a whole can enact situations in which it is possible for it to experience the disappointing feelings corresponding to deficient social, political, and economic structures should be generated and exploited fruitfully. Moreover, the idea of self-organization has another implication for the reformists. The reformists' role is not to provide a blueprint of what the political community must eventually become, but rather to guide the community in generating self-referential experience by going through disappointing experiences which would break up existing structures.

Keywords: self-organization, order through fluctuation, complex process, self-referential experience

I. Introduction

It is a well-known fact that any political group is committed to initiating reform programs after taking political power in an attempt to enhance its political legitimacy. In particular, political parties which have been able to form a government after winning democratic elections tend to be ambitious and energetic in carrying out their reform agendas, believing firmly that the political platforms promised during the election campaign have been supported by a majority of voters in society. This reformist ardor exists in Korea as well. The two civilian Korean governments that came to power since the transition to democracy in 1986 have vigorously pursued reform programs, of which the main objective can be best characterized as a building-up of 'a small and efficient government'.
This paper will not evaluate the validity of the reform agendas per se, because it does not wish to be involved in the controversies about the appropriate role and function of the government in a market economy in Korea. It merely assumes that there is a relatively wide consensus on reform agendas or at least that no major social groups are opposed to the reform initiatives by the new government party. This assumption may be justified on moral grounds. Since socio-politico-economic reforms are an alternative which would make all the members of the political community better-off than the present state of affairs, at least from the long-term perspective, it would be reasonable to view reforms as a Pareto-superior alternative in the sense that the community members would agree on the reform implementation, if they could make a decision concerning reforms in question behind the veil of ignorance. Thus, it should be clear that this paper’s main interest is in a reform methodology rather than the substance of reforms proposed.

Nevertheless, government-initiated reforms have been faced with a number of bottlenecks and obstacles. Some reform proposals are forced to degenerate into surrealistic policy packages. Reasons for ill-fated reforms abound. Some social groups intervened deliberately in the reform process or sabotaged the reform efforts in such a way that reforms deviated far from their original objectives. Or the reform-initiating groups are themselves to blame, since they may not be in a moral position to carry out reform proposals or they are utterly myopic prisoners of narrow political interests. Although the above factors may be responsible, at least partly for reform failures, they are certainly not the determining factors for ill-fated reforms. The major difficulty with the proceeding of the reforms seems to lie not in the fact that reform initiators are the prisoners of private interests but that the reform process is ipso facto a complex process. This paper proposes to argue that the reform process is a dynamic process which tends to generate a number of surprises, paradoxes, instabilities, and emergent properties. The fact that the reform initiating groups fail to conceive of the reform process as a complex process seems to be the main reason for aborted reforms.

II. Reform and Complex Process

This section will define a reform process as a self-organizing process and present some justifications for it. It argues that the reform process is the one characteristic of a dissipative self-organization or the one governed by the principle of “order through fluctuation”.

A. Reform Process as a Unintended Process

A number of democrats and theorists of democracy do not hesitate to argue that a reform process is a process of intervention intended by the reform initiating groups which have won democratic elections. There is some validity in this claim. The winner of a democratic election proclaimed platforms and public commitments in the course of
politics campaigns that won the support of a majority of the voters, including the median voter and the pivotal voter. As a result, a winning political party has certainly a mandate by the popular will to carry out reform agendas. Meanwhile, this paper wishes to express some serious skepticisms about the notion of the democratic mandate and the interconnections between policy preferences of the political winners and reform agendas proposed. First of all, a majority of social choice theorists have called into question the validity of the will of the majority that has emerged as a result of democratic elections. K. Arrow (1951) had already demonstrated through the impossibility theorem that most rules for aggregating individual preferences into a social preference in democratic societies need not yield a transitive social preference relation. Moreover, A. Gibbard (1975) and Satterthwaite (1975) found that reasonable rules with regard to preference aggregation are manipulable- that for a broad class of social choice mechanisms, one or more persons in some circumstances will not find it in their interest to reveal their sincere preferences. The principal lesson of these claims for democratic elections is that in general, one cannot expect an equilibrium to exist, and because any outcome can be defeated, political decisions represent arbitrary outcomes. One implication is that superior ethical properties cannot be attributed to the outcomes a majority supports. More importantly, the main difficulty with the notion that reform agendas are closely linked to the policy preferences of the winning political forces in power can be found in the fact that the reforms being pursued vigorously produce counterintuitive results. To be sure, the counterintuitive phenomena in question are not be reasonably attributable to the tenacious resistance and sabotage by the vested interests. It is because ill-fated reforms are more complex phenomena than the resistance of the social groups and classes likely to be seriously affected by the reform process. In fact, the reform process is the one in which a number of factors interact in a complex way to produce unintended consequences. It consists of a number of feedback/feedforward loops. Loops of this sort enable the process to modify the interaction pattern among its variables, thereby opening up the possibility for a wider range of behaviors. For example, the extremely reformist decision by the Kim Yongsam government (1995) to introduce a real name system in the banking system produced nagging inconveniences to ordinary consumers and malfunctioning of the financial system1). This result and others demonstrate that a reform process is a complex process that embarrasses the well-intentioned reform initiators who are committed to improving social situations and enhancing the well-being of the members of the political community.

1) Another example is the protective legislative measure for the renter’s right. The law aimed at guaranteeing the renter’s right for a minimum of two years will aggravate the situation of the renters, because the forward-looking landlords raised a rent fee in advance of the two years.
B. Order through Fluctuation and Amplification of "Small Fluctuation"

The important principle that comes to mind in conceiving of a reform process as a self-organizing process is a principle of "order through fluctuation". Prigogine's work on dissipative structures in chemical systems led to the development of a new ordering principle which he called "order through fluctuation". While the notion of dissipative structures was invented specifically for the context of the chemical systems and does not translate readily to the domains of the political, any system, political or otherwise, can be analyzed in the more generalizable terms of self-organization\textsuperscript{2}.

The model of dissipative structures is based on the example of the construction of a termites' nest, used by Prigogine to illustrate the notion of order through fluctuation. This model describes the first stage of the construction of a termites' nest, the construction of the base. At this stage, the termites transport lumps of earth and drop them in a random fashion. During transportation, these lumps of earth are impregnated with a hormone which then attracts other termites to the deposits. At one time or another, a slightly larger concentration of lumps of earth inevitably occurs at some point or other in the area. This small fluctuation is amplified by the slightly higher hormone concentration at the deposit, attracting more and more termites. With the increased density of termites in this region, the probability increases that they will drop their lumps of earth, leading in turn to a still higher concentration of the hormone. In this way, pillars are formed-a new structure comes into being.

C. The Model of the Negative Category

One way of generating small fluctuations in the reform process is to enact previous disappointing or negative experiences of the community members. Through disappointing experiences or by producing more disorder, the emergence of new structures can be made possible in an unspecified way. This is what this paper calls the model of the negative category. The negative model means more chaos out of which new structures can emerge.

Is there any justification for the negative model which would break up existing structures and permit the creation of new structures by confronting negative elements? Two cases deserve attention. First of all, Kuhn's explanation of the paradigm-shift is relevant here. For Kuhn, the development of each branch of science alternates between two recurrent stages: normal and revolutionary science. In the former stage, scientific activity is governed by a paradigm. Paradigms are initially defined by Kuhn as

\textsuperscript{2} Many systems concepts have come to political science from physical and biological science. Meanwhile, some such as an equilibrium, have been used inappropriately. Despite some reservations, this paper assumes that the model is appealing, and it is tempting to see whether it can be applied to the socio-political process. Rhee (1997, 1998) seems convinced that it applies, because he could demonstrate the validity of the principle of 'order through fluctuation' in explaining the durability of democracy and the complex linkage of democracy and capitalism.
universally recognized scientific achievements that provide model problems and solutions to a community of practitioners (1970). In normal science, the scientist's work is devoted to the articulation and wider application of the accepted paradigm, which is not itself questioned or criticized. Scientific problems are regarded as puzzles, as problems which are known to have a solution within the framework of assumption implicitly or explicitly embodied in the paradigm. If a puzzle is not solved, the fault lies in the scientist and not in the paradigm.

By contrast, in the relatively brief periods of revolutionary science, the scientist is confronted by increasingly perplexing "anomalies", which call into question the paradigm itself. Scientific revolution occurs when a new paradigm emerges, and becomes accepted by the scientific community. But the acceptance of the new paradigm does not take place solely as the result of a process of critical argument and assessment between the proponents of the competing paradigms. For individual scientists, the change of allegiance from one paradigm to another is often a conversion experience, akin to gestalt-switches or changes of religious faith.

Meanwhile, the model of the negative category can be elaborated by what is called a puzzle game. Supposedly, a given piece can be placed into the puzzle only as a part of the whole picture. In fact, this holds only in principle. A child often lacks a piece because he has managed to misplace it earlier on. In the case of a child, the negative category consists of pieces that do not fit into the puzzle at a certain place. This process can be characterized as an amplification of a perturbation into what will - at the next stage- constitute a subsystem with negative feelings. By this amplification of a fluctuation, a new category of objects comes into existence in the sense that they not only are experienced as hindrances on the way toward an end-state (finishing the puzzle), but that they are conceptualized and can be referred to. By this amplification of the perturbation, in turn, the overall system of the next level is activated. The class of pieces that don't fit acts as a perturbation and rouses a child's interest in the more encompassing system of which the negative class will be a part. This activation expresses itself in a heightened openness to new perceptions.

If the above arguments are persuasive, the model of the negative category can be fruitfully exploited by enactments of previous negative experiences in the reform process. Previously disappointing experiences of the community members seem to be typical for situations in which the political community has a self-referential experience. Enactments of previous negative experiences enable the political community to experience the current situation more fully by simultaneously highlighting the experience of a newly developed structure and separating it from experiences in previous situations. Only at this moment does the political community seem to be able to recognize the negative aspect of previous experiences, i.e., to conceptualize the perturbation. And only at this moment do such feelings, which arise from the fact that a structure is deficient, become comprehensible as an object (i.e., as an entity which can be referred to by the political community and reform initiators). This paper assumes
that parliamentary hearings can play a significant role in the enactments of negative experiences.

III. Parliamentary Hearings and Enactments of Disappointing Experiences

To be sure, the winning political forces in Korea have projected themselves as reform agents. What may be termed as apostolic zeal or reformists' overwhelming desire to compel the political community to get well has captured the spirits of the two Kim governments at the initial stage. But if the argument that the reform process should be viewed as a complex process rather than a simple one is defensible, this moves us away from simplistic linear cause-effect sequences and toward the generation and appreciation of complexity and autonomy. If it is impossible to posit a unitary connection between a single cause and a single outcome, we cannot infer the fact that the failed or deficient structure or the erratic behaviors of members of the political community can be improved from the fact that the reformers initiated the reforms in question. The political community does not "begin" to change just because the reformists have intervened. People are in the flux of change continuously. To borrow a terminology from Maturana, the reformists must get into a "co-ontogenic structural drift" with the political community, but the reformists cannot control this drift. In dealing with the reform problems, we must abandon causal concepts, such as those of the purpose of the reformists and the resistance of the recalcitrant members of the political community. The notion of resistance has more to do with the puzzlement of the reformists than with the obduracy of the members of the political community.

Many reformists in Korea, who continue to believe in interference and instructive interaction, have inevitably encountered resistance or stubbornness in members of the political community often described as refusing to see the point, or as sabotaging directives or interventions, or as deliberately not wanting to improve or change. However, the idea of self-producing systems suggests that the members of the political community are doing the only thing that makes sense for their system to do. We can say that invoking the concept of resistance bespeaks more of the reformists' perplexity than of the community members' rebellion. It is possible to see resistance in terms of the reformists' naivete. In this context, it is worth noting that "the system can only do what it does". This means that the system can only learn what it is set up to learn. Teachers, for example, are familiar with the difficulty of trying to give information or answers to children who have no questions about the issue which happens to have importance for the teacher.

In this context, it is necessary to focus on parliamentary hearings as a representative case of a political self-referential situation in which self-referential experiences of the political community can take place. Koreans have been familiar with the notion of
parliamentary hearings. The Korean parliament held a number of public hearings in the 80s and 90s. Hearings on the mistakes of the Fifth Republic, hearings on the notorious Hanbo enterprise, and recent hearings on the past economic crisis are worth mentioning. Regrettably, however, parliamentary hearings which had taken place seemed to concentrate mainly on the enhancement of political legitimacy of the new government in contradistinction to the past regimes, a distinctive differentiation from the prior government, or other major political advantages. It is not surprising that its possible important role in the enactment process - a generation of self-referential situations and experiences via a generation of small fluctuation in the community members' cognitive system - was overlooked or paid insufficient attention.

In particular, the parliamentary hearings which were held in February in 1999 deserve attention, since they turned out to be typical of partisan politics. The two government parties had a deliberate political aim in weakening the political base of the recalcitrant opposition party by laying bare policy failures of their prior government, while the opposition party decided to boycott parliamentary hearings in an attempt to avoid political embarrassments that would be likely to be faced in the course of a hearings process. As a result, the parliamentary hearings were run as a prisoners' dilemma situation in which a noncooperative rather than cooperative strategy by each party was dominant. The ruling parties had claimed that the objective of the parliamentary hearings was not to punish or embarrass persons responsible for the economic crisis twice, but rather to find some structural problems and correct them appropriately. But their determination to learn lessons from past mistakes remained merely on the rhetoric level. The parliamentary hearings turned out to be ill-prepared, poorly managed, and expedientially administered. What was remarkable about the hearings was a confession made public by the former chairman of the notorious Hanbo enterprise that he gave illicit political finance to former president Kim during the presidential election in 1992. The opposition party vehemently reacted to the confession by counterclaiming that the chairman was coaxed into making the confession in exchange for parole by the government. Not surprisingly, the major newspapers headlined the news, emphasizing that it was the most salient result that the parliamentary hearings on the economic crisis had produced. In sum, newspapers cynically characterized the hearings on the economic crisis as half-piece hearings, implying that the hearings were ill-fated from the beginning.

But this paper suggests that parliamentary hearings should have been made useful for enactments of previous disappointing experiences. The hearings process could have produced the order of small fluctuation for the domain of the political. The hearings process should be administered as the process by which, little by little, a situation is brought about in which a self-referential experience may happen. As in the termites' example, an initial fluctuation is amplified by elements being aggregated where a slightly bigger aggregation happens to take place, i.e., where several right experiences happen. A feeling resulting from such new experiences emerges in the political
community, which will then guide it toward selecting more self-referential situations. In every self-referential situation, the feeling resulting from the enacted function is amplified. This amplification, in turn, leads to the political community seeking more such experiences. In this manner, the particular new feeling resulting from experiencing the developing function in these self-referential situations is amplified, and at the same time, the constellations sought by the political community become more and more specific with respect to the relationship structure underlying the particular deficiency.

Conclusion

This paper has paid attention to the fact that a reform process generates counterintuitive, seemingly acausal behavior, that is full of surprises and, as a result, invalidates the reform objectives per se. Certainly, a reform process is more than a simple process characteristic of emergent properties, to use a systems terminology. Another way of saying this is that a reform process is a self-organizing process independent of the will of the reform initiators rather than a self-realization of their political preferences.

This paper has suggested that a principle of "order through fluctuation" can be applied to the reform process, and the generation of small fluctuations to form a new structure can take place through enactments of previous negative experiences of the community members. Its basic notion can be incorporated into the model of the negative category. By producing disorder or by disappointing experiences, new structures can emerge: the class of experiences with negative feelings. In the course of this process the particular negative experience becomes detached from the context of action and is identified (impregnated) appropriately. The aggregation of negative experiences corresponds to the amplification of a fluctuation. As a result, a new structure (a class of specific experiences with negative feelings) comes into being, and may now take on meaning.

It is in this context that parliamentary hearings drew my attention. The basic idea of the hearing is that there are elements which are attracted and aggregated to form a situation in which a self-referential experience takes place. Elements can be characterized tentatively as aspects of the function under construction. Self-referential experiences are possible when the political community experiences the negative feelings associated with the deficient function and the political community is able to work in awareness of the meaning of this experience. The hearings can generate situations in which the political community experiences aspects of the function under construction and breaks up existing structure, permitting the creation of a new structure. The hearings can capture this process of the simultaneous emergence of a new structure and its negative counterpart. The development of the new structure seems to go hand in hand with the possibility of conceptualizing the perturbation. This would mean that
specifying the perturbation would be a prerequisite for the development of a new structure.

Finally, we are faced with the question: what about the work of the reform initiators? Since the negative model conceptualizes reform as a self-organizing process, it might appear difficult to describe the activity of the reform initiators in this frame of reference, particularly as we are used to thinking of the reformists' interventions as an active (technological) change of some structure of the political community. From the perspective of self-organization, however, the question would have to be stated in the following way: How do we conceive of the reform initiators as contributing to the political community's change process although not interfering with the community's autonomy?

The core of the answer to this question is that the reform initiators should support the process of generating new variations used by the political community to establish self-referential situations. Certainly, the decision for the principle of self-organization has consequences for the relation between the reform initiators and the political community. The political community is a living system and therefore autonomous. The reformists should respect the ability for self-regulation. Analogously speaking, all they can be is a midwife. The mother gives birth by self-regulation, not the midwife. "Natura sanat, non medicus". Autonomous systems are responsible. All the reformists can do is to elicit autonomous responses, which are determined from within. What this means is that the reform initiators have to take care not to endanger the autopoiesis of the cognitive system of the political community.

As long as reformists are inclined toward undoing the mistakes of the past rather than creating a constructive system which does not call for the repetition of those mistakes in the future, very little fruitful results are likely to take place. The reform initiators' objective should be, therefore, to promote the emergence of novel structures by generating self-referential situations which would bring forth an alternative reality which does not support the presence of the previous problematic reality.

If the notion of a reform process as a self-producing process is defensible, the role of the reformists is clear. The emphasis should shift from moving the political community to triggering reform movement within the political community. A shift from acting as a problem-solver to acting as a midwife, i.e., a helper in the generation of self-referential experiences of the community members is a must.

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