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## IS ACCOMMODATING THE TOP-DOWN TO THE BOTTOM-UP AN IMPOSSIBLE DREAM?

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One practical strategy for addressing the thorny issue of democracy in the light of practicing empirical sciences may be to listen to what a major practitioner in the political arena would have to say about the profession to which the practitioner has committed the own self so earnestly. One representative example of this type of the political practitioner who is clearly visible from the records compiled in the twentieth century is Winston Churchill, Prime Minister of the United Kingdom from 1940 to 1945 and again from 1951 to 1955. Churchill's neat summary of what democracy is all about is found in this quote (Churchill, 2008):

How is that word "democracy" to be interpreted? My idea of it is that the plain, humble, common man, just the ordinary man who keeps a wife and family, who goes off to fight for his country when it is in trouble, goes to the poll at the appropriate time, and puts his cross on the ballot paper showing the candidate he wishes to be elected to Parliament—that he is the foundation of democracy (House of Commons, 8 December 1944).

Of course, he has some reservations about what he said above, as revealed in another quote:

No one pretends that democracy is perfect or all-wise. Indeed it has been said that democracy is the worst form of Government except for all those other forms that have been tried from time to time...

One decisive point latent in Churchill's caution on the notion called democracy stems from the dichotomy between the top-down regulation exercised by the nation state as a politically organized whole, and each ordinary man participating in the nation state in a bottom-up manner. This dichotomy is not free from suffering from a self-defeating inconsistency. The majority voters may quite easily come to voluntarily surrender the executive power for regulating the nation state to the centralized administration. Even if the legislative branch controlled by the majority party is critical enough for checking and overseeing the power exercised by the executive branch, no legislative act may be concrete enough in advance

for specifying every detail of how the actual execution should be implemented by the administration.

#### LINGUISTIC INSTITUTION AS AN INFRA-STRUCTURE

The difference between the legislative and the executive branch can be found in the way of how the language is practiced in each branch. The top-down regulation exercised by the executive branch is indexical in its usage of language when the relevant legislative acts are interpreted and implemented as referring to each regulative conduct to be initiated and assumed by the administration. In contrast, the legislative branch practices its language in a symbolic manner for debates, denials and confirmations when the legislative body decides each legislative law to be enacted in a bottom-up manner. The system of taxation applied to everybody forcibly by the nation state is a good example for demonstrating the difference. Although tax laws, once enacted, cannot be violated, the administration keeps some extent of freedom for practicing how to apply the lawful tax exemptions to each individual case applied for a tax exemption from any ordinary man or corporation functioning as the indispensable participant in the democratic society.

Our linguistic institution has an intrinsic stressful confrontation between the language manageable in terms of the symbol manipulation and the language serving as the indexical means towards the language user. While the object of the symbol manipulation is the language itself, the object of the language as an indexical means can happen to be other than the language itself. The symbol manipulation allowable in our language cannot take over the role of the language as the indexical means while the former is inevitable in any case insofar as we are determined to live with the linguistic institution. In any case, the symbol manipulation cannot be specific enough to meet each individual need to be specified exclusively in an indexical manner. Democracy thus comes to confront the sturdy incongruence latent in our linguistic institution which lies between the language inclusive of the symbol manipulation and the language as the indexical means extending over towards other than the language itself. The bottom-up legislative enactment alone cannot take over the top-down executive regulation extending towards each individual participating there.

The stressful confrontation between regulation and participation may become inevitable in our democratic society whose trustworthy infrastructure is guaranteed by our linguistic institution. In fact, the context in which such a confrontation could come to the surface may become easily visible once one raises the question of whether and how could the interplay between the top-down regulation and the bottom-up participation appear at all even in the absence of the linguistic institution. A simple example of this sort is easily available from behavioral biology.

#### SWARM INTELLIGENCE

Let us imagine a simple case of the migrating birds such as the demoiselle cranes crossing the Himalayan mountains towards the southern grounds

in India from the north for the sake of the resources for survival during the winter time while many of them inevitably die from fatigue, hunger and predation in the middle of the long flight. They gather in flocks consisting of even several hundred individuals so as to minimize the casualties in the long flight.

The migrating birds can display what we call a swarm intelligence (Bonadeau, et al, 1999). What is unique to a swarm intelligence is that the swarm of the individual participants can exhibit an organized behavior as a united whole with the use of local indexical activities alone, following rather a simple rule applied to each individual in relation to only the few others detectable in the immediate neighborhood. Evolutionary fixation of such an organized behavior may have been due to the long-time success in resource acquisitions and avoidance of predations. An essence of swarm intelligence is seen in the total takeover of the top-down regulation by the bottom-up maneuvering of the indexical activities on the part of each individual participant.

Prerequisite to the occurrence of such swarm intelligence is the activity of each individual agent towards its own durable survival. What we have seen so far was that if the agents maneuvering the indexical activities are coordinated, it may also be possible to envision the likelihood such that the bottom-up indexical activities may take over the top-down regulation extending towards the whole participants. Of course, this observation comes to beg the further sturdy question of how in the world could the likelihood of the behaving agents be vindicated and if the vindication turns out possible, on what ground?

#### USING OUR LANGUAGE AS AN INDEXICAL MEANS

Of course, the empirical observation of a swarm intelligence alone is not good enough to address the key issue of the possible likelihood of the takeover of the top-down regulation by the bottom-up indexical activities in a much wider context. In this regard, one may take advantage of exploring our language a little bit further in the light of practicing empirical sciences. The manner of practicing our language for the purpose of prescribing an experimental protocol is undoubtedly indexical rather than merely being symbolic, as being contrary to the case of theoretical sciences. Applying the experimental protocol to an experimental object through the agency of the experimenter is taken to be synonymous with the occurrence of the material object having the indexical capacity of identifying the applied protocol as such. Our setting of an experimental condition is considered to be equivalent to accepting the indexical capacity on the part of an experimental object, otherwise the whole experimental enterprise would have to collapse.

Furthermore, if the experimental object happens to acquire its own durable identity in due course of experimentation, that object may internalize some of the indexical activity into its own body. While the original source of the indexical activity rests upon the experimenter maneuvering the protocol, some of the indexical activity can be imparted to the material

body if the body happens to maintain its durable identity. A durable material body may owe its likelihood to the indexical activity extending from its own inside towards the outside, since the durability is required to protect itself even if some adversary influences are expected to come from the outside.

More specifically, if a material body happens to have the capacity of identifying the condition for producing a similar type of the material body as exchanging the atomic components with other ones of the same types available from the outside, the production of the material body of a similar type could be repeated in a durable manner unless the external conditions are forcibly changed in a drastic manner in the process. If the preceding sentence is comprehensible, it would be because the language practiced in an indexical manner that is applied to the durable material body may be acceptable. In fact, the durable material body being competent in identifying the condition for its own survival through material exchange is indexical in identifying that condition. To be sure, chemical affinity serves as a material means supporting the indexical activity pointing towards the durable material body itself from its inside (Matsuno, 2016).

Once we pay attention to the indexical usage of our language, it would become possible to refer to a material body pointed out by another one. What is peculiar in this indexical relationship is that the indexical activity can be established even if the two activities of the act of pointing to and the sensing of being pointed out are not synchronized. Nonetheless, the indexical activities that our language can furnish are temporally sequential, and are still integrative from within. The organized whole precipitated from the integration of the underlying indexical activities is temporal, while the organized whole conceivable in terms of the symbol manipulation alone could be no more than a static invariant.

#### APPRAISAL OF THE INDEXICAL CAPACITY OF OUR LANGUAGE

Our invention of the political system called democracy in terms of the interplay between the bottom-up participation and the top-down regulation is yet only half-baked. The way of appreciating the indexical activities on the part of the participating individuals is not well worked out yet, compared with the takeover of the top-down regulation by the bottom-up participation that is overwhelming in the biological world. One remaining homework for us may be to further cultivate the capacity of indexical integration latent intrinsically in our language, even for the sake of comprehending what democracy is all about.

#### REFERENCES

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