Wikipedia as an organization and the formation of structure by limitations and competition

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The paper addresses two different areas: the first section discusses the part of social structuring that is based on limitations that cannot be controlled individually. In the second part the development of a positional system is reconstructed using Wikipedia as an example.

Particularly in the first part of the paper the point of view may seem somewhat old fashioned. The more recent debate tends to underestimate the importance of limitations. Since about 95% of actions are determined by this means, it should be of interest.

Action theory starts with individuals as actors. The ideal type is *homo economicus* who has a comprehensive understanding of the market and the potential outcome of alternative actions. His action is called "zweckrational" (utilitarian rationality).

This type of action model is still in use in economics, but it has been pared down by methodological individualism. Herbert Simon (1957; 1959) was the first to reveal the boundedness of rationality. Meanwhile theorists like Coleman (1990) and Lindenberg (1990) have developed models which incorporate the social structure. This is the case, for instance, in Lindenberg's (1990) RREEMM Model. RREEMM stands for Resourceful, Restricted, Evaluating, Expecting, Maximizing Man.

Although the underlying action model was amended by including structure as infrastructure for action (Burt 1991), the root idea continues to exist as intentional rationality (Beckert/ Rössel 2004). In this respect Coleman/ Kreutz (1997) explicitly pointed out a problem. Kreutz showed that action preferences are not predetermined. They originate within the relational frame and, hence, are not necessarily to be understood as "rational" or "means-end oriented". Although every person acts "for himself", the action does not originate on the micro level, it emerges one level above the micro level in-between micro and macro. We call this level the "meso level". The meso level is the level of the social network.

We owe it to Harrison White and his co-workers (1976) that with structural views priority is not given to individuals. Instead aggregates with structurally equivalent actors are investigated; these are called positions. Such positions show special characteristics. Their contact with other positions follows a socially constructed pattern. The central characteristics are competition (pecking order) within a position and social closure in relation to other positions.

How does a structure emerge that we understand as a positional system?

White's consideration focuses first on "control efforts". This means that the identities involved try to reduce uncertainty. By this means they try to be better prepared for chaos and the infinity of possibilities (Luhmann 1997).

The idea that identities actively strive for control is not wrong. The emergence of a structure is a must, if only because of the multitude of restrictions we are subjected to. These can be broken down analytically into different forms of restrictions, in detail: external, cognitive (thus concerning the individual), and collective restrictions.

External restrictions:

- Time (as a resource). Time is limited. This is the reason why we can only maintain a relatively small number of relations in a fixed period of time.

- Structuration (Time-Space Restrictions, Giddens 1988; Blau/ Schwartz 1984). Due to different life rhythms, only those persons who live in the same place/ move between the same places at the same time are able to come into contact with one another.

- Orientation of behavior on similar situations or different people reduces uncertainty (Kieserling 1999, "Übertragungslernen", transferlearning)

- Expectations about the behavior of others that they will behave as they did in similar situations in the past.

- The expectation that others expect you to behave as you did in similar situations before.

Cognitive restrictions:

- Cognitive restrictions (memory, etc.) are responsible for limitations, for example, in terms of the potential to enter relationships.

- Restriction of working memory or short-term memory: this is limited to approximately 7 elements (e.g. words) (Miller 1956).

Collective Restrictions

- Limits to communication ability (attentiveness, Luhmann (1975) for simple social systems or interaction systems, Rauch (1983) for large groups with 15 to 40 peoples).

- Limitation of communication capacity (e.g. Leavitt 1951).

- Emergence of routines to reduce complexity.

Structure from limitation

Regarding social structures we often refer to the phenomenon of self-similarity of structures. We can find an "often observed characteristic of complicated entities; that the relationship of a whole to another repeats itself within the parts of one of the wholes." (Simmel 1890, quoted after 1989: 115).

There are many indications that self-similarity is expressed by the delimitations described. Because of our limitations we have to make generalizations about groups (based on ascriptive characteristics) (e.g. ethnic groups), but this simplification has its price: rash judgments and prejudices.

Certainly, efforts also arise from the restrictions to an active production of structure. In the small groups research of the 1950s and 1960s boundaries were defined as capacity limits (Homans 1960).

In organization theory findings on communication limitations were introduced (Bavelas 1950, Leavitt 1951). Organization theorists became aware of the limitations of department sizes due to capacity bottlenecks (span of control, e.g. Ouchi/ Dowling 1974). In this case knowledge about restrictions was used actively in order to design organizations.

The infinity of chaos is in contrast to our limited ability to deal with only a few elements. We cannot perceive everything and it is impossible to handle everything. For this reason we are dependent on simplifications if we want to describe (in the form of stories) any set of circumstances to others.

On the one hand, if these stories are about relations, they are often simplified by using positional identities (e.g. incompetent politicians or irresponsible managers). On the other hand we attribute actions and their imagined intentions to persons, although they are a product of the position. The reason may be that intentional actions like Zweckrationalität (utilitarian rationality) are most likely understandable on the interpersonal level.

Common Knowledge

People always encounter existing structures. People have to represent these structures in their cognition. There is no other possibility of interpreting the anticipation of expectations that are attributed to positions. This means that there have to be common interpretations.

Such interpretations result from narrations, which follow certain rules. It's safe to say that such rules are grammatical elements, which represent reality in an extremely simplified manner. Simplification is necessary to make interpersonal understanding possible.

If fairy tales (Nooy 2006) are taken as prototypical narrations (also because fairy tales stand for the mediation of rules for children) it is clear that the only distinction made is between "good" and "evil".

In sociological theory we can find a continuation of simplification, e.g. Lazarsfeld's fourfold table or the balance theory (Davis 1963; 1977). Balance theory only knows a friend – foe pattern. Further elements of such a grammar are reciprocity (Stegbauer 2002) and competition (pecking order, White 1992), as well as hierarchical status.

Position and Personality

We can regard the positional system as the outcome of situations. The situational system is the only part we can examine by social network analysis. The variation observed between persons in the same position is not only a result of competition in the position; it is also the outcome of different imprintings from other positional systems. (Life history and affiliation to different positional systems at "the same time", e.g. family and job) (Bourdieu 1982, Habit [Habitus]).

Positions and organizational niches are simplifications

Because we can only deal cognitively with a few elements, with regard to existing structures, the interpretation of the effects of action requires simplifications. Personal attributions and sometimes magic thinking are such simplifications. In addition we can find this sort of simplification in sweeping judgments about other positions.

The dynamics of an organization is primarily the result of competition within the positions. If positions are already occupied or competition within the position is too strong, new niches are sought, in which competition can develop again. Harrison White (1981) defines markets in a similar way.

An example from research on Wikipedia

Wikipedia is an organization that "grows wild". It was not planned in advance. When difficulties occur, the organization changes. A further substantial change is its strong growth since the early years. Wikipedia relies almost exclusively on volunteer work.

It is easy to investigate, because nearly all communications are documented in the wiki. Although we can distinguish between different functions in the organization, we interpret these functions as positions.

Due to their different functions and functional behavior, we can say that the properties of these positions are not only attributed. The functions are actively adopted by the participants. Nevertheless ascription also plays a role. By using some of the elements mentioned the interplay of these positions can be interpreted.

In the example under consideration we first investigate the relationship of two different positions within the Wikipedia. As the first position we define the OTRS team who answer Wikipedia inquiries by e-mail. The second position is called vandal hunters. This position is responsible for detecting vandalism in articles as fast as possible and restoring the original status of the articles. The third position considered is called vandals. They are responsible for the destruction of articles.

In the presentation it is shown how the reference system of the vandal fighters and the vandals guide their behavior. The example is interesting because over time the reference systems are changing from two different systems to a new one with different rules.

One half of the time for presentation will be spent on theoretical considerations the other half is used for the introduction of the example.

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