Acquiring and sharing the monopoly of legitimate naming in organizations, an application in conceptual modeling

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Abstract. In 2018, one of the biggest cooperatives of autonomous workers (CAW) in Europe, strong of more than 30.000 members, started the development of a unified lexicon as an informal conceptual model of the organization. Researchers participated in this ambitious project, following an action-design-research method. Democratic and egalitarian values are essential at CAW, but the literature on how to account for these values when developing a conceptual model is scarce. This paper argues that defining a common vocabulary, which can be a first step to building a conceptual model for an organization, is not a politically neutral activity and should be executed transparently and fairly, especially in democratic organizations such as CAW. Based on the classic literature on language and power, this contribution presents five postulates to help modelers to account for power and influence when developing conceptual models in organizations, either when trying to acquire the monopoly of legitimate naming in a field, or when sharing the power he or she possesses, having acquired such a monopoly.

Keywords: Conceptual modeling, ontological politics, power in organizations.

1   Introduction

In organizations, conceptual models and ontologies play a major role in knowledge transfer, developing domain understanding, or simulating the subject matter they represent, thereby supporting both humans and computer in their tasks [1]. In most use cases of conceptual modelling, the resulting ontology is considered a neutral tool built by experts to help a well-defined group of people; however, as section 3 shows, modelling an ontology in an organization gives the modeler significant power over language and communication in that organization, which translates into power and influence.

In this contribution, we describe the case of one of the biggest cooperative of autonomous workers (CAW) in Europe, strong of more than 30.000 members in 9 European countries. A CAW is an organization that enables its members to work autonomously on their entrepreneurial activity while benefiting from services of the cooperative. CAW feature two main services: (1) the access to an employee status (instead of freelancer or independent statuses), which gives workers an extended access to social rights such as unemployment, illness or retirement benefits and (2) the ability to invoice clients and recover expenses from suppliers, using the cooperative's VAT number. CAW can also offer miscellaneous services such as an access to rooms, training, counselling or machines. Through those services, the CAW increases autonomous workers' security

while safeguarding their autonomy [2] – thereby, CAW had a particularly crucial role in helping autonomous workers deal with the fallout of the Covid-19 lockdown, as they were twice as likely to lose some income and six times more likely to lose all of their income, in comparison with salaried workers [3]. CAW have a long tradition of democracy and transparency: members are co-operators, which means that they own a share of the organization and have formal voting and representation rights in all decision-making bodies. In addition, there is a social and psychological contract that leads members to expect that they will be informed of and involved in any major decision [4].

In the CAW featured in this contribution, misunderstanding had long been an issue hindering effective coordination and communication, especially when it started expanding internationally [2]. Clarifying the conceptual model – and in particular the **lexicon**, which is the least formal type of conceptual model – has therefore been recognized as a major strategic objective at the general assembly of 2018. At the time of the encounter with the authors of this paper, several attempts had been made to develop such a unified lexicon, but none of them had been successfully rolled out, mainly due to the lack of popularity that the lexicon had gained from end-users when it was delivered. In short, the issue was political, rather than technical. When looking for guidelines on how to address political issues in developing a conceptual model, the researchers found little insights in existing literature (see section 2), and therefore decided to tackle this issue in this piece. The study of this case led to the following **research question**: *what is the impact of power in the development of a lexicon in organizations?*

This research question points to two important considerations. First, the power and influence by the modeler needs for members of the organization to accept the lexicon and use words and concepts in compliance with it, leading to the **first sub-question**: *what should the modeler do to acquire the monopoly of legitimate naming in an organization?* The notion of *monopoly of legitimate naming* is inspired by Bourdieu, as described in section 2. The second consideration is the caution that organizations and modelers should pay to the subtle, invisible power that modelers can acquire by gaining control over the language in an organization. The modeler should be conscious of the power that modelers obtain by developing lexicons, in order to avoid hidden conflicts of interest or abuses of power. This consideration lead to the **second sub-question**: *what should the modeler do to distribute the power given by the monopoly of legitimate naming in an organization?*

Section 2 describes the method that the researchers used to support this organization in its project. Section 3 reviews the literature on conceptual modelling, language and power in organizations. Section 4 discusses early findings in light of the literature and presents postulates to help modelers address power issues in organizations.

2   Method

The researchers applied the *Action-design-research* (ADR) method [5], which aims at solving a real-life issue identified within a domain by developing an artifact. The artifact is the result of iterations between the modeling team and the field, each iteration leading to incremental improvements, until the artifact is sufficiently developed. Each

iteration encompasses three steps: **Building** an artifact using modelling techniques, **Intervention**, rolling out the artifact in the field and **Evaluation** of the usefulness of the artifact with regards to the identified issues. This contribution was a case of an *organization-dominant* process, since the primary source of innovation is organizational intervention. As is suited for organization-dominant ADR, the main source of information to build the artifact was the field.

In this paper, the researchers focus on the "build" step of the process, showing how the first version of the artifact was developed. The specific artifact that was built was a lexicon, i.e. a "*list of words in a language (i.e. a vocabulary) along with some knowledge of how each word is used*" [7, p. 1] (see section 3.1). To build it, the researchers collected information via a dozen of focus groups and interviews with two types of respondents: the upper management and the front-office workers who manage members activity and services directly. Interviews were used to collected on how individual users describe key concepts of the business model of CAW, and focus groups were organized to resolve the discrepancies on the understanding of specific definitions. When needed, the upper management settled on disagreements, on basis of arguments from the research team and the end-users. At this stage, members were not yet involved because researchers were seeking to get a broad, transversal view, but member are expected to play a critical role in the upcoming roll-out and evaluation phases.

3   Literature review

This section discusses two bodies of literature that could help investigate the issue of developing a lexicon within a CAW – conceptual modelling, and language & power – as well as the application of those two bodies to an organization. Below is a representation of those bodies of literature in interaction with each other.
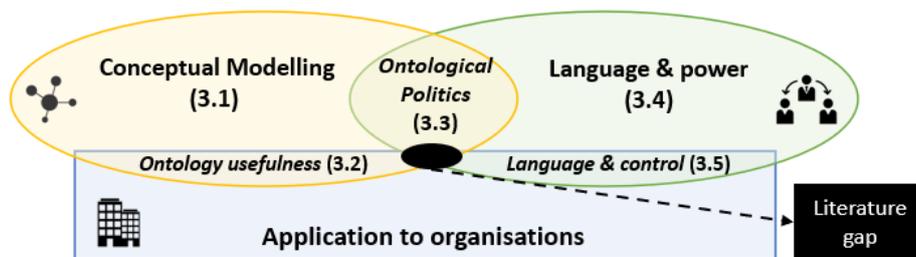

Fig. 1. Literature overview and gaps

3.1   Conceptual modelling

Roa et al. [1] define an ontology as "*conceptualizations of reality, as agreed to by a group of experts, defined specifically and with varying levels of generality, varying representations and varying levels of formality*" (p. 214). Conceptual modeling entails an instantiation of an ontology within a non-software specific representation [6]. This piece focuses on an informal type of human-readable ontology called a lexicon. Lexicons are important for human uses since they serve as the basis for natural language,

thereby facilitating human interaction [1]. Further, lexicon can also constitute a first step towards building a formal ontology that will ultimately serve human-to-computer or computer-to-computer interaction (see for instance [8]).

3.2 Ontology usefulness

In organizations, the usefulness of conceptual models and ontologies has been largely documented and demonstrated. They play a major role in knowledge transfer, developing domain understanding, or simulating the subject matter they represent, thereby supporting both humans and computer in their tasks and reducing variance in the understanding of a domain [1]; they help improve the interoperability, specification, reliability and reusability of information systems [9]; they facilitate conceptual modeling by providing a more rigorous framework to capture and represent knowledge [10]; they improve the requirements engineering process by facilitating the user validation of conceptual schemas produced by analysts [11].

3.3 Ontological politics

The notion of "ontological politics" has been coined by Annemarie Mol [12] to describe the impact that the shaping of knowledge – or "ontologies" – has on reality and the decisions that are taken. Her first application was in health care, but her contribution also sparked the debate in organizational studies [13], social sciences [14], educational sciences [15] and even geography [16]. What scientists present as facts are often tainted with the author's subjectivity, which can undermine the trust of the public in scientific expertise – these events are referred to as "knowledge controversies" [16]. In the aforementioned publications, the authors invite researchers to be mindful of the consequences of their actions.

3.4 Language and power

The importance of language has been largely underestimated *"in the production, maintenance, and change of social relations of power"* [17, p. 1], especially outside of the field of linguistics [17]. This section presents briefly the work of some influential philosophers and sociologists on language and power. A full literature review of this topic would fall outside the scope of this paper, as our purpose is limited to highlighting major principles and insights that link power and language, and to applying them to the field of conceptual modelling. In this paper, the discussion is limited to three authors which we found to be the most prolific, influential and broad on the topic of language and power: Wittgenstein, Bourdieu and Foucault. We selected authors from the 20th century, because their work often builds on and encompass earlier works on the topic.

Wittgenstein and language. In the *Philosophical Investigations* [18], Austrian philosopher Wittgenstein states that unresolved debates and disputes are often the consequence of language issues as people argue about the true meaning of words. Yet, arguing about the meaning of words is a pointless endeavor as there is not a single true meaning of a word. Rather than a reflection of reality, the meaning of words is the result of an agreed upon way of talking and carrying out activities. In *Tractatus logico-philosophicus* Wittgenstein [19] makes the point that language only covers a part of reality,

and that something that cannot be expressed through language also cannot be expressed in the consciousness of the speaker. Because of this, there can be "unspoken truths" in areas, which elude debate and discourse because of the lack of words to speak about them.

Bourdieu and language. In *Ce que parler veut dire (translated as "What Speaking Means")* [20] and *Language et pouvoir symbolique (translated as "Language and symbolic power")* [21], French sociologist Bourdieu describes how the social world can be perceived differently depending on the observer's mental construct, and how language plays a major role in forming this mental construct as it bridges the gap between the mental consciousness and the reality of the world. The intrinsically political nature of language is explicit in Bourdieu [22]: *"the knowledge of the social world and, more precisely, the categories that make it possible, are the ideal stakes of political struggle, both practically and theoretically, as one struggles to maintain or transform the social world by maintaining or transforming the categories of perception of the world"* (translated from [22, p. 6]). Thereby, *"one of the elementary forms of political power consists of the almost-magical power of naming things and thereby, making them real … going from implicit to explicit"* (translated from [22, p. 6]). In *Raisons Pratiques* (*translated as "Practical Reasons"),* Bourdieu [23] synthesizes previous works arguing that the *monopoly of legitimate naming* is the result of a struggle, and the winners of this struggle are those with the most *symbolic capital* – i.e. prestige, reputation or fame, that gives them the capacity to define and legitimize cultural values. This capital can be explicit (written in law, for instance) or not, but has to be earned and recognized within the field in order to impose a certain language.

Foucault and language. In *Les Mots et les Choses (translated as "The Order of Things"),* French philosopher Foucault [25] describes how institutions that are seemingly neutral – such as medicine or justice – are in fact places where power struggles occur, more or less overtly. Since language is the tool of formalization of knowledge in those fields, it can be broken down and analyzed to logically demonstrate its inconsistencies and manipulations of reality. In *Surveiller et Punir (translated as"Discipline and Punish"),* Foucault [24] discusses his observations in French and reflects upon the ways of exercising coercion. In his discussion of the relationship between knowledge and power, he states that to the observer, it is not the experience of a subject that creates knowledge and its possible forms and domain, but rather the processes and struggles with the subject. Further, the author distinguishes between directly coercive power – such as threats and physical punishment – and more subtle ways of exerting power – such as the control of the recipient's vision of himself and the world through the influence of the language. According to Foucault, exercising control indirectly through language is more effective when there is no visible conflict.

3.5   Language and organizational control

The study of power and language has long been the focus of linguists, in a research body called critical language study [17] and has also been an important topic for philosophers and sociologists, but it has been underwhelmingly adopted in other fields

such as conceptual modelling, or in the context of organizations. The role of language as a tool for control in organization has been shown by [26], where the authors show that control can be exercised directly and coercively, but also more subtly *"through language and the construction and use of knowledge ... [to] encourage managers and employees to conform to organizational expectations "* [26, p. 2]. Similarly, in [27, p. 192], *"Objects for management control are decreasingly labor power and behavior and increasingly the mindpower and subjectivities of employees."* – objects for management control are thus more and more often symbolic items, such as language.

3.6 Literature gap

This section establishes how language has a strong impact on the field it seeks to describe, and that it is both an object of power struggle and a tool for domination. The case described in this paper seeks to apply these insights to the development of a lexicon within an organization, but we were not able to find publications that binds all those issues together.

4 Early findings and discussion

This section formulates five postulates based on the literature over language and power adapted to the context of developing a lexicon in an organization. It further discusses the relevance of these postulates in the context of our case. For each postulate, we describe how it was taken into account by the modelling team.

4.1 Postulate 1: modelers should focus on the pragmatic convenience of the concepts they define, rather than debating the "truth" of concepts.

This postulate is based on Wittgenstein's Philosophical Investigations [18]. In our case, we noticed that in defining the most important concepts in the organization's domain, respondents' main focus point was to avoid complications and future problems, rather than seek the true meaning of a word. For instance, there is an ongoing discussion about a new name to define an `activity`, which is a unit of production within the cooperative autonomously managed by a member, just like his or her own "quasi-enterprise". Two main candidates are the `unit` (in reference to the business unit) and the `enterprise`. Both could correctly define what an activity is, but the former conveys the idea that an activity is part of a whole (in this case the CAW) and could not exist without it, while the latter implies that the activity could exist by itself. We discovered that the second understanding could induce severe complications when members wish to withdraw their activity from the CAW, for instance in terms of ownership of the assets of the activity.

The team took this postulate into account by explicitly identifying the potential issues that could arise from choosing each concept. In the aforementioned case, for the sake of pragmatism, the team preferred the term `unit` over `enterprise`.

4.2 Postulates 2: modelers should spot unspoken areas and concepts – concepts for which words are lacking and therefore, are not present in the consciousness of the speaker.

This postulate is based on Wittgenstein's *Tractatus logico-philosophicus* [19], and is also related to the concept of construct incompleteness [28]. A language is said to be complete *"if every concept in a domain conceptualization is covered by at least one modeling construct of the language"* [28, p. 6].

In the case of the CAW we studied, we found that the adequate vocabulary was unable to express some realities. For instance, the vocabulary mostly assumes that an `activity` (which we described earlier as an autonomous business unit managed by a member) is managed by a sole `member`. As a result, there is no adequate vocabulary to distinguish between a `member` and his `activity`. This issue has been documented in other CAW in France, where "*the person and the activity are one*", [29, p. 66] such that "*the 'activity' itself is unthought [un impensé]*" [29, p. 57]. This lack of vocabulary to distinguish between the `member` and his `activity` has made it harder to conceive more complex activities, in which multiple `members` participate. For instance, today, it is possible to assign multiple `members` to an `activity`, but all revenues of that activity are necessarily attributed to the `activity holder`, and there are no words or concepts to name the relationship between the activity holder and the other members.

The team took this postulate into account by explicitly identifying some areas as tacit and proposing words and concepts that fill these gaps. In the example mentioned previously, the researchers imposed a clear separation between members and activities; accordingly, they coined two new concepts: `personal services` (i.e. service to members, regarding pay or employment status), and `economic services` (i.e. services to activities, including business advise and leasing assets). This allowed the team to start describe the rights and obligations of `members` towards their `activities`, which is a relationship that had not been thought of before per lack of vocabulary.

4.3 Postulate 3: in order to gain the monopoly of legitimate naming in a field, modelers must first earn sufficient prestige, reputation or fame within the field

This postulate is based on Bourdieu's *Raisons pratique* [23]. As we mentioned above, other attempts had been made to develop a lexicon at the CAW before, and all had been stopped as the teams had lost the confidence of the upper management along the way.

The team took this postulate into account by taking the time to earn legitimacy within all influence groups within the CAW. Receiving an official mission order from the upper management was but a first step and did not guarantee that all stakeholders would adopt the new unified lexicon and change their way of speaking about the CAW. Actions taken to acquire legitimacy included frequent interaction and communication, showing expertise by demonstrating, with the help of scientific literature, the usefulness of the project and most of all, hearing and incorporating the vision of each stakeholder in the final artifact.

4.4 Postulates 4: language is not a neutral object and is intimately tied to power struggles

This postulate is based on Bourdieu's *Language and symbolic power* [21]. In CAW just like in any organization, members can have conflicting interests, leading to power struggles, and language is one of the places where such a struggle can be observed. CAW are not immune to this, and we identified two types of power struggles in which language plays a major role. On the one hand, power struggles can oppose CAW to external forces such as worker unions who fear CAW represent an alternative to ordinary salaried work, with globally lower stability and worker protection; and government agencies who suspect CAW to give its members access to more social protection than they would otherwise have access to with a traditional freelancer status. This power struggle appeared very clearly in the discussions on naming `members`. Alternative terms that are considered included `salaried entrepreneur` – which is the term coined in law for French CAW but does not depict the reality of most members as they do not have an entrepreneurial activity, but rather work in subordination of an organization. On the other hand, internal power struggles can occur, for instance over the name given to the front-office workers. Calling them employees would be confusing, as the members of CAW also have an employee status from the CAW. The upper management tends to push for a term that would entail more involvement and commitment from the front-office workers, such as `mutualized team` – which would encourage these employees to become themselves co-operators of the CAW and commit voluntarily to tasks that exceed their boundaries, whereas front-office workers themselves tend to rather see themselves as regular employees with clear boundaries to their tasks, which would be more clearly conveyed in terms such as `workers of the mutualized services`.

The team took this postulate into account by explicitly formulating the consequences of the choosing of each term for each interest group within the CAW before settling on a specific concept.

4.5 Postulate 5: control over language can be a non-conflictual, indirect way to exert control over a group of people

This postulate is based on Foucault's *Surveiller et punir* [24], as well as authors that described the importance of language in the context of power in organizations, such as [26]. This postulate can effectively be illustrated in the case of the CAW. Hitherto, the front-office workers spend a major part of their time on administrative tasks related to billing, invoicing and fiscal obligations of activities and members. Yet, the upper management has long been pushing for front-office workers to also take up a consulting role and act as economic advisors to members. To support this objective, as well as applying the postulate 2 (see above), we coined the terms `personal services` and `economic services` – the earlier being related to administrative and the second to advisory tasks. Distinguishing these services allowed us to effectively monitor the time spent on each task, but also allowed us to complexify the description of the task sheet of front-office workers and change their vision of their own job.

5 Conclusion

The use of language as a tool for control and influence has long been described and discussed by philosophers, sociologists and linguists. However, it was sparsely considered as such in the field of conceptual modelling – rather, informal models such as a lexicon, which serve as basis for language, are seen as neutral objects, and potential first steps to developing formal ontologies.

Our work in a particularly democratic and egalitarian organization such as a CAW showed us the importance of being mindful of the political nature of language when developing a conceptual model. In doing so, we laid down some insights to answer the questions that we raised in the introduction. To the question: *what should the modeler do to acquire the monopoly of legitimate naming in an organization?*, we suggest to pursue pragmatic convenience rather than the truth of a concept (postulate 1), to unveil unspoken areas and concepts (postulate 2) and transparently make the effort of hearing and incorporating the vision of each stakeholder in the final artifact (postulate 3). To the question: *what should the modeler do to distribute the power given by the monopoly of legitimate naming in an organization?*, we suggest to explicitly and transparently describe the consequences of naming a concept for each interest groups (postulate 4), and being mindful of the strategic orientations that are conveyed by the chosen terms and of the influence those terms can have on the recipients' view of their missions.

With this paper, we hope to share some insights in how modelers can integrate those aspects, not only in democratic organizations, but in any organization for which transparency and fairness is important. Future area for research on the topic could include an empirical evaluation of transparent, fair and democratic methods of conceptual modelling in organization, based on a full roll-out of the artifact in an organization

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