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The performativity of a management accounting and control system: Exploring the dynamic relational consequences of a design

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ABSTRACT

This paper contributes to the knowledge of the performativity of accounting by exploring the unexpected consequences of a management accounting and control system (MAC) as designed in a large public organization. In an organization in the Dutch sector of Nursing Homes, Homes for the Elderly and Homecare MAC turns from a system into an actor-network. Rather than being a stable answer machine in the context of decision making or a ready-made tool for performance management by which distant (top) managers and controllers aim to measure and manage performance from time-space distances, MAC is grounded in relations and performatively develops. As such, it becomes multiple.

The study shows how the performativity of MAC goes beyond its functionality. Though originating from MAC's functional design, MAC's performativity is not simply about the degree to which it realizes the intentions of its designers, but is about its dynamic relational consequences. Controllers should mediate in the dynamics of MAC so that processes of learning are enhanced and the quality and efficiency of the care practices develop.

1. Introduction

Rising health care expenditures are not an exclusively local problem. Conrad and Guven Uslu (2012) put these rising expenditures in an international context and show how several authorities in different countries try to curb care expenses by means of a so-called 3E approach. In this approach the focus is on economy, efficiency and effectiveness. In line with the New Public Management (NPM) agenda, it is held that health care organizations are compelled to contain costs, improve efficiency and create better value for money by making health care practices receptive to private sector operational models and financial reports (Conrad & Guven Uslu, 2012; Custers, Arah, & Klazinga, 2007; Kurunmäki, 1999; Macinati & Anessi-Pessina, 2014; Malmmose, 2015).

Against the background of the discourse on NPM, management accounting and control (MAC) ideas and artefacts were introduced in health care organizations. Abernethy, Chua, Grafton, and Mahama (2007) describe how the introduction of MAC in health care has led to an impressive body of research on the application of MAC in this new environment. A vast majority of this research takes a functionalist approach, focusing on the design characteristics of for example budget systems, new forms of costing systems, performance measurement systems and benchmarking (Abernethy et al., 2007). Common ground between these studies is the assumption that MAC "will provide accurate, timely and unequivocal answers for decision facilitation and control, despite the fact that when objectives are ambiguous or the nature of the work performed is uncertain these systems are limited for either purpose" (Abernethy et al., 2007, p. 841). At least, these functional studies give evidence that accounting and control exceed the domain of (management) accountants and controllers and penetrate (deeply) in the domain of managers (Gerdin, Messner, & Mouritsen, 2014).

In contrast with functional studies, relational studies do not presume that performance is ontologically separate from MAC and that MAC simply serves distant decision makers and controllers to improve the performance in health care. Relational studies show how MAC is not a neutral instrument, or, to use Latour's term, a neutral 'intermediary' (Latour, 2005b) in reaching intended goals. Rather, MAC is a mediator. As a mediator (Latour, 2005b) MAC adds and/or distracts something to or of the original intentions, thus having unexpected and unprogrammable consequences. Such consequences can be explored by deploying MACs network. MACs network is not a net that embeds MAC as an entity, but is a description of its networked associations with other human and other-than-human entities. Through its network MAC enacts and is enacted upon, thus participating in the shaping of reality. In

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describing its network MAC is reconceptualized from an instrument or a system to an actor-network (Latour, 2005b).

Relational studies into accounting in health care for example examine how case-mix accounting interactively shapes reality rather than representing an existing reality from the outside (Chua, 1995). Kastberg and Siverbo (2016) explore MAC's role in the horizontalization of health care organizations. More in particular, they explore the role of accounting in complementing vertical and functional organization forms with lateral, team-based and empowerment-based structures (Chenhall, 2008). They contrast their relational perspective on MAC with a functionalistic contingency perspective from which a successful design and implementation of MAC is considered to be the result of a good fit between MAC, environment, organization structure and organization culture (Flamholtz, Das, & Tsui, 1985).

Relatively recent reviews of relational research into accounting (not restricted to health care) are those by Justesen and Mouritsen (2011) and Robson and Bottausci (2018). Justesen and Mouritsen (2011) advocate the further study of accounting as a 'matter of concern' rather than as a 'matter of fact'. A 'matter of concern' is an "issue we care for" (Latour, 2005a). Different from a 'matter of fact', a 'matter of concern' complicates and keeps controversy alive. Viewing accounting as a 'matter of concern' urges researchers to keep the accounting phenomenon 'open' and to study how many participants are gathered in accounting to bring it into existence, to maintain and develop it, often into multiple objects. In line with this, Robson and Bottausci (2018) remind us that accounting is a networked practice. As such, accounting innovations emerge from processes of network formation. In the process of network formation, designed accounting technologies circulate and (re)acquire and shift meanings, purposes and features through their mobilization and the resistances they meet (Andon, Baxter, & Chua, 2007; Briers & Chua, 2001; Chua, 1995; Preston, Cooper, & Coombs, 1992).

Our relational study of MAC opens up the accounting phenomenon in a healthcare organization comprising nursing homes and homes for the elderly. It accounts for how MAC emerges, enacts and is enacted upon by many others, both humans and other-than-humans. Drawing on insights from actor-network theory (e.g. Callon, 1986, 1999; Latour, 1987, 2005b; Law, 2004; Law & Singleton, 2005, 2014) MAC is treated as an actor-network rather than as a system that is straightforwardly used by a managerial center. Although MAC enters the organization as a design it is not straightforwardly implemented and then used. As an actor-network, MAC interactively develops in the (re)constitution of its network. As an actor it has a relational agency (see also Mahama, Elbashir, Sutton, & Arnold, 2016), that is it has the capacity to enact upon other actors, both of a human and other-than-human nature. As a consequence of such relational agency it is performative, that is it has mobilizing and generative consequences. Our relational study thus offers a flat ontology: accounting as an other-than-human actor and human actors are at the same plane.

In particular, our study focuses on the performative development of MAC in an organization in the Dutch sector of Nursing Homes, Homes for the Elderly and Homecare. This sector was the first to absorb the NPM infused policy and to apply MAC organization wide (ActiZ, 2010, 2014b). MAC originated as a design. Against the background of the discourse on NPM the Finance & Control (F&C) department designed a management accounting and control system (MAC) that was intended to be functional both in supporting decision making by top management and in the management of the performance of many parts of the organization. Once MAC was designed as a system, it was introduced in the organization, where it started to travel across spaces inhabited by many actors, both of a human and other-than-human nature.

The main questions that guide our study are: how does MAC as designed by the Finance and Control department perform? Which (un) expected effects does it generate and how do these effects impact its existence? Particularly, our study discloses how a functional design opened up a relational agency of MAC with performative consequences and how, in turn, as a consequence of such performativity MAC differentiated into multiple MACs.

In a general sense our study contributes to a vast and growing number of studies that reveal how accounting is powerful because of its ability (or lack thereof) to hold together and to develop a network of which it is a part (Chua, 1995; Dambrin & Robson, 2011; Jordan & Messner, 2012; Preston et al., 1992; Qu & Cooper, 2011; Robson, 1992; Wouters & Wilderom, 2008). More in particular, our study contributes to the literature on the performativity of accounting (e.g. Busco & Quattrone, 2018a, 2018b; Minnaar, Vosselman, Van Veen-Dirks, & Zahir-ul-Hassan, 2017; Mouritsen & Kreiner, 2016; Revellino & Mouritsen, 2015; Vosselman, 2014; Zahir-ul-Hassan, Minnaar, & Vosselman, 2016) by demonstrating the performativity of a management accounting and control *system* as it is *designed* from the intended functionalities of decision support and decision control. In demonstrating such performativity we contribute to the further development of a relational ontology of MAC.

This study is structured as follows. The next section positions our study in extant knowledge on the performativity of accounting. Subsequently, the research methods used in this study are clarified, followed by the presentation of the case study. Then conclusions are drawn and the consequences of the study in terms of its theoretical and practical implications are discussed.

2. The performativity of accounting and the development of a relational ontology

Our study adds to the literature on the performativity of accounting. In a general sense, such performativity has been shown to be a consequence of a relational agency of accounting (see also Mahama et al., 2016). Accounting's relational agency is its capacity to enact and to generate effects in association with other human and other-than-human actors. As Carlsson-Wall, Kraus and Messner note "the notion of "enactment" alludes to the way in which actors produce part of the environment they face by acting upon it" (Carlsson-Wall, Kraus, & Messner, 2016, p. 48).

To a considerable extent studies have focused on accounting's relational agency in association with economic theory and economic discourse. To different degrees, accounting proves to succeed in enacting the patterns of both rational and opportunistic human behaviour as postulated by economics, thus giving some support to Callon's 'performativity thesis' (Callon, 2007); see Vosselman (2014), for a review. The 'performativity thesis' states that rather than explaining and/or predicting a reality that is prior to and independent of economic theory, neo-classical institutional economics is succeeding in the materialization of its ideas and of the behavioral assumptions that are at the basis of the theory. It is important to note that the thesis is on the performativity of economics and not on the performativity of accounting. Accounting may be a mediator in the performativity of economics, though.

However, there is also extant research that does not explicitly relate accounting's relational agency to the performativity of economic theories or discourses, but that addresses accounting's relational agency in the realization of a decision. Mouritsen and Kreiner (2016) remind us that a decision cannot be straightforwardly implemented, but has to travel through places where also accounting may be active. Whether the decision (completely) realizes itself cannot be determined beforehand; the decision meets unexpected obstacles and/or felicitous conditions. Here, the performativity of accounting results from its relational and generative capacity to make the *decision* do certain things. Through interactions, accounting brings forward consequences that do not live up to the promise laid down in the decision (see, for example, Murthy & Mouritsen, 2011), or, reversibly, that go well beyond such promise (see, for example, Revellino & Mouritsen, 2015).

Other studies conceptualize accounting as an engine that interactively brings actions, events and actors forward. Rather than a simple

answer machine (a term borrowed from the seminal work of Burchell, Clubb, Hopwood, Hughes, & Nahapiet, 1980) in a context of decision making where decisions have immediate and intended consequences, accounting is a developing engine. Revellino and Mouritsen (2015) borrow the notion of an engine from the canonical work of MacKenzie (2008), that highlights that theories or theoretical frameworks are engines rather than cameras. In their study regarding the Italian innovation Telepass they even go beyond McKenzie by articulating that the calculative practice is an engine but not a stable one. They show that whereas initially accounting calculations were supportive of a decision to replace toll boots with automatic toll-collection devices, thus promising a reduction in the investments of land needed to increase the space for toll booths, the decision set in motion a series of actions in which accounting was performative, resulting in consequences that by far exceeded the intentions in the original decision situation. In ongoing interactions not only the strategic options, but also the calculative practice (the engine) changed.

Related to the conception of accounting as an engine, Busco and Quattrone conceptualize accounting as a machine that does not produce material movements, but inscriptions (Busco & Quattrone, 2018a). Inscribing includes both reduction and renewing (Latour, 1987, 1999; 2005a, 2005b). Inscriptions reduce the organizational practices to what is inscribed while at the same time allowing for inventions and interventions through which the organizational practices develop. They invite to explore and interrogate that which is not visible (Busco & Quattrone, 2018b). Busco and Quattrone (2018a) particularly show how accounting is an inscribing machine in the practice of developing a new fashion line. It is its character as an inscriptive device that makes accounting performative (see also Dambrin & Robson, 2011).

Whilst Revellino and Mouritsen (2015) study the performativity of a calculative practice and Busco and Quattrone (2018a) study the performativity of accounting inscriptions in the form of budgets, cost cards and scorecards, we focus on the performativity of a management accounting and control *system* as it is *designed* from the intended functionalities of decision support and decision control. In doing so, the study explicitly relates performativity to functionality. Although we associate the design of MAC with the discourse of New Public Management our study is however not about the mediating role of accounting in the performativity of a discourse or of economic theory (see Vosselman, 2014). We focus on the performativity of MAC as a system. Although such performativity is set in motion by a functional design, performativity is not about how MAC is (un)successful in realizing its intended functionalities. Rather, it is open for the unexpected and the non-programmable (see also D'Adderio, Glaser, & Pollock, 2019). We are interested in the course of the performative process and in the diversity of the performative outcomes. Essentially, our account of MAC's performativity is a relational account, revealing how a MAC-design has non-linear and dynamic, non-programmable consequences. MAC causes dynamics in interactions and impacts on entities, while at the same time changing itself.

2.1. Developing a relational ontology of MAC

By studying the performativity of a MAC-design we aim to contribute to a further development of a relational ontology of MAC. In a philosophical sense, in a relational ontology MAC is both (re)shaped and performative through its associations with others (Law & Singleton, 2005). A relational ontology is an ontology of becoming that can be contrasted against an ontology of being (Introna, 2013). In an ontology of being MAC is a ready-made artefact constructed by humans and straightforwardly implemented and used in the organization. It may be a performance measurement system that represents the performance of (a part of) an organization and that subsequently enables intervention from a space-time distance. Representation and intervention form a dualism in performance management and such performance management is separated from organizational performance itself.

In contrast, a relational ontology rejects such a separation between organizational reality and the management of it, and the dualism between representation and intervention. In a relational ontology, MAC's enactments and developments are network effects. MAC is an actor-network that attracts and mobilizes a heterogeneity of actors. It mediates in the constitution of organizational reality and, as a consequence, it changes itself. Rather than representing performance on the basis of which distant managers are allowed to intervene, MAC is performative. Performance refers to what a certain *entity* achieves (performs) when placed in a certain context. It fits with an ontology of being. Performativity goes beyond that (see also Orlikowski & Scott, 2013). It concerns the constitution of reality through the relational agency of heterogeneous actors, thus fitting within an ontology of becoming.

The development of a relational ontology of MAC goes beyond the dualism between coercive and enabling control. This dualism was introduced by Adler and Borys (1996) and was brought to the accounting community by Ahrens and Chapman (2004). Since then, it has been explored in different settings (for example Chapman & Kihn, 2009; Free, 2007; Jordan & Messner, 2012; Jørgensen & Messner, 2010; Wouters & Wilderom, 2008). The dualism enables a certain understanding of how people react to control systems. In Adler and Borys' original framework, both coercive and enabling forms of control are the result of design activity and of the way the design and implementation of control is organized. A control becomes enabling when, firstly, managers at various levels of the organization are allowed to formally repair the control system so that it fits the specific circumstances of their departments; when, secondly, the control system is internally transparent in the sense that managers can see through and understand the logic of the system; when, thirdly, the control system is globally transparent in the sense that managers can see through both the upstream and downstream consequences of the activities and output of their departments; and when, fourthly, the control system allows for a relatively flexible use. Although it might be tempting to view enabling control as a concept that by providing space for flexibility opens up possibilities for the unprogrammable and the unexpected, it is not a concept that fits with a relational ontology of control. The dualism between coercive and enabling control is rooted in a central and bureaucratic orchestration of control. The controls are instruments, not actors. As instruments they remain subordinate to human beings, both to central managers and managers in the periphery. The dualism between coercive and enabling control is thus grounded in functionalism. For example, Jordan and Messner (2012) show how in coercive control accounting serves as a management control instrument for top management, whereas in enabling control accounting has action-facilitating roles for operational management whilst staying in line with 'global' goals.

3. Research methodology

With the previous theoretical considerations in mind, this study aims to answer the empirical research question: How does MAC enact and how is MAC enacted upon by other actors in an organization, operating in the Dutch branch of nursing homes, homes for the elderly and home care?

In line with Bédard and Gendron, this study used three sources of data: semi structured interviews, documents and observations (Bédard & Gendron, 2004). A list of all interviews, specified by position, date and length of time, as well as a record of the relevant documents are added as Appendix A. Multiple sources of data offer the possibility to use triangulation (Marginson, 2004; Scapens, 2004; Yin, 2009). In traditional case studies triangulation has a rather ostensive disposition and is used to reconcile conflicting empirical findings in order to demonstrate the reliability and objectivity of research findings (Yin, 2009). Such an application of triangulation is at odds with our aim to highlight the enactment of MAC and to theorize from that. Therefore it is clarifying to mention that in this study the technique of triangulation

was used to highlight "constellations of multiple exponents of equally valid 'truths'" (Lukka & Modell, 2010). By means of comparing various sources, missing and conflicting data were revealed which led to follow up questions.

The TRG case study was initiated after an encounter between the TRG concern controller and one of the researchers during a symposium on finance in health care. This first encounter was followed by three meetings to clarify the research plans. At first there was some worry whether this case study could objectionably interfere with the ongoing reorganization but eventually the Board of Directors changed the signal to green.

During the interviews, that lasted between 57 and 108 min, an atmosphere was sought to ease interviewees to bring up issues not anticipated (Tucker & Parker, 2014). Follow-up and probe questions were asked for further explanation and clarification of initial answers (Bailey, 2007). The interviewing took place in Dutch and was performed in a sequential way: acquired insights legitimized the possibility of adding new questions or altering existing ones. In fact, there was an intertwining relation between data collection and data analysis (Marginson, 2004). The interviewing lasted until signs of saturation arose (Ahrens & Dent, 1998; Marginson, 2004). After the transcription of each interview, the interviewee was asked to comment on the transcription. In total, 21 employees of TRG were interviewed by one and the same researcher. In addition to the taped interviews and transcriptions, the researcher kept a logbook. This was done with regard to notable postures during the interviews and remarks that preceded or followed the taping of the interviews. The logbook also proved to be useful for observations during meetings and during interviews when interviewees were politely asked to demonstrate how they used for example the financial statements and dashboards. Observations are important due to the experience that written information may differ from actual processes (Bédard & Gendron, 2004).

In addition to the interviews, to verify and complement statements which were made during the interviews 27 documents were reviewed and analysed. To facilitate the process of sorting and analysing the data the interview transcriptions, documents and observation records were uploaded in ATLAS.ti. Moreover, this software offered the possibility to leave an audit trail (Miles & Huberman, 1994) to demonstrate the reliability of the findings. Next, these so-called 'primary documents' were coded. Starting with a list of conceptual codes, which were derived from the theoretical backup, free codes were added in accordance with empirical data and with suggestions that emerged during the coding process. This process is called bottom-up or inductive coding. The possibility to add free codes was frequently used and prevented the danger of forcing data into predefined frames. To decide on a finale list of codes, two researchers independently coded several interviews, leading to an inter-rater coding reliability up to 88,7%, well within the minimum margin of 80%–90%. This margin is accepted as standard to assess this type of reliability (Malina & Selto, 2001; Miles & Huberman, 1994).

4. Case study: The Relief Group

4.1. Introduction sector developments

The Dutch sector of Nursing Homes, homes for the Elderly and Home Care faces elementary changes. Up until 2009, the earnings of these health care organizations were dependent on a reimbursement based on capacity, expressed in parameters such as the number of beds. The earnings of health care organization depended on the capacity as granted by the central government. Consequently, from the perspective of risk management the main task was to safeguard and possibly expand this granted capacity.

As off 2009 the system of reimbursements has changed dramatically. These changes were prompted by statistics which showed that the expenditures on long-term care in the Netherlands had risen to alarming levels. In line with neoliberal and NPM-infused policies the system of reimbursements was reorganized on a free-market basis, primarily aimed at cutting costs and doing 'more with less' through better management, transparency, user choice and contestability (Hood, 1995). In a short period of time care organizations had to transform from risk free financed public services to market oriented social enterprises.

4.2. Introduction of The Relief Group

The Relief Group (TRG) is a healthcare organization which comprises a total of 12 nursing homes and homes for elderly. In the annual report 2013, TRG accounts for a capacity of 1153 intramural places and 2272 extramural clients. According to the P&L statement 2013, total revenues were € 94,600,745 and the year was closed with a profit of € 717,078.

TRG is the result of a gradual process of co-operation and mergers from 2000 until 2008. The last merger was formalized in 2008 after which the new family name 'The Relief Group' was introduced. To characterize this merger it is important to note how this new name was visualised. Next to the name of the location in bold big letters, the name 'The Relief Group' was added in a smaller and less dominant letter type. Although operating under the same family name, several locations cherished their singularity according to the so-called 'couleur locale' concept.

In the course of this case study, the organization chart of TRG showed a senior management which comprised of a two-headed Board of Directors and seven managing directors in command over twelve intramural locations. They were assisted by several heads of staff, including a medical staff, a staff Human Resources and a staff Finance and Control. Per location the organization charts were different. Some locations had middle managers who reported to the managing director of the location and were responsible for their own group of team managers. Other locations had no middle management. In these locations the managing director and team management were direct interlocutors.

In the years 2013 and 2014, the period in which the interviews took place, there was a major reorganization in progress. Space to propagate the 'couleur locale' was restricted in favour of unified and standardised processes. Economies of scale were strived after by establishing a shared service centre (SSC), where back office activities were clustered. In the annual report 2013 this process was labelled as an 'internal merger'. However, the reorganization also had decentralizing effects. Aiming for a reduction in personnel costs as well as for a more flexible client oriented care, by eliminating management levels the management structure was flattened through delegating tasks and responsibilities to operational management. Care teams were expected to become more self-organizing and autonomous. After all, so was the line of reasoning, custom-made care services were not possible without a decentralized, flexible and empowered management that was able to closely monitor the desires and needs of a new and different type of client. In the words of a location manager:

> *"The so-called 'thankful generation' fades out and a new assertive and demanding type of client enters."*

According to the annual report 2013, TRG had a strong financial position. Nevertheless, in his forecast, the Head of Finance and Control staff announced that in the years 2014 and beyond results would deteriorate in a fast pace. It was alarming that in the five years up until 2014, TRG made a loss on care services. This loss was more than compensated for by profits on the housing of clients. However, new regulations effected the remunerations on housing and as a consequence the core of the health of the financial results of TRG. This urged a reorganization and asked for a sophisticated MAC-design. One controller stated:

> *"Care organizations are becoming regular companies. We have to justify*

the spending of taxpayers' money. So efficiency, making optimal use of budgets and corresponding application of MAC have to become common practice."

In general, employees of TRG realized that external pressures and developments had far reaching consequences for the organization. Governmental measures to contain the national healthcare budget and new regulations concerning the remuneration of care services gave rise to many uncertainties. It was discussed whether customary care provisions were still possible, and whether they were flexible enough to satisfy the needs of a new generation of elderly. Thus, present reforms were not simply driven by budgetary considerations. One manager commented:

"*It is not just a question of how to economize on spending. These kinds of questions presume that the context stays the same. But this time the context is changing as well."*

4.3. A MAC-design as a promising solution

MAC was introduced as a promising solution. Particularly the Finance and Control (F&C) department regarded it as instrumental to the measurement and management of performance. Against the background of realized and further expected declines in revenues, as well as of the rise of a new more demanding generation of elderly, the need for an effective and efficient delivery of care services increased and it was thought that MAC would be instrumental in improving such effectiveness and efficiency. By means of a newly designed MAC-system and its objectifications such as monthly financial reports, the F&C department mapped and monitored the new risks both at senior and operational management level. Such monitoring (or re-presenting) enabled senior management to intervene, it was thought.

However, MAC was not only intended to become a performance measurement- and management system, but also to become a tool for decision support. At senior management level the desire for MAC information was particularly fuelled by the continuous change in financial regulations and the dominance of the health care insurance companies, with whom the Board of Directors had to negotiate about the volume and tariffs of care-weighted packages. To navigate in this slippery and risky environment, senior management was in need of more detailed MAC information. For example, in the negotiations with the health care insurance companies, overall figures on expenditures did no longer suffice. Therefore, in order to safeguard at least a minimum net margin on the production of weighted-care packages top management asked the Finance and Control (F&C) staff for more detailed cost figures. To enable a calculation of the costs per care-weighted package as accurately as possible, as part of MAC F&C designed a cost allocation system.

4.4. The performativity of MAC as a promising solution in the context of strategic decision making

Once MAC was introduced in the organisation, it enacted and was enacted upon in its associations with other actors. For example, the aforementioned cost information was not only enacted upon in the negotiations with health care insurance companies, but offered unforeseen possibilities as well. The cost allocation system (as part of the MAC-system) set unanticipated sayings and doings in motion; it made senior management ask the F&C staff to extrapolate cost figures in the form of long-term forecasts that were used in strategic discussions. Was it wise to concentrate on specific care services? Was it for example wise to focus on patients with a high indication for care? And what would be the economic consequences of such choice? Senior managers expected MAC to provide them with convincing answers to these questions.

With the request for more accounting information a kind of flywheel was set in motion through which accounting information disclosed unanticipated risks and consequently generated new actions and new calls for accounting information. MAC indeed became performative. For example, fuelled by financial scenario analyses senior management started to discuss possible consequences of 'extramuralization' of clients with a low indication for care. Extramuralization entails a removal of elderly people from the Elderly Home to specific apartments where they could still benefit from TRG-care at a distance. As a consequence of such extramuralization calculations showed a potential decline in revenues of about twenty percent, and if such a decline would be realized it would entail a necessary closing down of residential capacity. These calculations therefore raised new questions that needed additional information from the F&C staff. For example, the answer to the question whether potential clients were able and willing to pay rent for TRG apartments with nursing aid nearby, disclosed the risk of building apartments that were possibly too expensive. This resulted in a request for information on the demographic and social status of people living in the reference area of TRG. In line with this request, the profile of the 'thankful and dependent' client, which did not seem to be congruent with MAC, gradually moved to the background in exchange for the image of the emancipated care consumer, with or without the purchasing power and with or without the willingness to pay for additional care. In other words, the type of customer smoothly harmonized with the MAC terminology, thus underlining its performativity.

In the years 2010–2014, there was a vast increase in the enactment of MAC in TRG's boardroom. In this period, senior management asked for a specification of location budgets into departmental budgets per location. The frequency of the provision of financial statements was raised from once per quarter to once per month. F&C produced more and more detailed monthly statements that included efficiency ratios and forecasts. In addition to the monthly recurring figures, an impressive pile of business cases, liquidity forecasts and long term scenarios was produced. Also, benchmark information was added. In 2012, the first internal benchmark was drafted, comparing the twelve locations of TRG with one another. In the annual statement 2014, the Board explained that TRG participated in a nationwide benchmark and that the benchmark results were "reassuring". According to a member of the Board of Directors, all this new information enabled a necessary improvement in strategic decision making.

"Thanks to scenarios, business cases and long term forecasts, we are able to analyse the effects of various plans. Some years ago, this was unknown to us."

In parallel with this development, the agenda of the Board of Directors was increasingly dominated by finance-related issues. In a conversation in January 2014, the concern controller estimated the number of finance related agenda items to be 80%. At that time, the decision was taken to invest in a software package called Corporate Planner. This strategic planning tool was supposed to provide an integrated and flexible picture of future scenarios and was the tentative climax of the vast growth of MAC. Responding to the question why the Board of Directors became so eager to achieve MAC information, one of its members explained that their first and most important task was to keep TRG in control:

"We are in a continuous transition, in an ongoing flux, and the thrilling question is how to stay in control."

Although most senior managers did not have a background in Finance or Business Administration, they all realized that MAC provided outcomes and associated lines of action that proved to be convincing in the ongoing reorganization at TRG. Moreover, in the continuously changing and therefore slippery environment, senior management realized that in the interchange with for example authorities and insurance companies, MAC outcomes were a legitimizing support for their choices and actions. This experience fostered their association with MAC.

4.5. The performativity of MAC in the context of performance measurement- and management

To monitor budgets and to prevent overspending, senior management in TRG chose a strategy of delegation of finance-related tasks and responsibilities to operational management. The monitoring of operational costs was entrusted to the team managers who were confronted with a myriad of day-to-day problems, so was the line of reasoning. At senior management level, aggregated outcomes on costs and expenditures proved to be difficult to interpret with regard to underlying causes and explanations. Because team managers were familiar with the day-to-day processes, they were better equipped to explain cost increases and to control them. Obviously, team managers were in the position to nip possible overspendings in the budget. At operational level, MAC was first introduced in 2010/2011 through the introduction of the so-called 'integrated survey'-design. The main performance parameter in this survey was the *gross margin*. This margin was calculated as a percentage of the difference between production revenues, allocated on the basis of care-weighted packages minus direct salaries, divided by production revenues. In 2013, this performance indicator proved to be a dominant and guiding figure in the evaluation meetings where the departmental performances were evaluated. In fact, to many team managers MAC boiled down to this single percentage. Quotes like:

"… my department has to score at least this percentage…"

were numerous and were used as an argument and an explanation to underpin managerial actions to balance the seemingly unlimited need for care and the necessity to control costs. Moreover, several team managers admitted that this percentage was more or less related to the quality of their sleep during the nights.

To somehow control the gross margin, team managers had the so-called HHM model at their disposal. This calculation model was developed by a consultancy firm called HHM and was bought by TRG in 2010. Based on an input in terms of the volume and weight of care-weighted indications, this model calculated the permitted direct costs of personnel related to full time equivalents. Although managers considered this model to be a black box, the outcomes were unanimously qualified as powerful. Several team managers explained how they used these outcomes as legitimizing arguments in team meetings and meetings in the context of individual counselling. According to a team manager:

"Workload is of course a personal and subjective sentiment. I am glad I have objective figures at my disposal to demonstrate whether these feelings are justified or not."

But apart from the gross margin and the number of full-time equivalents as outcomes of the HMM model, team managers hardly bore witness of further financial awareness and knowledge. Moreover, in many cases the new challenges proved hard to meet. Time and time again, budgets were too restricted and were difficult to balance with the pursuit of providing proper care services in accordance with the corresponding protocols. By means of economizing on night shifts and deployment of less well trained and therefore less expensive personnel, tight budgets were anxiously balanced with the quality of care services. Because of this, the risk of financial overspending became entangled with the risk of providing inadequate care services. Team managers who succeeded in this balancing act were heralded to their colleagues as providers of best practices. These colleagues were reluctant to do the same, either out of discontent or out of fear for failure. The opinion of this latter category of managers reverberated in the following quote of one of the team managers:

"MAC are not seen as a challenge but as a nightmare in which everything depends on whether you are able to prevent red dashboard lights. MAC are well suited for senior management to manage and control the organization. The presumption that these MAC are also suitable for lower levels in the organization is a misconception."

In the travel and translation of MAC, F&C staff played an essential role. They were explicitly in favour of the ongoing reorganization and therefore more than willing to fulfil the new and urgent need for MAC information. They criticized the inefficiencies in current practices and had little or no sympathy for the arguments of managers who clutched to the 'couleur locale' principle. Their aim was to continue the development of a companywide central, streamlined and transparent back office on the one hand, and decentralized and flexible care services on the other hand. To stay in control, it was up to MAC to connect the decentralized care services with the central office.

"TRG needs integrated and advanced MAC which will provide the Board of Directors with the proper tools to verify whether budget responsibilities are really taken and make sure they do not have to rely on random circumstances and competencies."

Aforementioned conception of one of the controllers was broadly endorsed by senior management. Both F&C and senior management saw MAC as the solution to a double problem: how to stay in control despite the many external financial challenges on the one hand, and the delegation of responsibilities to operational management on the other?

Worth mentioning was the role F&C staff pictured themselves in. Several quotes indicate they felt that their role gained weight. This change paralleled the growth of MAC and questions surrounding MAC from managers without a financial background. A controller commented:

"First it was head bookkeeping and I was the little assistant. Now it is concern controller and I am one of the controllers."

Compared to MAC's enacted among senior management echelons, the effect of MAC amongst operational management was somewhat unsettled. There were success stories of best practices, such as indicated in the following quote of a controller:

"*After explaining the figures, this team became very curious. Nowadays the team manager mails me when the financial reporting meets some delay. They are eager to find out what the results are and whether their actions are reflected in these numbers."*

But quotes from controllers that draw an opposite picture were noted as well:

"Now and then I provide a team manager with a report full of dreadful negative financial results. And nothing happens. No questions are asked, no evident actions taken. How can that be?"

According to F&C staff, there were two obstacles which accounted for the limited enactment of MAC at operational management level so far. First, there was the lack of financial knowledge amongst team managers who mostly had a background in nursing or a comparable health care profession. The second obstacle was the layout and design of MAC artefacts, which had an alienating effect on non-financials like team managers. The 'integrated survey', which was drawn up every month per location and send to all managers of that location, consisted of thirty pages filled with tables and (detailed) figures without any noteworthy explanation. Almost all team managers concentrated on the page where the gross margins per department were displayed and looked for the table of allocated full-time equivalents of their department. The rest was skipped, either because their ability to influence these outcomes was limited to nil, or because they simply did not understand the meaning of these figures. In order to familiarize operational management with the blessings of MAC, the design and presentation of MAC information had to be customized according to the needs and competencies of team managers, so was the line of reasoning by several controllers of F&C staff. To effectuate this expectation, in 2013 a team of controllers started the development of dashboards. This was the first clear manifestation of MAC differentiating towards

different managerial levels.

In sum, the previous sections show how at TRG MAC was introduced as a promising solution. However, MAC proved to become more than just a simple answering machine to facilitate managerial decisions and managerial control. The introduction of MAC initiated a process through which new problems emerged, which in turn asked for additional MAC information. Apparently, there was interaction between, amongst others, managers, controllers and MAC. In this interaction, MAC proved to be an actor, being able to infiltrate the managerial centres at TRG, influencing and prioritizing the considerations and actions of managers. In other words, MAC turned out to be performative. By dominating the strategic agenda of senior management and by penetrating the domain of health care considerations, MAC developed in an unforeseen way. In addition, as will be illustrated in the next section, MAC proved to be susceptible to relations with other (human) actors as well. The aforementioned design of dashboards to facilitate team managers with a more user-friendly display of MAC information was a clear sign of this reciprocal relation.

4.6. The performative differentiation of MAC

In the summer of 2013, the new dashboards became available to the team managers in TRG. They all received a username and password by mail to log in on the new digital service of F&C staff. The overall structure of the digital dashboard contained four displays: personnel, production, clients and quality. Each display offered possibilities to drill down for more detailed information, such as the number of flexible labour contracts, the employee turnover, absence through illness, outstanding holidays, productivity, number and types of weighted care packages, the turnover of clients, etc. The possibilities to click for more detailed information were numerous. Both content and design of the displays were initiated by F&C staff and fine-tuned in consultation with groups of team managers. Several sessions were held in which concepts of displays were presented and subsequently adjusted in accordance with comments by team managers.

The dashboards were introduced as an alternative to the 'integrated survey'. Several staff members of F&C were quite pleased with the dashboards. They expected that the dashboards would allure and enable team managers to look beyond the gross margin and to monitor more closely the factors which determined the gross margin outcome. One F&C staff member even stated:

> "*MAC information for team managers has been stripped of all its frills and is so compressed and hands-on by now that further adjustments are unnecessary and even impossible.*"

Contrary to the expectations of F&C staff, the new dashboards were anything but an immediate success. Four months after the introduction of the dashboards, several team managers barely enacted upon the dashboards. During the interviews in November and December 2013, team managers were asked to show the interviewer the dashboard of their department. In several cases team managers proved to be barely acquainted with its possibilities. Some team managers reasoned that after getting acquainted with the integrated survey thanks to a lot of effort, they did not like to – what they experienced as – give up this acquired competence and start this laborious process all over again. One manager, doubting whether the new dashboards were really necessary, warned that processes might become too much system driven.

> *"If the prime worry of managers becomes preventing red flash lights in their dashboards, managers will lose their motivation."*

Other team managers criticized the dashboards with regard to its content. A number of team managers stated that the numbers and percentages, as displayed in the various dashboards, did not match with reality.

> *"According to this graph my employee turnover is 27%. But in reality I haven't had any turnover for months. So how to explain this 27%?"*

One manager uttered some frustration: after improving the sick leave ratio from 8% to 6%, the dashboard still signalled red colours because the norm was 5%. And another team manager had difficultly to see at first glance to which period certain figures related, resulting in all kinds of misunderstandings.

Remarkable was the reaction of the so-called front-runner teams. In the spring of 2013, five of these teams, all operating in the home care division, were formed. The front-runner teams were entrusted to experiment and develop an autonomous or self-organizing way of providing care services, apposite to the reorganisation of TRG. They had to take the lead in developing a TRG model of self-organizing teams. Precisely these front-runner teams decided to develop dashboards of their own, thus questioning the validity of the dashboards which were introduced by F&C staff. The plan of action, dated November 2013, proposed that the front-runner teams should be equipped with a new so-called 'toolbox':

> *"Without interference of existing systems … the goal is to re-arrange the relevant information which is needed to support the teams."*

The project manager, who coached the front-runner teams, stated alternative dashboards were needed because aforementioned dashboards, developed by the F&C staff, indicated what he called "a top-down way of reasoning". Instead, the type of information in the alternative dashboards should be defined bottom-up by putting team managers and their teams in the lead with regard to the information and layout of the dashboards.

At the end of 2013, the first concrete ideas were developed by which the dashboards of a successful colleague care organization were used as best practice and source of inspiration. With regard to topics such as satisfaction of clients and quality of care service, the dashboards of F&C staff and the alternative dashboards were more or less interchangeable. With regard to the finance display, the alternative dashboard was essentially confined to two percentages. The first was a percentage on productivity, calculated by dividing the number of client hours by the number of salary hours. The second figure was a percentage which indicated the minimum percentage a team had to achieve to break even. At the end of the period in which the interviews took place, it was too early to say whether this development stood a chance of success.

Asked how to interpret aforementioned and apparently conflicting developments, both members of the Board of Directors more or less stayed on the side-lines by explaining:

> *"Leading question is: what do teams really need to operate autonomously? It is important to provide them with this information in the most simple and self-evident way. And doing so, we must avoid the pitfall of providing too much information."*

Previous description highlights a development in which MAC was enacted upon by the health care management of the front-runner teams, leading to multiple forms of MAC.

4.7. The multiplicity of MAC

In the TRG case study it is possible to depict MAC as multiple shape-shifting actors, enacted in different sets of relations and contexts (Law & Singleton, 2005). To start with, there is no single generally used name that encompasses MAC at TRG. Instead, interviewees use derivatives such as 'integrated survey', 'scenarios', 'business cases', 'long term forecasts' and 'dashboard'. Parallel to the different groups of employees at least three more or less deviating manifestations of MAC emerged.

The first category consists of objects predominantly generated by interactions between F&C, their professional institutions, the Board, consultants, MAC and NPM-like policy statements. Controllers consider MAC, both its content and lay-out, as their responsibility; a responsibility they take very seriously. After all, MAC produces comprehensive,

reliable and accurate 'facts', which are essential to steer and discipline at all managerial activities. F&C staff produced objects, indicated as MAC, which were expected to act as surveillance scans that made actions and results visible, transparent and comparable, revealing what they considered to be the true state of affairs. To realize this sanctifying potential of MAC, F&C staff introduced the so-called integrated survey. To meet the requests and different responsibilities of the various management echelons, F&C staff expanded MAC with new manifestations such as scenario analyses and long-term forecasts for senior management and the dashboards for team management. To F&C staff at TRG, MAC information was clear and unambiguous, leaving little room for discussion about the meaning and consequences of the MAC outcomes. More than once, discussions about information resulting from MAC were looked at with suspicion, assuming the discussant was trying to explain away disappointing results. In this all, the client was reduced to care-weighted packages, denominated in Euros.

The second category consists of objects predominantly generated in interactions between MAC, the Board, junior managers, insurance companies, consultants and F&C. The Board's engagement with MAC was primarily driven by the steady increase in perceived environmental uncertainty. MAC were seen as new allies that would provide the indicators to take the proper course in order to safeguard the continuity of TRG. In their line of reasoning, senior managers treated MAC data as facts and answers. To this management echelon MAC appeared in the form of the integrated survey and the highly appreciated long term forecasts and scenario analyses. To senior management, MAC information had an important legitimizing and sanctioning potential in their relations with stakeholders such as the authorities and the insurance companies. Moreover, MAC provided the arguments to sanction and push forward the ongoing reorganization at TRG. In line with the more business-like way of management, of which MAC was a distinct expression, the traditional profile of the client in need of help gradually got blended with the profile of the emancipated care consumer, with or without the ability and willingness to pay for additional care. In other words, MAC smoothly harmonized the client with the MAC terminology.

The third and last category consists of objects predominantly generated by interactions between MAC and team managers. Their enactment of MAC culminated in the gross margin between production revenues and direct salaries. This percentage dominated their actions and was leading in questions whether it was possible for example to schedule extra night shifts or not. In fact, to many team managers MAC boiled down to this single percentage, which was dominantly present in their day-to-day practices. The expectation of F&C staff to spark off more accounting interest among team managers by means of the dashboards fell short. Moreover, the front-runner home care teams decided to develop their own dashboards, seizing the opportunity to reshape MAC into an actor that better fitted with the situation they were in.

All in all, for operational management MAC proved to be an arduously mingling actor. After all, how to balance the business-like MAC enactments with the social and empathic nature of health care in which the traditional client in need for help still dominated day-to-day practices?

The three categories, as portrayed in the previous paragraphs, offer a complex picture of both control and resistance, of both conformation and moulding to one's will. The introduction of MAC proved to set in motion an interactive process which moulded all actors, both human and other than human, and their roles.

5. Discussion and conclusions

In the case under study, a Dutch Home for the Elderly Care, MAC proves not to function as expected by the F&C department. In TRG, F&C designed MAC as a promising tool for strategic decision making and performance management. Against the background of realized and further expected declines in revenues, as well as of the rise of a new and more demanding generation of elderly, the need for an effective and efficient delivery of care services increased and it was thought that MAC would be instrumental in improving such effectiveness and efficiency. Our study highlights, however, that the designed system did not function as an answer machine straightforwardly producing (renewed) strategies, nor did it result in systematic performance management on the basis of quantitative re-presentations of departmental performances and subsequent distanced interventions by top management. Through dynamic interactions between several actors, amongst them senior managers, operational care managers, controllers, hardware and software, MAC developed in unexpected directions and became multiple. Indeed, to different degrees the actors that inhabited the organization associated with the management accounting and control system, but not without molding it to their own insights and needs. Thus, the management accounting and control system as it was designed and introduced by the Finance and Control department was not a stable thing that (dys)functioned in reaching pre-defined goals. Although MAC managed to find allies who associated with it because they took an interest in for example (re)negotiating with insurance companies (top management) or in improving the quality of care (operational care managers), it never became instrumental in the context of centrally orchestrated systematic decision making or control.

With regard to strategic decision making the Board enacted MAC in their relation with insurance companies, with whom they had to negotiate about the volume and payments of care-weighted packages. In such negotiations MAC, the Board, the Finance and Control department and health care insurance companies interacted. MAC enacted upon F&C by interactively making the F&C department act as the designer of a new cost allocation frame. In response, MAC interactively produced unforeseen strategic options. Through the disclosure of new risks, MAC generated new requests for accounting information, leading to new insights and strategic options. MAC proved performative, that is it mobilised other actors and it mediated in strategy planning ultimately resulting in the building of extramural departments for different categories of the elderly.

With regard to performance management, the F&C department regarded MAC as a frame designed to centrally stay in control. This department aimed to develop MAC as a system that would represent the (relative) performance of the locations. On the basis of these representations, headquarters might subsequently intervene in the local performances. Benchmarks and integrated surveys with the gross margin at their core, were introduced. Team managers were expected to control the gross margin. However, centrally orchestrated performance management on the basis of cybernetics was not realized. MAC developed as an actor-network rather than as a system. Only to a limited extent MAC proved to enact upon team managers. The F&C-department responded to this by a technical redesign of MAC and by suggesting training sessions that would provide team managers with the necessary financial knowledge. Dashboards were designed and introduced, and led to different MACs for different managerial levels. Through redesign activity, multiple manifestations of MAC became manifest. Contrary to the expectations of controllers, though, team managers hardly embraced these new manifestations. The new MAC-designs proved to be forms without much significance. Team managers kept on challenging the representational qualities of the indicators in the dashboards and did not really engage with them. Apparently, it was hard to connect them to MACs actor-network. In contrast, the front-runner teams developed 'bottom-up' dashboards of their own, thus further differentiating MAC. The Board responded to these 'managers in the wild' in a relaxed way, suggesting that a loose coupling with other manifestations of MAC might be in the interest of the organization at large.

Thus, the power of performativity located in the actor-network exceeded the power of a functional design implemented in a hierarchy. To the disappointment of the F&C staff, management control on the basis of cybernetics proved to be a dream. To a large extent, centralized

control was a fantasy. The fantasy did not collapse through explicit resistance, though. Consequently, this is not a study about resistance to control. Although our relational account gives evidence that MAC-design by the F&C department opens up possibilities for resistance in the organization, such resistance is absorbed by the relational agencies of multiple human actors and of MAC. Resistance is implicitly located in an 'energetic interplay' (Harding, Ford, & Lee, 2017) between humans and MAC. Through such interplay, multiple actors (MAC, controllers, managers) changed their actions and their positions. Actors did not engage in *either* control *or* resistance but in both (see also Knights & Vurdubakis, 1994).

In a more general sense our study into the performativity of accounting is anchored in an understanding of MAC as grounded in relations. Similar to extant studies that address the performativity of accounting, the study shifts the focus from the individual entities to associations and interactions between accounting and other actors. As such, our study resonates with studies that address the performativity of accounting conceptualized as an engine or an inscribing machine (e.g. Busco & Quattrone, 2018a; Revellino & Mouritsen, 2015). However, different from extant studies our study does not a priori relate the performativity of accounting to specific practices such as innovating (Busco & Quattrone, 2018a; Revellino & Mouritsen, 2015), strategizing (Boedker, 2010; Skærbæk & Tryggestad, 2010) or horizontalising (Kastberg & Siverbo, 2016). We study the performativity of MAC designed as a system, thus relating its performativity to its functionality. We show how performativity is set in motion in an attempt to capture the organization by MAC as it results from systems design. However, we also show that performativity is not subordinate to the intended functions of MAC; our account is not simply about the (lack of) success of MAC in realizing the intended goals. Rather, it is about the unexpected and non-linear consequences that come through in MACs associations with other actors. Yet, our study also gives evidence that performativity is not completely separated from functionality. The performativity of MAC is *in* the attempt to represent and intervene from time-space distances. The conceptualizations of MAC as a system and that of an actor-network are thus not mutually exclusive. What starts as a system, may become a multiple actor through enactment. Such enactment may subsequently entail redesign of MAC, and so forth.

Our relational and performative account goes beyond an account of the dualism between coercive and enabling control. We do not provide an account of how accounting becomes enabling and/or coercive in a centrally orchestrated bureaucratic control system. We offer a flat account, that locates relational agency not only in humans but also in MAC. Rather than demonstrating how managers actually care about and cope with the design characteristics of control in the course of time and in the context of a hierarchy (Jordan & Messner, 2012), we demonstrate how MAC performatively develops into multiple actor-networks.

A relational ontology of MAC has managerial implications. It points to a need for (top) managers of 'an awareness requiring a de-centralization of the selves that presume change agency in order to appreciate the others – human and not-human – that shape as much as these managers (think they) do" (Lancione & Clegg, 2013, p. 23). Top managers should realize that they are 'in charge' rather than 'in control' (Van't Hek & Van Oss, 2009). They should recognize that they are mediators rather than hierarchs. They may mediate in the networked relations of MAC, thus opening up unforeseen possibilities and developments.

This study also has implications for controllership. Controllers or management accountants typically conceptualise MAC as a system. At TRG, F&C staff more or less subconsciously follows an inside-out mode of reasoning which starts from a well-defined accounting body of knowledge and goes on to determine almost unilaterally how to deploy MAC at TRG and how to support management. As far as MAC proved too difficult for care managers to comprehend, additional training and education were supposed to suffice to clear away this obstacle. However, this way of thinking neglects the performativity and resulting multiplicity of MAC. It neglects that MACs make a difference through enactments. Rather than staying on their fixed positions in a hierarchical organisation controllers should recognize that they are actors who somehow connect to the actor-network of MAC. By interacting with multiple other actors, they may enhance processes of learning and mediate in the development of multiple MACs that are somehow still related and overlapping. In searching for management accounting and control that refers to the performance of the organization and that forms a basis for intervention at a distance, they should mediate in the dynamics of MAC so that the quality and efficiency of the care practices develop. In this way, controllership might open-up rather than close down.

Our study resonates with actor-network theory-based studies that address multiplicity, a term coined by Mol (2002). Law explains how we inevitably encounter such multiplicity when we study practice (Law, 2004; Law & Singleton, 2014). Law makes a stern distinction between multiplicity and pluralism. Multiplicity "… does not imply that reality is fragmented. Instead it implies something much more complex. It implies that the different realities overlap and interfere with one another" (Law, 2004, p. 61). In line with studies by De Laet and Mol (2000) and by Mol (2002)[1] our study gives evidence that multiple overlapping and interfering MACs come into existence.

As for future research, we suggest more fieldwork that explores the performativity of MAC. Whereas our study concerns the performativity of MAC as it is recently introduced in a large care organization, it may in particular be interesting to also study the performativity of MAC in organizations where MAC is already institutionalised. Such fieldwork would successively enable a process of reflexivity that exceeds the specific research projects and that allows for a further engagement with theoretical generalization (Parker & Northcott, 2016) on performativity and, thus, on the *mattering* (both in terms of form and meaning) of MACs. Such theorization might have important managerial and societal implications.

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Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.scaman.2019.101077.

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[1] For example Mol addresses the disease of atherosclerosis in a hospital. She traces different variations of this disease which have features in common – such as their common name for example – but which are nevertheless different. She shows how these varieties are not different interpretations of a single solid object (a disease) but are in fact multiple objects (diseases), different but related, enacting and enacted upon in different and overlapping networks. The object is multiple. Because the number of contexts is limited, there is more than one object, but less than many (Mol, 2002).

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